

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT
STRUCTURAL AND COHESION POLICIES **B**



Agriculture and Rural Development



Culture and Education



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Regional Development



Transport and Tourism



**THE INTER-RELATIONSHIP BETWEEN
THE STRUCTURAL FUNDS AND THE
PROVISION OF SERVICES OF
GENERAL (ECONOMIC) INTEREST
AND THE POTENTIAL FOR
CROSS-BORDER SERVICE DELIVERY**

ANNEX



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POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

REGIONAL DEVELOPMENT

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POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES
REGIONAL DEVELOPMENT

**THE INTER-RELATIONSHIP
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OF GENERAL INTEREST AND SERVICES
OF GENERAL ECONOMIC INTEREST,
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Abstract

This study aims to provide a detailed and critical analysis of Services of General Interest and Services of General Economic Interest in the 27 Member States and their regions and the scope of EU regional policy in their financing. In particular, the study discusses the different definitions and traditions in place, the main issues at stake in the policy debate, the levels of provision in the different countries and regions and the scope and use of Structural Funds to support the provision of those services.

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LIST OF ABBREVIATIONS

AADT	Average Annual Daily Traffic
ACIS	National Authorities for the Coordination of Structural Instruments
ADSL	Asymmetric Digital Subscriber Line
ANRSC	National Authority for the Regulation of Communal Services
ARAF	Authority for the Regulation of Railways Activities (Autorité de Régulation des Activités Ferroviaires)
BGE	Bord Gais Eireann
BHN	Baltic Healthcare Network
BMW	Border, Midland and Northwest
BRD	National Road Safety Council
BSHN	Baltic Sea Healthcare Network
BSRs	Baltic Sea Regions
CAW	Agreement for the Future of Wallonia (Contrat d’Avenir pour la Wallonie)
CER	Commission for Electricity Regulation
CF	Cohesion Fund
CFL	Luxembourg Railways (Chemins de Fer Luxembourgeois)
CHP	Combined Heat and Power Plant
CICC	Interdepartmental Coordinating Committee of Controls
CIP	Competitiveness and Innovation Framework Programme
CoD	Chemical Oxygen Demand
CPER	Contract for the State-Region Plan (Contrats de Plan Etat-Région)
CSSPF	Superior Council of French Railways Public Service (Conseil Supérieur du Service Public Ferroviaire Français)
DB	German Railways (Deutsche Bahn)
DEGES	German Reunification Highways Construction Authority
DG REGIO	European Commission Directorate-General for Regional Policy
DGE	General Directorate of Energy (Direcção Geral de Energia)
DHDN	Danish Health Data Network

- DHV** Dutch Engineering Consultancy Company
- DPHS** Danish Public Health System
- DRAF** Regional Board of Agriculture and Forest
- EARDF** European Agricultural and Rural Development Fund
- EBRD** European Bank for Reconstruction and Development
- EC** European Commission
- EDF** Electricity of France (Electricité de France)
- EDP** Electricity of Portugal (Electricidade de Portugal)
- EEA** European Environment Agency
- EEM** Electricity Company of Madeira (Empresa Electrica de Madeira)
- EIA** Environmental Impact Assessment
- EIB** European Investment Bank
- EP** European Parliament
- EPA** Environmental Protection Act
- ERDF** European Regional Development Fund
- ERSE** Authority for the Regulation of Energetic Services (Entidade Reguladora dos Serviços Energéticos)
- ESF** European Social Fund
- ESPON** European Spatial Planning Observation Network
- EU** European Union
- EU-15** The 15 Member States of the EU, prior to the integration of 12 candidate countries in 2004-2006
- EU-25** The 25 Member States of the EU, 2004-2007
- EU-27** The 27 Member States of the EU, following the integration of Romania and Bulgaria in 2007
- EUR** Euro
- FCE** Government Management of Circumetnea Rail
- FIDIC** International Federation of Consulting Engineers
- FM** Financial Memorandum
- FMU** Fetal Medicine Unit
- FPA** Framework Program Agreement

FTIP	Federal Government Transport Infrastructure Plan
GDDKIA	General Directorate for Country Roads and Motorways
GDP	Gross Domestic Product
GPs	General Practitioners
HSR	High Speed Rail
HV	High Voltage
ICE	InterCity Express
ICT	Information and Communication Technologies
IES	Independent Electricity System
IOP	Interregional Operational Programme
ISPA	Instrument for Structural Policies for Pre-Accession
ITS	Inspection for Road Transport
JROP	Joint Regional Operational Programme
LGV	High Speed Lines (Lignes à Grande Vitesse)
LLI	Liège Logistics Intermodal
LV	Low Voltage
MA	Managing Authority
MEPA	Malta Environment & Planning Authority
MIBEL	Iberian Electricity Market
MOEW	Ministry of Environment and Water of Bulgaria
MRDPW	Ministry of Regional Development and Public Works of Bulgaria
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
MTP	Material Treatment Plant
MV	Medium Voltage
MW	Megawatt
MWh	Megawatt per hour
NAIER	Northern Ireland Authority for Energy Regulation
NBES	Non-Binding Electricity System
NCFM	National Centre for Fetal Medicine

NDP	National Development Plan
NES	National Electricity System
NGO	Non-Governmental Organisation
NOP	National Operational Programme
NRA	National Roads Authority
NSRF	National Strategic Reference Framework
NTC	National Transmission Company
NUTS	Nomenclature of Territorial Units for Statistics
OP	Operational Programmes
PES	Public Electricity System
PNR	National Strategy of Reform (Plan National de Réforme)
PPA	Power Purchase Arrangement
PPCD	Planning and Priorities Coordination Division
PPP	Public-Private Partnership
PTS	Post and Telecom Agency
R&D	Research and Development
RAM	Autonomous Region of Madeira
RDS	Regional Development Strategy
REN	National Electric Network (Rede Eléctrica Nacional)
RFF	Railways Network of France (Réseau Ferré de France)
RFI	Railways Network of Italy (Rete Ferroviaria Italiana)
RIEW	Regional Inspectorates on Environment and Water
ROP	Regional Operational Programme
RTO	Regenerative Thermal Oxidiser
SF	Structural Fund
SGAR	General Secretariat for Regional Affairs
SG(E)I	Services of General Interest/General Economic Interest
SMEs	Small and Medium-sized Enterprises
SNCF	National Company of French Railways (Société Nationale des Chemins de Fer française)

SNIT	National Integrated Transportation System
SPD	Single Programming Document
SPI+	Services Promotion Initiatives en Province de Liège
SRP	Special Regime Producers
TEN	Trans European Network
TEN-E	Trans European Networks Energy
TEN-T	Trans European Transport Network
TER	Express Regional Transport (Transport Express Régional)
VDE	German Unity Transport Projects
WMA	Waste Management Act
WTS	Waste Transfer Station
WWTP	Waste Water Treatment Plant

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1. Austria.

“MEMJET” drinking water out of sewage water

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1.0. Background information

a) Country	Austria
b) Region	Styria
c) Full Project Title	"MEMJET" drinking water out of sewage water
d) Duration	2001-2002
e) Programme	Styria Objective 2 Programme 2000-2006
f) Total Cost	EUR 265 589.56
g) EU Contribution	ERDF 34.9%
h) National Contribution	19.8% (Styrian Government)
i) Private Contribution	45.3%
j) Sector	Environment
k) Sub-Sector	Management and distribution of water
l) Beneficiary	Municipality of St. Peter ob Judenburg
m) Implementing body	Municipality of St. Peter ob Judenburg in cooperation with the engineering consultant company EnviCare

1.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

Since accession to the EU (1995) the European Structural Funds (SF) have been of great importance for Austria's regional policy. The implementation of the SF programmes is the task of various bodies at federal and regional ("Länder") level. The programmes are mainly carried out on the basis of co-financing within existing national guidelines. The main document at federal level is the "National Strategic Reference Framework" (NSRF, in Austria called "STRAT.AT").¹

The STRAT.AT provides the goals and the basic strategic framework for the eight operational programmes on the objective "Regional competitiveness and employment", one "Convergence Phasing-Out"-programme for Burgenland, one national programme on "Employment growth" and for several regional programmes on Objective 3, "Territorial cooperation". STRAT.AT comprises a total of approx. EUR 1.5 billion of Structural Funds.

Services of General Interest and Services of General Economic Interest, respectively (SG(E)I)-in particular its sub-sector environment or municipal public services-are not mentioned explicitly in the national strategy. The main task of STRAT.AT is to implement the objectives corresponding to the Lisbon strategy. However, some of the SF-funded measures will clearly provide an impulse to SG(E)I. Figure 1 shows the global distribution of ERDF programmed expenditure to the various SG(E)I relevant economic sectors in Austria. In both programming periods Austria's environmental sector is among those sectors which benefit most from ERDF (2000-2006: 18.5% and 2007-2013: 13.5%).

As regards the operational programmes on the objective "Regional competitiveness and employment", Styria benefits more from SF than any other Austrian region. It receives the biggest share, totalling EUR 155 million and 10.6% respectively. This allows for approx. 1 000 projects, with an investment volume of approx. EUR 1 billion and 1 800 additional jobs.²

The central goal of the current Styrian operational programme is to improve regional competitiveness. It consists of three axes of priority:

- strengthening of innovation and knowledge-based economy (according to the Lisbon strategy);

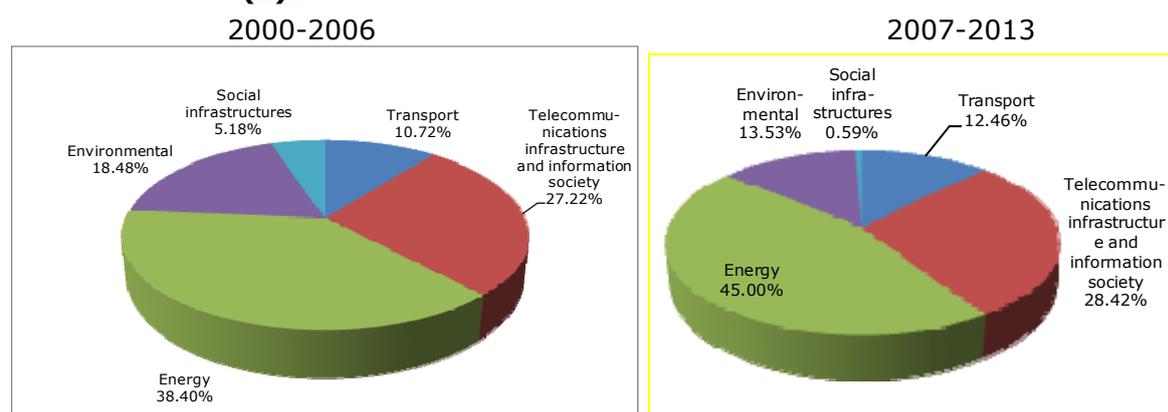
¹ Österreichische Raumordnungskonferenz, ÖROK (2006). STRAT.AT 2007-2013-Nationaler Strategischer Rahmenplan Österreich 2007-2013, Wien.

² Österreichische Raumordnungskonferenz, ÖROK (2006).

- strengthening of attractiveness of regions and municipalities (according to the Gothenburg strategy);
- governance and technical support.

Managing authority of the Styrian operational programme is the Styrian government ("Amt der Steiermärkischen Landesregierung, Abteilung 14-Wirtschaft und Innovation"). It is responsible for programme planning, coordination of programmes, and programme monitoring. Programme monitoring is guided by a common monitoring committee ("Begleitausschuss") for all eight regional SF programmes and is coordinated by the Austrian Conference on Spatial Planning. The allocation of funds is implemented and monitored by five Styrian funding agencies. According to information from Dr. Gratzner (Head of the Department for Strategy and Development of the Styrian Government, Section 14 "Economy and Innovation") SG(E)I were not on the agenda while setting up the Styrian operational programme 2007-2013. However, the review of the relevant central document³ shows an explicit reference to SG(E)I, particularly the environmental sector, in the 2nd axis of priority. One section ("Aktionsfeld 9") addresses environmental investments. For the programming period 2007-2013 projects approved in this section amounted to EUR 5.4 million (3.5% of total Styrian SF). The following objectives are outlined: dissemination and commercialisation of energy and environmental technology (e.g. the networking initiative "Eco World Styria"⁴), strengthening of energy efficiency, and implementation of innovative pilot projects in the area of environmental technology. Compared to the former programming periods 1995-1999 and 2000-2006, the central decision criterion to qualify for the current Styrian operational programme is the degree of innovation. Accordingly, "standard tasks" and bigger infrastructure projects lie outside the scope of the operational programme 2007-2013.⁵ Although not mentioned as an explicit goal, a considerable part of the regional programmed ERDF is distributed to SG(E)I relevant sectors (approx. 9%). The main beneficiaries are the information and communication technology sector, the RTD infrastructure sector, and the biomass sector.⁶

Figure 1: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

³ Amt der Steiermärkischen Landesregierung, Abteilung 14-Wirtschaft und Innovation (2009). Regionale Wettbewerbsfähigkeit Steiermark 2007-2013, Version 2, Graz.

⁴ "Eco World Styria is the globally leading business cluster in energy and environmental engineering. Styrian companies have already become international technology and market leaders. To further strengthen and extend this position, Eco World Styria supports these companies and Styria-the World's Green Tech Valley-with services and projects focusing on innovation, know-how, and new markets." (<http://www.eco.at/cms/223/English/>)

⁵ Amt der Steiermärkischen Landesregierung, Abteilung 14-Wirtschaft und Innovation (2009), p. 34.

⁶ Amt der Steiermärkischen Landesregierung, Abteilung 14-Wirtschaft und Innovation (2009), p. 102.

1.2. National framework in the provision of SG(E)I

Although there is no general legal definition of SG(E)I in Austria, it is generally accepted that municipal SG(E)I (in German called "*kommunale Daseinsvorsorge*") are mainly the responsibility of local governments. They have to guarantee these services, aiming to ensure the necessary general social living conditions of citizens.

In principle, legislation in the area of water supply and waste-water treatment is a federal matter. The responsibility assignments for the federal and regional governments are based on an agreement within the Environmental Support Act.⁷ According to this agreement the key tasks of water supply and waste-water treatment are regulated by regional law as a core task of municipalities. However, they are not a part of their mandatory tasks. Moreover, the scope of these public services is not clearly specified in most regional laws. This applies in particular to the absence of explicit quality standards (except statutory limits in various areas of SG(E)I, e.g. for waste-water treatment).⁸

Waste-water treatment is provided mainly by municipal purification facilities (only 2% by private entities). In Styria there are about 500 purification facilities (in Austria there are approx. 1 500). The public sanitation level amounts to 91% (2003; Austria 89%). Since implementation of the "Styrian Waste-Water Treatment Plan" the sanitation level has increased by 24% points.

Although almost all purification facilities are property of municipalities, in some cases services, or at least maintenance of the facility, were provided by a private company as part of a public-private partnership. Additionally, it is also possible that the private company remains the holder of the plant and the municipality pays only a fixed amount per cubic metre waste water and has no risk in terms of power consumption, chemical consumption, service, lifetime of membranes, etc. Normally the relationship between the municipality and the company is based on a long-term contract under private law.

(Public) water supply is provided by municipalities, water associations ("*Wasserverband*"), and water cooperatives ("*Wassergenossenschaft*"). The annual water demand (without industrial demand) in Styria is 70 million cubic metres and the public supply level amounts to 87% (2002; municipalities 68.0%, water associations 9.6%, water cooperatives 8.4%, other municipalities 1.0%).⁹

As pointed out in the previous section, water supply and waste-water treatment are not mentioned explicitly in both the national and Styrian operational SF programmes. However, business development in this area has a long tradition in Austria and is mainly based on national and regional funding schemes. In doing so, public funding has been an indispensable prerequisite for the high quality and quantity of water supply and waste-water treatment.

Based on the Environmental Support Act, federal (up to 15% of the investment volume) and regional governments (up to 10%) may support water supply facilities.¹⁰ Water purification facilities can get a maximum of 30% by the federal government and also 30% by the regional government.¹¹ All in all, public funding in this area generates an investment volume of EUR 600-1 400 million per year in Austria.¹²

⁷ Umweltförderungsgesetz-UFG 1993, BGBl. Nr. 185/1993.

⁸ Pöschmann, Gerhard (2007). Rechtliche Absicherung von Dienstleistungen im allgemeinen wirtschaftlichen Interesse in der österreichischen Rechtsordnung. Schriftenreihe des Verbandes der Öffentlichen Wirtschaft und Gemeinwirtschaft Österreichs, Heft 1/2007.

⁹ <http://www.wasserwirtschaft.steiermark.at/>.

¹⁰ <http://www.verwaltung.steiermark.at/cms/beitrag/10024002/545773/>.

¹¹

http://www.verwaltung.steiermark.at/cms/dokumente/10039031_755865/df729e48/Einzelabwasseranlagen.pdf.

¹² Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (2008). Kommunale Abwasserrichtlinie der EU-91/271/EWG: Österreichischer Bericht 2008, Wien.

1.3. Project description

The project was funded within the Objective 2 Programme Styria 2000-2006, main focus 2 "Support of Competitive Regions and Preparation for the Information Society"¹³, measure 2.2 "Inter-Company Research and Innovation". This measure is divided into two parts: Expansion and further development of R&D infrastructure and promotion of R&D and innovation. The second part of the relevant measure is the basis for project funding. In particular, funding is provided to pilot and demonstration projects. Eligible for funding under this measure are non-profit research organisations, inter-company technology transfer organisations, and municipalities only. Maximum support by SF in this area is 50%.¹⁴

The objectives of the project are twofold. On the one hand, the adaptation of the sewage plant (1 500 inhabitant equivalent value) of St. Peter ob Judenburg¹⁵ provided the possibility of demonstrating the function of a new technology, especially to demonstrate the extraction of drinking water out of municipal waste water. On the other hand, the municipality had the opportunity of finding a cost-efficient alternative to the existing conventional natural-pond-sewage plant to comply with statutory limits of waste-water purification.

At the end of the 1990s it was necessary to adapt the 1989/1990 built sewage plant. The main reason was that the existing sewage plant didn't meet the statutory limits of purification anymore. During winter times the values of COD (Chemical Oxygen Demand) and particularly ammonia exceeded the statutory limits by a large factor.¹⁶ The alternative was a conventional extension of the existing sewage plant or a conversion to a sewage plant with a microfiltration membrane.

The final beneficiaries of the project are all inhabitants and businesses of St. Peter ob Judenburg and the companies involved, due to the gain of know-how with respect to the production of drinking water from waste water using membrane technology.

Based on the membrane technology (an innovation in several fields of waste-water treatment) it was decided to expand the existing natural-pond-sewage plant with a microfiltration membrane. It is called MEMJET process, developed by the company Rotreat (a member of "Eco World Styria"; see Section 1.1), in cooperation with the engineering consultant company EnviCare. It is the first sewage plant in Austria based on membrane technology.

The main advantages compared to a conventional purification process are:

- smaller treatment volumes;
- no wash-out of biomass due to 100% withdrawal of biomass on membrane surface;
- enhanced biological degradation due to highly specific biomass and high sludge age;
- no influence of peak flows on quality of permeate; and
- germ free effluent.

¹³ While the current Styrian operational programme 2007-2013 consists of three axes of priority, the Objective 2 Programme Styria 2000-2006 consists of five main focuses.

¹⁴ Amt der Steiermärkischen Landesregierung (2008). Ziel 2 Steiermark 2000-2006, Ergänzung zur Programmplanung (EZP), Graz, pp. 21-23.

¹⁵ A typical agricultural municipality in "Upper Styria" in the west of Graz with 1 124 inhabitants.

¹⁶ The statutory limits were updated in 1996. The emission limits for waste-water treatment plants with a size of 500-5 000 PE are as follows: Ammonia Nitrogen < 5 mg/L and COD < 75 mg/L ("Verordnung des Bundesministers für Land- und Forstwirtschaft über die Begrenzung von Abwasseremissionen aus Abwasserreinigungsanlagen für Siedlungsgebiete-1. AEV für kommunales Abwasser", BGBl. Nr. 210/1996, i.d.F. BGBl.II Nr.392/2000, Appendix A).

The disadvantage of the first facilities using this technology in the 1990s lay in their high specific energy demand. The high energy demand and the resulting high operating costs of the external cross flow lead to the development of the so called "submerged filtration systems" with clearly less energy demand. The MEMJET process is based on this energy-efficient submerged membrane filtration.

The core part of such a sewage plant is the membrane bioreactor. It possesses all the typical features of the conventional activated sludge process (anaerobic/anoxic/aerobic treatment of organic compounds and nitrogen) except for the settlement tank. The main difference is that the sludge is 100% confined to the membrane bioreactor due to the membrane filtration with a cut-off of $< 0.4 \mu\text{m}$. Thus, a conventional sedimentation basin becomes unnecessary. The membrane is installed directly in the aerobic nitrification basin. An aeration device below the membrane provides an air-stream and thus, a coupled hydraulic flow along the membrane surface. The cleaned water is filtrated through the fine pores of the membrane and flows through the hollow fibres to two permeate pipes. The hydraulic flow and extraction of the permeate are achieved through a suction pump or slight hydraulic pressure gradient and therefore energetically highly efficient (approx. 0.12 kWh/m^3).

All in all, the degradation rate for substances like COD or ammonia is significantly higher and also more stable than in conventional sewage plants. Thus, this technology could be considered a first step towards producing drinking water or at least high-quality industrial water out of waste water. In any case, this technology allows an inflow of the treated waste water into ground water or bathing water (compliance with the EU Bathing Water Directive).

Due to comparatively little construction work needed to adapt the sewage plant investment costs were rather low. The total investment costs amount to EUR 274 435 which were financed by the ERDF (34.9%) and Styrian Government funds (19.8%). The remaining costs (45.3%) were financed by the enterprise Rotreat as part of a public-private partnership (see Section 1.5).

In 2001 and 2002 the project was implemented by the engineering consultant company EnviCare in cooperation with Rotreat, an expert in the field of waste-water treatment, who supplied and funded the new membrane and has operated the sewage plant within a PPP since. The following activities were included:

- planning activities (June-September 2001);
- reconstruction work (October-November 2001):
 - a 6 mm rotating drum sieve was installed in the inflow;
 - one pond of the existing plant was transformed into a "aerated primary settlement basin";
 - an injector aeration prevents bad smell and ensures that sludge can be withdrawn from the settling zone;
 - the aerated pond was lined with a PE-HD foil in order to ensure a tight sealing;
 - a fine sieve was installed between pond and membrane filtration basin;
- membrane bioreactor installation in the existing concrete basin (February-April 2002); it consists of:
 - 9 membrane modules at 105 sqm ;
 - coarse bubble aeration;
 - permeate extraction system;

- relaxation or back-wash mode;
- chemical cleaning system;
- electro/measurement/regulation and control system;
- operation of a nanofiltration test unit in order to demonstrate the possibility of producing drinking water which fulfils the stipulated limits (June-September 2002).

In April 2002 the adapted sewage plant could be put into operation. Since then the membrane technology has fulfilled expectations. The COD degradation rate amounts to > 95% over the whole operation time and ammonia and phosphorus are well below statutory limits.

The production of drinking water was successfully tested in a pilot installation based on the principle of nanofiltration. The nanofiltration membrane acts as a second barrier for pathogenic germs and bacteria. Furthermore, polyvalent ions and greater molecules are confined. Experiments proved that a constant excellent permeate quality from the membrane bioreactor is essential for stable nanofiltration operation. The chemical and microbiological values of the thus produced pure water were validated by an officially approved laboratory after six weeks of stable operation without chemical cleaning or pre-treatment.¹⁷

1.4. Specific aspects of SG(E)I affected by the project

As mentioned in Section 1.1, SG(E)I are not the focus of the national and regional operational programmes for 2007-2013 in Austria. However, several projects, such as the present project, have an immediate impact on supply of public services. High-quality treatment of municipal waste water, and in particular the opportunity of turning it into drinking water, is without doubt a SG(E)I.

Specific aspects/objectives of SG(E)I realised/enhanced through the project

The following specific aspects/objectives could be guaranteed and enhanced through the project:

- service continuity;
- efficiency and effectiveness;
- preservation of natural water resources, protection of water bodies, and the improvement of environmental parameters;
- reuse of intensively treated waste water, increased quantity and improved reliability of water supply in drought prone areas.

Main project results with reference to the specific aspects/objectives of SG(E)I

- **Service continuity:** one of the main advantages of the project is that the adapted sewage plant can meet statutory limits of waste-water purification throughout the year. The former sewage plant could not do so during winter times (i.e. November-April). Due to the membrane technology adaptation the general degradation rate is significantly higher during winter times and accordingly more stable throughout the year. The COD degradation rate amounts to > 95% and ammonia and phosphorus are well below statutory limits since the beginning of operation.

¹⁷ <http://www.envicare.at/>.

- **Efficiency and effectiveness:** the project considerably increases efficiency. The adapted sewage plant provides better purification results with roughly the same input. As regards investment costs the expansion of the existing sewage plant with a microfiltration membrane was much less expensive than implementing a conventional sewage plant with the same purification parameters (approx. EUR 1 million).
- **Preservation of natural water resources, protection of water bodies, and the improvement of environmental parameters:** environmental parameters have improved considerably. The COD degradation rate has improved from 60-90% to 98% throughout the year and ammonia has improved from 0 (in winter times) -95% to 99%. Due to improved purification results the impact on natural water resources, especially ground water bodies, is significantly lower.
- **Reuse of intensively treated waste water, increased quantity and improved reliability of water supply in drought prone areas:** one objective of the project was to demonstrate the extraction of drinking water out of municipal waste water. While this is not an issue in Austria (due to a more than sufficient supply of spring water), it may provide an opportunity for securing drinkable water supply in xeric southern and eastern regions of Europe. However, the reuse of treated waste water as industrial water in a second water-supply network, such as for instance during the Olympic Games in Sydney, is more realistic.

Expected changes in the use of Structural Funds in the SG(E)I at regional/local level as a consequence of the experience with a project co-financed in this way

The project would not have been possible without the support of SF. National and regional funding guidelines would probably have resulted in a conventional adaptation of the sewage plant. Furthermore, it is doubtful whether such a project may still be eligible in the current programme period. As mentioned in Section 1.1, the central goal of the current Styrian operational programme is to improve regional competitiveness in the sense of the Lisbon strategy. Accordingly, the key decision criterion to qualify for support is the degree of innovation regardless of regional/local needs. Thus, securing a standard municipal task (although technically innovative to a certain extent) may lie outside the scope of the operational programme 2007-2013.

1.5. Governance aspects

The stakeholders involved in the project are:

- Styrian Government, Department for Strategy and Development, Section 14 "Economy and Innovation": This stakeholder was the administrative authority. It prepared the Objective 2 Programme Styria 2000-2006 and coordinated and monitored the various projects within the regional operating programme.
- Styrian Government, Department for Research, Section 3 "Science and Research": This stakeholder was in charge of co-financing the project with Styrian funds. It monitored the project consistency with the guidelines of the Styrian Objective 2 Programme and supported the municipality for the duration of the project.
- Styrian Government, Regional Construction Authority, Section A19 "Water Management and Waste Management": Responsible for legal water approval.
- Municipality of St. Peter ob Judenburg: The municipality is responsible for waste-water treatment (see Section 1.2). It was the funding beneficiary and carried out the adaptation of the sewage plant. For that purpose it signed two main contracts, one with EnviCare and one with Rotreat.

- EnviCare Engineering GmbH: This privately-owned consultant was in charge of the overall project engineering and management as a contracting party of the municipality of St. Peter ob Judenburg.
- Rotreat Abwasserreinigung GmbH: This private-owned expert for waste-water treatment was in charge of implementing the membrane technology. It supplied and funded the new membrane (EUR 125 000 without VAT) and has operated the membrane bioreactor within a PPP since the end of the project. The operating contract includes maintenance and, if necessary, exchange of the membrane. Rotreat also guarantees compliance with statutory limits of waste-water purification. The contract runs for 15 years with annual costs of some EUR 60 000 (without VAT).
- University institutes, Professor Josef Draxler¹⁸ and Professor Harald Kainz¹⁹: These stakeholders monitored the project from a scientific point of view. Furthermore, they served as scientific consultants.

To summarise, the governance structure of the project consists of three main parts. On the one hand, there is the funding agreement within the framework of the Objective 2 Programme Styria 2000-2006 between the municipality of St. Peter of Judenburg and the Styrian Government, Department for Research, Section 3 "Science and Research". Total funding amounts to EUR 145 345.67 (54.73% of the applied investment costs), consisting of 63.85% ERDF funds and 36.15% Styrian Government funds. On the other hand, there are two public-private partnerships: the consultancy contract between the municipality and EnviCare and the contract to adapt the sewage plant between the municipality and Rotreat. Following the adaptation an operating contract was signed between the municipality and Rotreat (see above).

1.6. Universality of access and affordability

This section discusses two main issues related to SG(E)I provision: universality of access and affordability.

Universality of access

Access to the public service waste-water treatment within a sewage plant obviously depends on the connection to the municipal sewage network. In Austria owners of developed properties are obliged to discharge waste water into the public sewage networks only.²⁰ Accordingly, an almost exclusive municipal coverage can be assumed. There are 423 private households in St. Peter ob Judenburg and the connection rate is about 90%.

Affordability

To finance waste-water treatment all residents of the municipality have to pay waste-water charges (since 2009 EUR 2.59 per cubic metre of water consumption²¹). These charges need to be evaluated every two years and if necessary they have to be adapted. In doing so, charges are expected to be cost-oriented. In practice, the level of cost coverage by residents' charges in the area of waste-water treatment is well below 100%. For St. Peter ob Judenburg it has decreased remarkably after adaptation of the sewage plant, from above 80% to 42-50%. Over the whole period 2000-2008 the average level of cost coverage by charges excluding investment costs is 51%. However, due to a long-term

¹⁸ Institute for Process Technology and Industrial Environmental Protection, Montan University of Leoben.

¹⁹ Institute of Urban Water Management and Landscape Water Engineering, Graz University of Technology.

²⁰ E.g. Steiermärkisches Kanalgesetz 1988, Art. 4 (1), LGBl.Nr. 79/1988.

²¹ Just above the Styrian average value of EUR 2.34 (Bauer, Susanne und Hochörtler, Robert (2009). Kanalabgaben in den steirischen Gemeinden. Hrsg. Kammer für Arbeiter und Angestellte für Steiermark, Graz).

finance grant from the federal government (see Section 1.2), the cost coverage by recurring revenues is 82%.²² The remaining costs have to be financed through ordinary revenues of the municipality.

1.7. Contribution to cohesion policy objectives

As described in Section 1.3, the project adaptation of innovative membrane technology to the sewage plant of St. Peter ob Judenburg, especially in order to demonstrate the extraction of drinking water out of municipal waste water, is rather small in the context of European Cohesion Policy.²³ However, its strategic relevance is considerably higher because it may act as a good example to other European countries.

As regards the strategic guidelines on cohesion of the EU, the project mainly addressed the following objectives:²⁴

- making Europe and its regions more attractive to invest and work in;
- improving knowledge and innovation for growth;
- facilitating innovation and promoting entrepreneurship.

Concerning the first of these objectives, a functioning municipal infrastructure and a healthy environment are prerequisites for the attractiveness of European regions. The project helps ensure both, as it considerably improves waste-water quality (complying with the statutory limits), thus preserving natural water resources.

Concerning the second and third objective, the adaptation of a new, innovative technology contributes to regional competitiveness. The municipality and the involved private enterprises gain valuable know-how in a promising area. The project demonstrates a cost-effective way to extract drinkable or at least industrial water out of waste water. Owing to the excellent supply of spring water this is not an important issue for Austria, but it may be an interesting solution for xeric southern and eastern regions of Europe. E.g. the European resort islands can probably benefit from the Austrian experience (see Section 1.3 & 1.4).

Overall, the project is a good example of using innovative technologies to secure services of general (economic) interest, in particular public municipal services. European Structural Funds and national funds are appropriate means of overcoming the economic risk in such projects. It can be expected that the surveyed project would not have been implemented without support from the European Union and from Styria. An adaptation to a conventional sewage plant would have been implemented instead. In accordance with the cohesion policy objectives, SF yield a strong incentive to improve knowledge and facilitate innovation in an area of public municipal services.

A close cooperation between all stakeholders, particularly regional and municipal governments, is the right way of securing an adequate municipal infrastructure (as a contribution to regional attractiveness) on the one hand and improving regional competitiveness on the other hand. In doing so, the project and particularly its possible application to other European countries, may work towards the convergence between regions and contribute to economic and territorial cohesion.

Unlike the current Austrian (regional) operational programmes,²⁵ regional/local needs should (again) be taken into account in addition to global economic policy goals (Lisbon

²² Statistik Austria, ad-hoc extraction.

²³ However, it is of course a major financial challenge for the municipality.

²⁴ European Commission, COM(2005) 0299. Cohesion Policy in Support of Growth and Jobs: Community Strategic Guidelines, 2007-2013, Brussels.

²⁵ The key decision criterion to qualify for the current regional operational programmes is the degree of innovation regardless of regional/local needs (see section 1).

strategy). Otherwise there could be a considerable risk of spatial concentration of European Structural Funds in Austria. Thus, support of public municipal or regional services, although they improve the attractiveness of regions and municipalities (Gothenburg strategy), could become virtually impossible in future programme periods.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

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- Bernhard Mayr, CEO of EnviCare Engineering GmbH, Graz.
- Gerd Gratzner, Head of the Department for Strategy and Development, Styrian Government, Section 14 "Economy and Innovation", Graz.
- Wolfgang Stangl, Staff Member of the Department for Research, Styrian Government, Section 3 "Science and Research", Graz.

2. Belgium.

Expansion of LIEGE LOGISTICS multimodal platform

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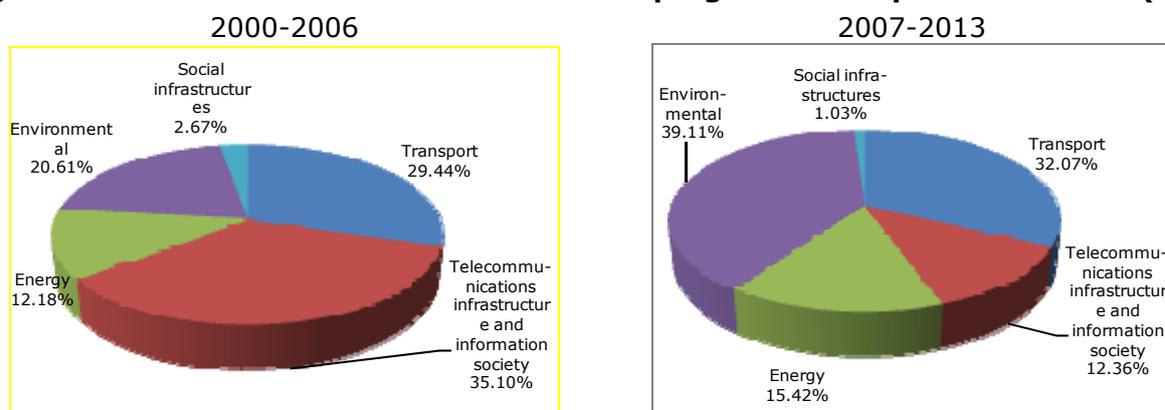
2.0. Background information

a) Country	Belgium
b) Region	Walloon Region-Liège
c) Full Project Title	Liege Logistics multimodal platform expansion
d) Duration	2008-2009
e) Programme	Wallonia Operational Programme under the Regional competitiveness and employment objective 2007-2013
f) Total cost	EUR 3 600 000
g) EU contribution	ERDF 38%
h) National contribution	51.9%
i) Private contribution	10%
j) Sector	Transport
k) Sub-Sector	Multimodal transport
l) Beneficiary	SPI+ (Services Promotion Initiatives, Province de Liège) ²⁶
m) Implementing body	SPI+

2.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The European Regional Development Fund (ERDF) allocated to infrastructures in Belgium amounted to EUR 93 million for the period 2000-2006 and EUR 167 million for the period 2007-2013. The share-out between the various sectors is given in the following figure.

Figure 2: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

We can see in the graphs above some changes between the two periods under review. While in 2000-2006 ERDF expenditure for telecommunications took up more than 30% of the total, the share for the information society for 2007-2013 represents a scant 12%, for comparable total amounts. However, environmental expenditure has experienced strong growth, from 20% to 39%, while energy (12% to 15%) and transport (29% to 32%) show a rise, albeit less marked. Finally, expenditure on social infrastructures remains low, sinking from 5% to a mere 1%.

The transport sector is considered in the Belgian National Strategic Reference Framework (NSRF), first in a national approach in the European framework and orientations. The most suitable investments are defined according to an analysis of the strengths and weaknesses

²⁶ Economic development agency for the Province of Liège, see Section 2.5.

of the three Regions (Wallonia, Flanders and Brussels-Capital) with respect to three set priorities. The first one is "Make Europe and its regions a more attractive place for investment and employment". This is where the transport sector is important, with the development of infrastructures as a basic condition for growth. More specifically, the following actions are mentioned: support for projects helping accessibility to railway infrastructures, connectivity to trans-European networks including intermodal transport, and promotion of sustainable transport.

Each Belgian Region has its own part in the NSRF, including the Federal State and the German-speaking Community. Each of these entities has its own specificities and may choose its own priorities with respect to the European framework. The Walloon strategic thinking is integrated in the Community Strategic Guidelines as well as in European law which, at Belgian federal level, has sired the "*Plan National de Réforme (PNR)*", defining the Belgian strategy for attaining European objectives. The PNR was set up with the collaboration of the Regions. Finally, at regional level, we find the "*Contrat d'Avenir pour la Wallonie (CAW)*" and "*Marshall Plan*", defining the long-term development project for the Region. Global objectives are fixed according to Lisbon objectives and the Community Strategic Guidelines, among which the necessity to make Europe an attractive place for investment and employment; this is how transport is planned for Wallonia in the NSRF, through development of infrastructures in the transport sector, *inter alia* multimodal transport. Such transport infrastructures may be considered as essential facilities for the economic activity of industry, service and commerce. They also have an indirect role in the overall societal well-being of citizens, as they facilitate access to goods and services that are not locally available. Besides, in the NSRF, the Walloon Region considers multimodal infrastructures as one of its assets in the field of environment and sustainable development. As for Flanders, the need of improvement in mobility is a priority to reduce traffic jams and loss of time and promoting the use of public transport and bicycles. The transfer of traffic from road to railway or waterways is also mentioned, with multimodal transport featuring among the priority themes, although for a low part of the total.

2.2. National framework in the provision of SG(E)I

During the 19th Century and the Industrial Revolution, Liège became one of the most important cradles of industrialisation. The development of the steel and metallurgical industry, plus access to a river (Meuse) and the working of coal mines in Liège, made Belgium the second economic power at the time after the United Kingdom. However, in the latter half of the 20th Century, coal mines were shut down and the steel industry declined, unemployment soared and Liège faced a new challenge: reconversion. This resulted in a region scarred by old industrialisation trying to cope with reconversion, with an ample but low-skilled workforce and, thus, a level of structural unemployment, i.e., a discrepancy between the structure of labour supply and labour demand due essentially to lack of skills.

In the Walloon Region, such a problem is not specific to Liège. The "*Contrat d'avenir pour la Wallonie*" (CAW), adopted in 2005, yields a frame for the development of Wallonia in the long term, integrating European priorities and objectives. In practical terms, the Walloon Government adopted a priority action programme centred on the creation of activities and jobs. One of the axes of this programme concerns the creation of competitiveness poles, among which we find transport and logistics. The public investments strategy in logistic infrastructures is clear and well defined. Regarding the competence associated with the transport sector, we see in Belgium that railroad remains at federal level, in particular with the SNCB. However, roads, motorways and airports are the responsibility of regional level. The owner of the rail infrastructure is the Federal State, whereas the owners of highways and major roads are the regional authorities. For the rest, Industrial Policy and Economic Development remains the responsibility of regional government.

This choice of transport and logistics as a potential pole of competitiveness is not random. Wallonia is located at the heart of European logistics, the so-called "European Logistics Banana". For example, with only 8 hours on the road, a truck may reach more than 60% of the European consumer market from Wallonia, among which major cities such as Paris, London or Amsterdam. According to rankings established by Cushman & Wakefield, Belgium is the top country for implementation of a distribution or logistics centre. The transport and logistics sector in Wallonia represents more than 4 000 enterprises that are good for more than 26 000 jobs and generate a turnover of around EUR 3 billion²⁷.

The important SG(E)I objectives for the studied project are lasting transport and mobility on one hand and the development of jobs for low-skilled or unskilled workers on the other. Those can be found in the CAW in several ways: in the global objectives, sustainable development and rising employment rate are regarded as crucial. Besides, Cross Strategic Plans are derived from the CAW priorities, including actions in vocational training and balanced territorial development.

Figure 3: European Logistics banana



Source: Logistics in Wallonia "Excellence in logistics"²⁸

2.3. Project description

This project follows through on the "Objective 2-Meuse-Vesdre" project in the ERDF 1993-1999 for the equipment of industrial, traditional and services areas in the sum of EUR 46 797 469. It involved the creation of the multimodal platform, which was completed in 2001. This multimodal platform consists of a transfer area for containers from road to rail and vice versa and is part of Liege Logistics, a specific area dedicated to transports and logistics. On 1 January 2007 Liege Logistics was good for 24 companies and 1 067 jobs.

The development of the multimodal platform is a part of the reconversion of the Liège area, interestingly situated in the heart of the four-cornered area Paris-London-Amsterdam-Frankfurt, into an important transport and logistics location, by allowing the transit of more freight. The proximity of Liège Logistics with Liège Airport is obviously very interesting in terms of multimodal transport, with the river port of Liege, one of the most important inland ports in Europe, situated not so far away. Liège Airport is the European hub of TNT and headquarters of TNT Airways (subsidiary of TNT NV, providing TNT Express with an air freight network), and of other companies, such as the Israeli El Al Cargo and CAL Cargo Air Lines; Ethiopian Cargo and Avient Aviation also use Liège Airport as base for their European activities.

A specificity of the transport and logistics sector is that it provides a variety of jobs for skilled and for non-skilled workers alike. Beyond the infrastructures, the development of

²⁷ Statistics from Belfirst, cited by Cluster Transport/Logistique Wallonie: <http://clusters.wallonie.be/transport-logistique/fr/le-cluster-t-l/le-secteur-en-wallonie/index.html>.

²⁸ <http://www.logisticsinwallonia.be/index.php?page=94&lng=fr>

Liège Logistics is important for employment through, for instance FOREM Logistics. This is an interesting specificity of the project. FOREM Logistics, public service under the supervision of the Walloon Region, offers-in collaboration with the enterprises installed in Liege Logistics-training for unskilled and unemployed workers. The installations of FOREM Logistics consist, among other things, of classrooms, storage, warehousing and distribution areas for around 3 500 square metres of infrastructure. It also has equipment, such as about 20 handling tools, 10 trucks lent by the sector, 2 buses and a drive simulator. The proposed training includes truck driver, storekeeper, packer, fork-lift truck operator, warehouse manager, logistics employee and managers. Expansion of the platform would allow the handling of greater volumes and provide better infrastructure for enterprises, developing economic activity on the site and on the nearby airport, allowing the creation of more jobs in logistics and more training programmes from FOREM Logistics.

The number of transported units was multiplied by a factor of 6 during the five first years of Liège Logistics intermodal activity, from 4 500 units in 2002 to nearly 27 000 units in 2006. The need to extend the platform therefore became imperative to cope with the increasing traffic.

By attracting new enterprises, and with the action of FOREM Logistics, the project also contributes to the fight against structural unemployment.

The customers of Liège Logistics platform are enterprises interested in the management services provided and in an international traffic management system or the organisation of direct trains to other countries.

The ultimate goal of the project is to create employment. A last-but-not-least group of beneficiaries may thus be identified. Unemployed and low-skilled or unskilled workers are given opportunity for training and for employment in Liège Logistics thanks to close cooperation between enterprises and FOREM Logistics, a government agency.

For the first three years of the project this training programme provided 550 to 650 jobs per year, directly in the Liège Airport Logistics zones. From this stage, jobs allocated by Forem Logistics-on a permanent speed-amounted from 100 to 300 per year. Moreover, thanks to the development of the multimodal platform, the indirect jobs created in the surroundings increased progressively by 650 (early 2005) up to 1 550 per year (late 2005). In total Liège Airport and Liège Logistics provide employment to 3 200 persons (2 850 full-time equivalent) in June 2009. This direct employment on site also allowed the creation of some 8 000 indirect jobs. The Airport and the Liège Logistics platform are the sole pole that allows massive employment creation in the Liège area for the last 20 years.

A multimodal platform is a place where goods change their mode of transport, used in the fields of freight and geography. A multimodal platform must provide the best conditions for intermodal transport and combined transport of goods. This platform offers therefore necessary infrastructure and facilities for cargo loading/unloading and transshipment from one type of transport to another

The platform would have to be increased from 30 925 to 56 125 square meters. The hard top would have to be extended, with levelling to the ground. The perimeter fences and lighting must also be adapted.

SPI+29 carries out facilities and infrastructures works in economic activities parks, selling parcels of land to enterprises wishing to settle in the Province of Liège. Liège Logistics is one such economic activities park, dedicated to transport and logistics, with a multimodal platform assuring a rail-road interface.

²⁹ See Section 2.5.

2.4. Specific aspects of SG(E)I affected by the project

Specific aspects/objectives of SG(E)I attained/enhanced by the project

- employment;
- environmental friendliness.

Main expected results of the project with reference to the specific aspect/objectives of SG(E)I

- **Employment:** As already mentioned, the project affects the aspect of employment through the collaboration with FOREM Logistics. In 2009, 104 jobs were allocated by FOREM Logistics in Liège Airport and Liège Logistics and 1 021 in the outlying areas. Since 1996 4 456 jobs have been allocated in Liège Airport and Liège Logistics, and 10 855 around and about for a total of 15 311. In 2009 the 1 387 jobseekers in training included more than 500 workers and 400 students. The integration rate, the rate of people trained and finding a job in the next 6 months, was 75% in 2008, and was around 80%-85% in previous years. The extension of the platform allows the development of existing firms, the formation of new companies and, consequently, the creation of new jobs.
- **Environmental friendliness:** The expansion of the multimodal platform will allow increased mobility and better, more balanced growth in the transportation of goods, stimulating the use of intermodal transport. The goal is to transfer container freight from truck to train and *vice versa*. For instance, daily freight train shuttles running between Belgium and Northern Italy.

2.5. Governance aspects

The main stakeholders involved in the project are:

- **SPI+ (Services Promotion Initiatives en Province de Liège):** economic development agency for the Province of Liège, the SPI+ is commissioned by the municipalities and by the Province, which is its main shareholder. It works alongside enterprises already installed or wishing to set up shop in the province, offering them infrastructures, help and advice. SPI+ is the promoter of the project and the beneficiary of the ERDF subsidy. SPI+ also manages Liège Logistics, the specific area dedicated to transport and logistics located near Liège Airport, the railway line between Liège and Brussels and an important motorway interchange. The area is also equipped to accommodate distribution centres.
- **Meusinvest:** Meusinvest is a holding company which contributes to the development and economic advancement of the Province of Liège by ensuring the long term financing of enterprise projects. The invested money comes from drawing rights on the Walloon Region and assets from private shareholders, but also from deployment of European funds.
- **Liège Logistics Intermodal:** concerning the railroad platform, SPI+ is the owner of the premises but franchised it to Liège Logistics Intermodal (LLI), a subsidiary of the Belgian railways. LLI is responsible for operations on the railroad platform: container handling and warehousing, loading and unloading trains to and from Italy, France, Spain.
- **Walloon Region:** the Region, more specifically the Government, decided to grant subsidies, both regional and from ERDF, for the extension of the platform to the SPI+.

which has to present different reports. The Region promotes transport and logistics as one of its development poles and has powers regarding employment.

- FOREM Logistics: the FOREM, a public service carrying out missions for the Walloon Region, has two main priorities: employment and training. Concerning the field of logistics, those goals are the responsibility of FOREM Logistics, located on the site of Liège Logistics, although other centres also in Wallonia, for La Louvière and Wallonie picarde. Besides training, FOREM Logistics may help the enterprises in the area as regards human resources management.
- Liège Airport: it was in 2009 the 8th European airport for freight with 482 142 tonnes. With respect to the logistics platform, the airport is not directly involved in the project neither financially nor from a consultative point of view. But from a promotional and marketing viewpoint, the presence of a dynamic airport beside a logistic platform is very important. It not only allows freight and persons transport by air, but gives also an image and a comparative advantage to the platform. Historically, the authorities of the airport together with the local politicians, have played a leading role in the development of all the area around the airport, including Liege Logistics.
- Infrabel: Infrabel, member of the SNCB group, manages, maintains and develops the Belgian railway infrastructures. Liège Logistics being connected to the Brussels-Liège railway line, Infrabel is concerned by the railway part of the project since it organises and finances the infrastructure connecting the platform to the railway network. Infrabel also gives access to its network to trains serving Liège Logistics.
- Transport and logistics private enterprises: they are customers of Liège Logistics Intermodal (which operates the multimodal platform) and recruit low-skilled or unskilled workers trained by FOREM Logistics, also participating at the said training.
- Take-off and Logistics in Wallonia: we may also mention the non-profit association Take-off, now part of *Logistics in Wallonia-Pôle transport et Logistique de Liège*, whose goal is to federate economic, social and cultural actors around the development of Liège Airport.

It is important to underline that all these actors managed to collaborate in a very effective way, through regular contacts and especially a common goal and political objective: they succeed in the turning around of this economic site of Liège, with all its assets, and offering job opportunities to the many unemployed in the region. This cooperation is supervised and, where necessary, enforced by the regional authorities.

2.6. Universality of access and affordability

Considering the specifications of the selected project, this section does not apply. However, concerning universality of access, we may mention the bus line set up between the main rail station of Liège (Liège Guillemins, near the city centre) and Liège airport. The frequency of this service is one bus every hour between 6 am and 7 pm from and to the airport, allowing easier access for people working or training in Liège Logistics.

2.7. Thematic focus

Ageing population and migrants

Ageing population is clearly not a valid issue in the studied case. However, some unemployed migrants, often with few qualifications, may benefit from the training and jobs

proposed by FOREM Logistics. According to FOREM general statistics³⁰ for January 2010, there were 81 462 unemployed persons in the Province of Liège (not including the German-speaking townships), among which 5 701 foreigners from outside the EU and 7 158 non-Belgians from EU countries.

2.8. Contribution to cohesion policy objectives

The global project has two main dimensions: the first being transportation and logistics, the second being employment. Transportation and logistics is one of the poles around which the Walloon Region seeks to develop its economic reconstruction. Employment, especially for low-skilled or unskilled workers, is also a key objective, not only at regional level but also at European level, as also evinced in the Lisbon strategy.

Although no immediate gain or effect may be expected as might be the case for other social projects such as cultural centres or homes for the elderly, the project is part of the economic redeployment of the Walloon Region. It contributes to the enhancement of the region's attractiveness for investors, not only by providing them with a best-possible logistics environment, but also by giving them the opportunity to find and recruit low-skilled or unskilled workers after on-site training in collaboration with FOREM. At macroeconomic level this is therefore an improvement of the competitiveness of the entire Walloon Region.

The implementation of the project did not require cross-border cooperation. However, the development of Liège Logistics may have implications not only in terms of international transportation of goods but also in terms of enhanced reputation in the logistics field. Belgium and Wallonia are among the best places in Europe for transport and logistics.

Liège is also an area of old industrialisation in need of restoration, suffering from a high level of structural unemployment. The training up of low-skilled or unskilled workers is therefore a way to remedy imbalances within the population, and also within the region. As we saw above, since 1996, 15 311 jobs were allocated by FOREM Logistics Liège, not only on the sites of Liège Airport and Liège Logistics (4 456 jobs), but also in the district (10 855 jobs). The development of Liège Airport is also crucial for Liège Logistics and for the Region. Liège Airport SA has a workforce of 147³¹, plus 36 since 2008 for Liège Airport Security. In the whole site there are 2 778 direct jobs, 1 630 of which are full-time, distributed among 76 firms. But the activity also creates indirect employment, estimated at 6 667 jobs, yielding a total of 9 445 direct and indirect jobs. A study conducted by CIRIEC on behalf of SOWAER in 2006³² estimated the impact of Liège Airport in terms of employment at 4 225 indirect jobs, counting 1 761 direct jobs in 2001, based on previous surveys. Those statistics thus tend to show that the development of Liège Airport continues apace and is, even now, bringing considerable new employment in the Province of Liège, in which FOREM accounted for more than 80 000 unemployed men and women in January 2010.

The European Structural Funds are crucial for the development of the transport and logistics infrastructures. The Walloon Region does not have sufficient financial resources to cope with the investments required to develop those infrastructures. There is also an expected multiplier effect for those investments, due not only to the possibility of managing new volumes of freight brought on by increased capacity, but also to the complementarity with actions of the Walloon Region and the reinforcement of the international positioning of the Province of Liège.

³⁰ See <http://www.leforem.be/endirect/actions/chiffres-et-analyses/statistiques/statistiques-locales.html>

³¹ <http://www.liegeairport.com/fr/emploi>

³² CIRIEC-Ulg, *Evaluation des retombées économiques en termes d'emplois des aéroports régionaux wallons*, 2006.

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3. Bulgaria.

“Waste management: Set of 5 regional waste disposal sites located in Montana, Ruse, Sevlievo, Silistra and Sozopol in Bulgaria”

Authors: Ivaila Ilieva
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PPMI, Public Policy and Management Institute

3.0. Background information

a) Country	Bulgaria
b) Region	Montana, Ruse, Sevlievo, Silistra and Sozopol in the Southeast, North-central, Northwest, Southwest, Northeast of Bulgaria
c) Full Project Title	"Waste management: Set of 5 regional waste disposal sites located in Montana, Ruse, Sevlievo, Silistra and Sozopol in Bulgaria"
d) Duration	18.12.2000 (signing the Financial Memorandum (FM) by European Commission (EC))-31.12.2010 (after approval of amendment No. 6 of FM dating 09.11.2004)
e) Programme	ISPA 2000
f) Total Cost	EUR 65 367 906.95
g) EU Contribution	ISPA 62.56%
h) National Contribution	37.4% (consisting of 20.85% as per FM and 16.60% by Decision of Council of Ministers)
i) Private Contribution	0%
j) Sector	Environment
k) Sub-Sector	Urban and industrial waste management
l) Beneficiary	Municipalities of Montana, Ruse, Sevlievo, Silistra and Sozopol
m) Implementing body	Ministry of Environment and Water, Bulgaria, "EU Funds for Environment" Directorate

3.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

In the programming period 2007-2013, Bulgaria has access for the first time to Structural Funds (SF), as the country is part of the last accession wave and has been a Member State since 1st January 2007. The total amount dedicated to the country is equal to EUR 6 673 628.244 European funding (ERDF and ESF), 85% of the National Strategic Reference Framework (NSRF) total budget¹. The country receives funds from the European Fund for Regional Development (ERDF), European Social Fund (ESF) and Cohesion Fund (CF)³³.

The Structural and Cohesion Funds are providing the major part of the resources for implementation of different national policies, including SG(E)I and SGEI. In the past 20 years, due to financial constraints, investments in infrastructure have been inadequate compared to the needs of business and citizens. Most of the projects implemented in the country under the pre-accession programmes were tackling these particular problems. The ISPA financial instrument applied in Bulgaria in the pre-accession period from 2000 to 2006, funded 25 projects in total in the environmental sector, amounting to a total of more than EUR 430 million (incl. technical assistance projects), in the fields of water, waste and air. The total investment costs of the environmental projects funded through ISPA are more than EUR 600 million. During the implementation of ISPA in Bulgaria, priority was given to the water sector, which is the most financially demanding sector in terms of reaching compliance with EU Directives. The main portion of ISPA financial assistance allocated to the environment was granted to projects for integrated water management (75%, i.e.

³³ The Cohesion Fund provides additional EUR 2 million in the period 2007-2013.

approximately EUR 325 million)³⁴. That situation predefined the approach chosen by the country while formulating the objectives and priorities of NSRF. 66.77% of the total amount for the period is directed toward "hard" investments, mainly in roads, waste management and water supply. The chart (Figure 4) show the prioritisation of the infrastructure elements (main components of SG(E)I), thus seeking to achieve best efficiency from the limited resources.

Environmental Protection Infrastructures

Improved growth conditions require integrated policy in the field of the environment in order to ensure a positive effect on the quality of life. Existing problems include the underdeveloped networks for solid waste collection and treatment and the insufficient and depreciated infrastructure for the collection and treatment of waste water. In order to improve waste water infrastructure, efforts are targeted at the extension, reconstruction and modernisation of existing, as well as construction of new sewerage systems including urban waste water treatment plants in the settlements. Whenever justified and proven as necessary these interventions are complemented with measures for improving the water supply system. Other activities, which are supported are those related to the supply of equipment for the detection and measurement of leakages, the development and updating of river basin management plans, and the development of investment projects for subsequent financing. With regard to waste management, the main issues identified are related to building up the much needed waste treatment infrastructure, the reduction of municipal waste generation, the introduction of separate collection and the implementation of activities directed towards the reuse of the generated waste. The issues related to the management of construction and demolition waste in the country require a solution as well. Last but not least are the issues related to the existing municipal waste landfills that do not yet meet the requirements of the legislation, to the existing old contaminations and to the improvement of the management of illegal municipal waste dumpsites. The amount of municipal waste collected from the population, incl. waste from commerce, offices and public institutions in Bulgaria is 500 kg/resident/year while the average amount in the EU 25 is 531 kg/per resident/per year. The share of Bulgarian municipal waste collected, incl. waste from commerce, offices and public institutions disposed of through landfills is two times higher than the EU-25 average (404 kg/resident/year in Bulgaria compared to 267 kg/resident/year EU-25)³⁵. The hierarchy of waste management³⁶ describes the operations and activities with regards to waste management in the following preferred sequence:

- Prevention of waste generation by reducing the quantity and/or concentration of dangerous substances in the accumulated waste.
- Reuse/Recycling/Recovery by:
 - reuse-multiple use of materials or products for the same or different purposes;
 - recycling-recycling of waste and its use as raw material for production of the same or different products;
 - recovery-by employing for composting, energy recovery, or other relevant technologies;
- Disposal of waste by means of landfill or incineration without recovery of energy, in cases where no other alternatives are available.

³⁴ Figure 1 represents the 2000-2006 funds allocated under Pre-accession instruments ISPA, Phare and Cross Border Cooperation Programmes.

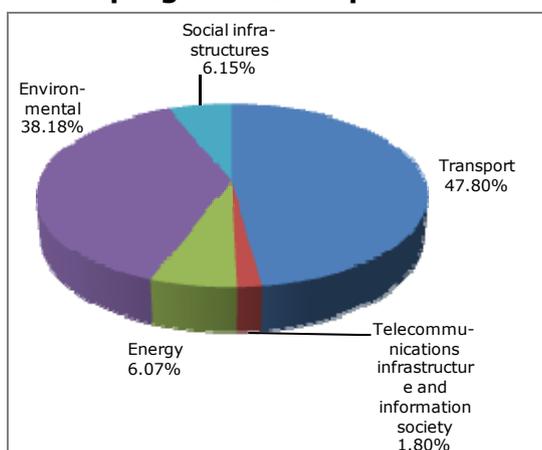
³⁵ All data (excluding the data for the total SO₂ emissions) is from the EUROSTAT web page: www.epp.eurostat.ec.eu.int-statistics for sector "Environment".

³⁶ Formulated by the 1996 Community Strategy for Waste Management.

The model for an integrated waste management approach, if applied in the above—mentioned sequence, contributes to the establishment of a sustainable waste management policy. The hierarchy for waste management sets as first place priority prevention of waste generation; secondly the utilisation of waste by reuse, recycling, and/or extraction of secondary raw materials and energy; and lastly the final disposal by means of landfill or incineration of waste that cannot be prevented and/or utilised.

The gradual reduction of disparities requires harmonisation of environmental legislation, as well as building and strengthening of administrative capacity on the one hand and significant investments in environment protection and improvement on the other hand. Structural fund resources for environment are focused on the implementation of priorities that are directed towards compliance with the directives, requiring the largest financial resources. The implementation of activities in the field is contributing to compliance with the requirements of both EU and national legislation in the field of the environment. Interventions in this area support activities such as: construction of waste recycling centres, installations for the recovery of emitted gas emissions (methane) from municipal waste landfills for the production of electricity, completion of the construction of regional landfills, facilities for pre-treatment including composting, sorting, and separation of waste. Further actions are taken with regards to consequent closure of existing municipal landfills that do not comply with the requirements of the legislation and modern technical standards. Support is also provided for the preparation or update of regional waste management plans and for the development of investment projects for subsequent financing. The organisation of the whole cycle of waste disposal is financed through the OP "Environment". It is planned to finance population mobility through service provision for people who are working and living in different places under OP "Regional Development". Improvement of the social and work conditions, reducing unemployment and offering constant qualifications, pre-qualifications and lifelong learning are the backbone of OP "Human Resources Development".

Figure 4: 2007-2013 ERDF programmed expenditure for SG(E)I³⁷



Source: Authors processing of DG Regio data

³⁷ Data include funds allocated under ISPA, Phare and CBC (BG-GR; BG-RO; BG-Turkey; BG-Serbia/Montenegro; BG-FYROM). The budgets are according to the Financial Memoranda for each programme, for the period 2000-2006 (<http://www.minfin.bg/bg/page/210>).

3.2. National framework in the provision of SG(E)I

There is no full compliance between the meaning of SG(E)I and SGEI as per the EU documents and what is generally understood as “services of general interest” under Bulgarian legislation. The concept is found in certain legislative texts without any definition being proposed, which actually overlaps the use of “SG(E)I” term with the use of “public services”.

References of SG(E)I could be found in the Public Procurement Act, within the meaning of defining as contracting authorities of public procurement, public enterprises, traders or other persons (when on the grounds of special or exclusive rights) that supply public services in the area of natural gas, heating or electric power; drinking water; transport services in the field of railway, tramway, trolley or bus transport, as well as automated transport systems or rope-lines; universal post service and exploitation of definite geographical areas. The State Aid Act refers to services of general interest and the observation and application of competition regimes and state aid rules in delivering SG(E)I. The Law on Protection of Competition applies to undertakings to which the State or the municipality has assigned services of public interest, inasmuch as the implementation of the Law does not actually obstruct or from the juridical aspect the fulfilment of the assigned tasks and competition in the country is not affected to any considerable extent.

The SG(E)I and SGEI in the field of environmental protection and waste management are reflected in several national legislative and strategic documents. The basic documents, guiding environmental policy in Bulgaria are the Environmental Protection Act, National Environmental Strategy 2000-2006 and the National Environmental Strategy 2005-2014, as well as the respective national action plans.

The Environmental Protection Act (EPA) and the Waste Management Act (WMA) and the Act for ratification of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, along with the relevant secondary legislation represent the main legislative acts in the field of waste management in Bulgaria. The EPA sets the principles for protection of environmental components-such as “sustainable development”, “priority of prevention preceding disposal”, “polluter pays” and the integration of the environmental protection policy in the sectoral and regional policies.

The WMA regulates environmentally-friendly waste management as a system of rights, responsibilities, decisions, actions and activities referring to waste generation and treatment and covers the household, industrial, hazardous and construction waste. Furthermore, the WMA sets the hierarchy of waste management: prevention, utilisation (recycling, reuse and/or extraction of secondary raw materials and energy recovery from waste whereof the formation cannot be prevented) and disposal. Pursuant to the WMA, the costs for waste collection, transport, utilisation and disposal are to be borne by the owners and producers of waste, which implies the “polluter pays” principle and “producer’s responsibility”. WMA distinguishes 4 general groups of “owners” or “producers” of waste. These are (1) households, (2) industry, (3) producers/importers of products, generating waste such as packaging and (4) the state (a specific group) as responsible for past contaminations.

The owners of the infrastructure are the local authorities-municipalities. The municipal administrations lay down detailed municipal regulations on the deposition, collection (including separate collection), transportation, transfer, treatment and recovery of municipal and construction waste and specific waste streams that are to be implemented by the producers and owners of waste on municipal territory. The municipalities are also responsible for the selection of the landfill site(s) and for the delivery of necessary facilities for waste collection and treatment. Usually this is done by operators that manage waste treatment. The operators are subject of to selection following the Public Procurement Law. All the obligations and responsibilities are the subject of the contract agreement. Each

municipality determines the rules and the obligations of these contract issues independently. The decision of each municipality is also independent. Similar regulations also determine the amount and payment procedure for the local fees for supplying the respective services.

Households have to follow the municipality's council regulation or ordinances of the Mayor on separate disposal of waste. As a rule, the Mayor signs a contract with an economic operator in possession of a license for undertaking waste management activities. Households can additionally dispose of waste such as plastic, paper, batteries, luminescent lamp, end used vehicles at sites designated by the Mayor. Households are charged a municipal tax "household waste" for services provided by the municipality. The size of this tax is very low for social reasons.

Industry has to submit a programme for the treatment and disposal of the quantity and types of waste, produced by its activities. Industrial enterprises may sign a contract with specialised operators for waste management, when unable to fulfil their obligations independently. The implementation of this programme is observed by the Regional Inspectorates on Environment and Water (RIEW) and if not fulfilled, a sanction is imposed on the producer.

The producers and importers of products which, after use, generate specific waste streams are responsible for organising the collection, recovery and/or treatment of waste from these products. In order to fulfil their obligations the producers and importers may choose between two alternatives: (1). when such products are placed on the market, the generators of waste pay product charges to the respective authority. Funds collected in this way are used for financing projects for separate collection and recovery of waste. (2). the producers and importers of waste organise and finance by themselves the waste collection and the achievement of the targets set for recovery or recycling. The activities are implemented individually or through collective systems, represented by an organisation for recovery of waste. In this case product charges are not paid. The fulfilment of this obligation is controlled by the RIEW. If the obligation has not been fulfilled this group has to pay back "products tax" together with additional sanctions.

Pursuant to the EPA, past contamination of sites or construction facilities on industrial sites with hazardous substances and waste generated by industrial, agricultural, commercial or transport activities, posing a hazard to human health or to the environment is defined as "damage caused to the environment resulting from past acts or omissions". A specialised Inter-institutional council to the Minister of Environment takes decisions on funding (according to available financial resources) of utilisation and remediation for past contaminated sites, especially on the territory of privatised enterprises after 01.1999.

3.3. Project description

The project is part of the ISPA pre-accession programme for Bulgaria. The general objective of the ISPA programme in the field of the environment is to ensure financial support for infrastructure investments (urban waste water, drinking water, air quality, large combustion plants, waste incineration and management) needed for implementation of the requirements of EU "investment heavy" Directives³⁸.

³⁸ During the negotiations on Chapter 22 "Environment" for accession to the EU, significant efforts were undertaken for the exact clarification of the parameters on the financial commitments, which the country undertakes in relation to implementation of EU legislation requirements. As a consequence of the analyses undertaken, it was established that Bulgaria doesn't possess all the necessary financial resources to fully implement the requirements of the EU Directives in the framework of the defined time limits. Therefore, transitional periods were negotiated for a number of requirements related to the implementation of the so called "heavy" Directives: Directive 94/62/EC on packaging and packaging waste, amended by Directive 2004/12/EC; For Directive 2002/95/EC and 2002/96/EC, amended by Directive 2003/108/EC on waste electrical and electronic

The main objective of the project is to achieve solid waste management in full compliance with EU and Bulgarian Regulations and thus avoid potential environmental damage from landfills. The project served to reverse the general tendency in Bulgaria to carry out waste disposal without dedicating strong attention to the environmental impact.

The specific needs addressed by the project are the lack of landfills that comply with EC legal provisions and obligations for municipalities to find new solutions for the management of waste. The replacement of 113 existing disposal sites serving the target areas were among the first reasons for prioritising the project for funding. The project was focused on closure of the oldest and most polluted disposal sites, many of which had reached full capacity, and allow the restoration of the areas presently occupied by these sites. Moreover it is supposed to diminish pollution of the Danube River and the Black Sea. The new landfills are supposed to provide capacity for disposal and storage of hazardous, construction and production waste which was unavailable in the target areas. Thus potential environmental damage from old landfills would be avoided.

The final beneficiaries of the project are the municipalities of Montana, Ruse, Sevlievo, Silistra and Sozopol. The project is aimed at all citizens of the five municipalities. At the time of programming and implementing the project, the population served by the new 5 regional landfills is estimated at 447 000 (National statistical data 2000³⁹). At the present moment, the population benefiting from the project results is estimated at 392 707 people (data per 15 February 2010). The biggest share of the population belongs to the municipality of Ruse - 192 406, followed by Silistra - 65 221 people, Montana-63 050 and Sevlievo - 41 989. The smallest municipality is Sozopol numbering 13 659 people, but the waste disposal also serves the population of the municipalities of Tzarevo (9 641) and Primorsko (6 741). The percentage of the population benefiting from the project as a percentage of the total national population is 4.61% (total number of population is stated to be 8 511 051 as per the National database for statistics of the population-as per February 2010⁴⁰).

The projects consist of the construction of five waste disposal landfills. Three of the new landfills deal with non-hazardous waste only. In Sevlievo and Ruse, on the other hand, separate disposal cells for hazardous waste are included. These new landfills provide the capacity for disposal and storage of hazardous, construction and production waste which was previously unavailable in the target areas. The investments for each of the municipalities include:

- Sozopol landfill and Waste Transfer Station, Silistra landfill and Montana landfill-The project comprises three regional landfills and a Waste Transfer Station (WTS). The constructions of the new landfills include external communications; wells for monitoring and control of ground waters; machinery and equipment. The second element of this project, the Waste Transfer Station, is constructed on the territory of Tzarevo Municipality, and includes the building and installation of equipment.
- Ruse landfill and Sevlievo landfills-The new landfills consist of municipal, construction and industrial waste plus a cell (includes 54 containers) for hazardous waste. The project covers the following elements: 3 cells for municipal solid waste and 1 cell for hazardous waste including 54 containers; top cover layer for the existing site and monitoring wells for ground waters; machinery and equipment.

equipment; Directive 99/31/EC on the landfill of waste; Regulation 259/93/EEC on the supervision and control of shipments of waste within, into and out of the European Community.

³⁹ Data on population as per current and permanent address registration – February 2000-
<http://www.grao.bg/tna/t41-2000.txt>

⁴⁰Data on population as per current and permanent address registration-last updated 15th February 2010-
<http://www.grao.bg/tna/tab01.html>

The measure comprises a group of 5 projects in the area of the following municipalities: Montana, Ruse, Sevlievo, Silistra and Sozopol located in the Southeast, North-central, Northwest and Northeast of Bulgaria. Three new regional landfills (Montana, Sevlievo and Silistra) are located at the existing sites, whereas the new landfills for Ruse and Sozopol are built on new sites. In Sevlievo and Ruse separate disposal cells for hazardous waste are included and these new sites provide the capacities for disposal and storage of hazardous, construction and production wastes, which are currently unavailable for these target areas. The project activities include construction of five landfills (Lot 1, Lot 4-7), construction of a waste transfer station in Primorsko (Lot 2); supervision at the time of construction of the landfills; technical assistance to MOEW; two framework contracts for independent evaluators of the work contracts; framework contracts for the redesign of tender dossiers; technical assistance for closure of the existing landfill in Ruse.

3.4. Specific aspects of SG(E)I affected by the project

Specific aspect/objectives of SG(E)I realised/enhanced with the project.

The project provides interventions in the field of waste management. The specific aspects of SG(E)I achieved within the project implementation are as follows:

- social accessibility and affordability - improved accessibility of the population to serve more extended areas with considerable advantages in terms of scale economies;
- development of a modern local and regional waste management sector-the new landfills are in full compliance with EC requirements;
- reduction of health risks;
- reduction of polluting emissions such as water and air pollutants and improvement of environmental parameters.

Main results of the project (actual/expected)

Although the benefits of this measure are difficult to quantify, the proposed environmental and social benefits are considerable and will include the following:

- ***Social accessibility and affordability:*** the construction of the five new waste disposal sites resulted in improved access for people living in the municipalities. In 2001, 80% of the total population in Bulgaria, comprising 99% of the urban and little above 33% of the rural population was served by organised waste collection and disposal. The municipalities under review were lagging considerably behind in introducing such service. After the official opening of the new landfills, the municipalities had organised collection and disposal system and the whole population and settlements within the borders of the municipalities benefiting were included in the system. Also, the improved waste disposal infrastructure in the areas assisted by the projects contribute to increased competitiveness through the reduction of local firms' production costs and business constraints, attract external business interests into the areas, and ultimately, contribute to the generation of employment opportunities. The result stems from the safer services and greater capacity offered by the new landfills that allowed the regions to develop industrial zones where business could emerge without increasing the pollution of the environment. In addition, the local economies benefited from the procurement of construction materials and from personnel employed during the construction and operation phase. On the other hand, the implementation of the project in regions with predominant rural areas and small settlements is a step towards overcoming the lagging behind of some of the areas in terms of limited or missing sewerage systems and waste collection in some regions, thus decreasing the disparities

between urban centres and rural regions. Additional income was generated by job creation and procurement that had positive down-stream benefits via indirect employment and increased expenditure on goods and services.

- **Development of a modern local and regional waste management sector:** during the last few years, the Government's policy was to close down small landfills and to focus on larger, regional landfill sites. As a result of the waste stream redirection to the new sites, several old disposal sites were closed in the target areas. In particular, the measure determined the closure of the following old disposal sites: 22 sites in Montana, 15 sites in Ruse; 16 sites in Sevlievo; 8 sites in Silistra and 8 sites in Sozopol. The typical amount of waste to be disposed of at regional landfill sites varies between 50 000 and 100 000 tonnes per year. After project implementation, the average amount of waste will significantly increase (see the table below):

Table 1: Waste Amount: before and after

WASTE QUANTITY (000 m3/Year)		
<i>Non-Hazardous</i>		
	<i>Before</i> ⁴¹	<i>After</i> ⁴²
Montana	38	950
Ruse	106.2	2.337
Sevlievo	38.7	852
Silistra	48.92	1.223
Sozopol	52.92	1.323
<i>Hazardous</i>		
	<i>Before</i>	<i>After</i>
Rousse		1.13
Sevlievo		2.14

- **Reduction of health risks:** there are significant improvements to the state of the local environment and human health by reducing environmental pollution from solid (and hazardous) waste.
- **Reduction of polluting emissions such as water and air pollutants and improvement of environmental parameters:** the project has preventive and curative effects at the same time: preventive because its primary objective is to prevent environmental damage from the landfills; curative because it involves the closure and the restoration of the old disposal sites. There is a reduction in the pollution of groundwater and soil, as well limiting potential damage to bio-diversity in the project areas. The project resulted in a diminishing of pollution of the Danube River given the new disposal sites at Ruse and Silistra, and into the Black sea basin due to the new disposal site in Sozopol. There is also a significant improvement concerning emissions to the atmosphere for the sites where the bio-gas is collected and either burned or flared. The introduced systems for purification and burning of bio-gas reduce methane gas emissions into the atmosphere, and this is in compliance with Bulgarian policy regarding global climate changes.

⁴¹ There are no official statistics related to the exact numbers and volume of the waste quantity for each of the municipalities concerned before the approval of the project. The figures provided are based on average country waste quantity per number of population related to the total number of population in each municipality.

⁴² Data as per the Project Fiche-<http://www.minfin.bg/bg/page/212>

Change in the approach to public service, at regional and / or national level stemming from the actual results of the project

The results achieved during project implementation contribute to ensuring that this part of the Bulgarian landfill network is better organised and more controllable in the target areas. The new landfills provide modern ways for waste treatment (especially in terms of hazardous waste, where waste incineration is replaced by more environmental and health friendly methods), that would result in increasing separate collections throughout the whole country and implementation of activities directed towards reuse of the generated waste, therefore improving accessibility and reducing health risks.

Changes in the use of Structural Funds in the SG(E)I at regional and / or national level

The needs of additional investments in all areas related to the environment in Bulgaria are evident. The resources necessary for implementation of all EU requirements in the field of environment (including waste management), significantly exceed the capacity to finance from existing national financial resources and prove the need from additional external financial sources, especially in the public sector. Therefore, during the last few years the financial support from EU pre-accession instruments played a significant role. During our first programming period, Bulgaria will significantly rely on EU Cohesion and Structural Funds as well as on the opportunities that could be provided through public-private partnerships.

3.5. Governance aspects

The project included a list of different stakeholders, as follows:

- European Commission and Republic of Bulgaria-fund providers under the means of the ISPA sources and national co-financing;
- European Commission Delegation in Bulgaria-supervisor of the process, executing ex-ante check and approval of the project activities and performing project control;
- Ministry of Regional Development and Public Works-ISPA Task Force-acting as the authority that made the application (National ISPA Co-ordinator);
- Ministry of Environment and Waters-implementing authority; responsible for the co-ordination and management of the project-preparation of project documents, organisation of tender procedures, progress reporting, paying, etc. MOEW is responsible for providing national policy in the field of environmental protection. Fifteen regional inspections of the environment and water (under the MOEW) ensure state environmental policy at regional level and perform monitoring and controlling functions;
- Municipalities of Montana, Ruse, Sevlievo, Silistra, Sozopol-final beneficiaries-responsible for the actual implementation of the project activities. Each component of the project (a landfill) is implemented by the respective municipality solely thus the municipalities are considered beneficiaries, but not partners under the project. According to national legislation, the municipalities are responsible for the development of municipal waste management programmes within the scope determined by the WMA. The specific requirements for waste management at local level are introduced by municipal regulations laying down the procedure and terms for dumping, collection, incl. separate collection, transportation, transferring, treatment and recovery of municipal and construction waste and specific waste streams. The municipalities are also responsible for the selection of the landfill site(s) and for the delivery of necessary facilities for waste collection and treatment;

- Contractors for the implementation and supervision of the project-performing the construction of the landfills⁴³.

The responsibilities of stakeholders were strictly defined by the rules of the Financing programme-ISPA. The responsibilities and obligations of each stakeholder are defined in EC rules regulating ISPA implementation. The partnership in terms of good governance of the project and sound implementation were ensured and no significant problems were identified during project implementation. Nevertheless, formal relations among some of them were introduced through the signing of a few documents. The Financing Memorandum was signed between the EC (on 18.12.2000) and the Bulgarian government (on 06.02.2001) and for ensuring the approval and financial provisions for the project. There was no document signed among the municipalities. The contracts with the different implementers were signed between the MOEW and the respective contractors.

The procurement arrangements of the project were tendered following the rules:

- for activities that took place before Accession (2007), all the procurement procedures were according to EU rules, namely:
 - FIDIC Conditions of Contract for Construction-one restricted international tender for works containing six different lots; one restricted international tender for supervision containing one lot;
 - One international tender following a pre-qualification procedure for supervision for all six lots as "Engineer" according to FIDIC Conditions of Contract;
- two framework contracts for international independent evaluators;
- for activities that took place after Accession-the procedures of the Public Procurement Act.

No public-private partnership was used in the project implementation. The landfills are managed by the municipalities directly. All the governance aspects are pre-defined and strictly follow the rules of the funding programme.

⁴³ Lot 1, Lot 4 and Lot 7 construction of landfills in Sozopol, Silistra and Ruse was implemented by Consortium "WALTER HEILIT SS"; Lot 2, Lot 5 and Lot 6 for construction of landfills in Primorsko, Montana and Sevlievo was implemented by Consortium "GBS- HYDRO 2003"; Work supervision was implemented by AEW INTERCON-FICHTNER;The TA contract to MOEW was implemented by MOTT MACDONALD; The framework contract for independent assessors of the tenders were selected SAFEGE; The framework contract for redesigning the tender dossiers was implemented by COWI; The framework contract for TA for closure of the old disposals was implemented by HALCROW Group; UK; The framework contract for independent assessors EuropeAid 120520/D/SV/BG was implemented by ILF Consulting Engineers, Austria

3.6. Universality of access and affordability

Universality of Access

The project implementation allows almost the entire population of the benefiting municipalities to have access to landfill services. The new disposal centres have the capacity to collect the waste of the entire territory of the five municipalities included and the one in Sozopol also serves two additional municipalities. Therefore, based on the official data on the number of the population living in the targeted areas, around 390 000 people have access to waste disposal. The landfills offer services without any limitations related to sex, age, race and religion, thus there is definite equality for all. The targeted municipalities are different in type-they include urban regions, rural areas, border regions and resort settlements. Some minor disparities between the settlements in urban areas and small villages in the rural part of the municipalities could be assessed. These disparities are due to the still existing problems related to inclusion of some of the smallest settlements within the regions, mainly small villages, in the system for the collection of waste. This is mainly because due to the lack of financial sources that was supposed to cover post-project activities such as organisation of regular collections and transportation of waste for all the settlements in a municipality. Lack of finance could be explained by less local taxes paid by the population, which directly influences the possibilities for organising regular collections of waste even in the far distant settlements. One of the reasons could also be traced to the depopulation of small villages that has taken place in the last 15 years in Bulgaria, when people prefer to migrate to bigger towns looking for jobs and desert villages and rural areas.

Some of the funds received under Structural Funds are focused explicitly on problems of this kind.

Affordability

Pursuant to the WMA, the costs for waste collection, transport, utilisation and disposal are to be borne by the owners and producers of waste, which implies the "polluter pays" principle and "producer's responsibility". The municipal administrations lay down further detailed municipal regulations on the deposition, collection (incl. separate collection), transportation, transferring, treatment and recovery of municipal and construction waste and specific waste streams that are to be implemented by the producers and owners of waste on municipal territory. The above regulations also determine the amount and payment procedure for the local fees for supplying the respective services. The annual amount of the fee is determined by decision of the municipal council for each settlement in the country. Local fees for household waste are determined on the basis of the necessary material-technical and administrative expenses related to the provision of the service and in compliance with the following principles-coverage of the full expenses of the municipality related to the provision of the service; creation of conditions for expansion of the offered services and improvement of their quality; achievement of a better fairness in determining and payment of local fees.

Sometimes the size of the fee may not cover the full expenses of the municipality related to a definite service when the municipal council decides that this is imperative for the protection of the public interest. In these cases, the amount of the fee shall be for the account of the municipal revenue. In addition sometimes, for social reasons, the municipal council may decide to exempt certain categories of individuals (usually disabled people) entirely or partially, from payment of individual types of fees. Such social approach could be easily introduced concerning the landfills built under the project analysed, because the necessary material-technical and administrative expenses related to the provision of the service are lower (due to up-to date technologies introduced in the landfills that require

lower operational and maintenance expenses). There are still no implications that such an approach will be used by the municipalities benefited under the project analysed, as the waste management fees are determined at the end of the year in order to be reflected in the next municipal budget and the project finished at the end of December 2009 when budget 2010 was already finished. The introduction of "social type of fees" could be initiated for the next budget year but this could not be done earlier than October 2010.

The Law on local taxes and fees says that the amount of the fee is determined according to the quantity of the household waste and when it is not possible to establish the quantity, the size is determined per user or proportionally on the basis decided by the municipal council. A common practice in all the municipalities in Bulgaria is to determine the household waste fee based on the tax valuation of the property of the household. This methodology has proven to be inefficient as it does not reflect the actual production of waste and such a methodology obliges people to pay household waste fee for all properties, even if they are abandoned or inhabited.

Industry as a group of waste "producers"/"owners" has to pay waste fees also determined by the municipality and observing the same principles and rules. The methodology used up to now is that the waste fee for business is determined on the basis of the reported value of the property, after allowances for depreciation, and not the tax property valuation as in household fees.

There is no central control mechanism for determining waste taxes as the issue falls within the responsibilities of the municipalities as part of the decentralisation process. Structural Funds are not programmed to subsidise any fee, even waste or other types. The only way SF could intervene in the process is by providing funds for construction of modern landfills and waste treatment facilities and thus assisting in delivery of services with quality that correspond to the level of fees.

3.7. Thematic focus

Geographical remoteness of the service provided

The construction of the new landfills covers the total territory of the seven municipalities (five direct beneficiaries of the project and two municipalities that are using the services of the landfill in Sozopol municipality). The total area covered by the services of the new disposal sites is 3 983 78 km² which forms 3.59% of the whole territory of the country⁴⁴.

As the project envisaged common results and activities, the beneficiaries were not selected due to similar type of regions but because of common problems in the field of waste disposal. Therefore the five municipalities are different both in type and level of development. The Municipality of Ruse is situated at the river Danube and thus acts like a border area, giving the possibility of indirect cross-border impact of the project results. The construction of the landfill allowed the region to develop the industrial area of the city, due to the larger capacity of the new disposal site and the possibility to utilise and dispose household, industrial and hazardous waste, thus improved in a great manner the economic development of the region.

Nevertheless being also a border region, the municipality of Silistra can be characterised as a declining rural region, where no free sources for infrastructure investments were available. The newly built disposal site is useful to the local population due to the improvement in healthy living conditions, via closure of the old disposal sites and illegal dumps in the neighbourhoods.

The municipality of Sevlievo was favoured by the new landfill, as it offers bigger capacity for the industrial waste of the plants operating in the area, thus encouraging the economic development of the region.

⁴⁴ http://bg.guide-bulgaria.com/NW/bg_Area_Sizes.aspx

Sozopol is a Black Sea municipality, with small settlements and the main sources of income come from tourism, which determines the limited amounts available for infrastructure rehabilitation. On the other hand, the economic growth of the region is directly related to the clean and friendly environment, where the new landfills are contributing in a significant manner through improving the attractiveness of the coastal regions and development of tourism.

The landfill within the municipality of Montana is serving part of the poorest regions not only in Bulgaria, but in the whole EU 27 (according to Eurostat⁴⁵). Therefore the new landfill would have an impact on a healthy environment on one side, but on the other, it could be considered as a step for improving the competitive advantages of the region, offering industries a modern and safer treatment of the waste.

The geographical remoteness effect is indirect in terms of the project analysed, but it could be traced in the improved attractiveness of the areas due to better treatment of the waste disposal. The regions became more attractive to visitors and for business too (resulting from better investment conditions-possibility to expand business without increasing the waste disposal volume). All these factors are contributing to the bringing together of the regions and overcoming their geographical remoteness. In addition, during the last few years the country has undergone rapid infrastructure development and road construction that connects all parts of the country. This of course resulted in increased construction and demolition waste. The newly built landfills provide conditions for environmentally friendly treatment of this construction and demolition waste, improving and developing the waste treatment infrastructure in the regions, decreasing the quantity of landfill waste and indirectly improving road connections in the country.

3.8. Contribution to cohesion policy objectives

The environment in Bulgaria is one of the most valuable national assets that should be protected and preserved with a view to gaining future benefits. At the same time the country is still going through a period of major changes and many of them continue to expose this asset to potential risks. In order to protect and preserve the natural resources and improve the state of the environment in the country, sustainable development should be ensured for the future-not only in social and economic but also in environmental terms. The project in focus is targeted at sustainable development achievements.

The implementation of the measure, combined with additional administrative and institutional measures, is part of Bulgaria's long-term waste management strategy, which was aimed at waste minimisation, significant increase of recycling, and the reuse of waste. As Bulgaria has signed the Convention on Co-operation for the Protection and Sustainable Use of the Danube River (Sofia, 1994) and the Convention on the Protection of the Black Sea Against Pollution, ratified on 26.11.1992, the country is obliged to contribute to the environmental protection of the Danube River and the Black Sea. Two of the municipalities are situated at the river Danube-the municipality of Ruse and the municipality of Silistra, while the municipality of Sozopol is at the Black Sea shore. The construction of the landfills in these municipalities is contributing to fulfilling the requirements of the international Conventions for sustainable use of the two major basins and therefore the measure is most likely having a positive Trans-border impact. For Ruse and Silistra, given the proximity of the Danube River, the new landfills reduced the risk of polluting the river course. For Sozopol, given the proximity of the Black Sea, the new landfill is reducing the risk of pollution that enters the sea.

The construction of the five new landfills contributed to achieving a high quality of life and social welfare for the local population by safeguarding the environment where the level of

⁴⁵Eurostat- "Regional GDP per inhabitant in 2007"-http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/1-18022010-AP/EN/1-18022010-AP-EN.PDF

pollution does not give rise to harmful effects on people's health. This is pursued by achieving better quality of the soil, ground and surface water and air quality due to safer treatment of waste, introduction of two hazardous cells (in Ruse and Sozopol) and the utilisation and recycling of household and industrial waste in compliance with environmental requirements.

The project implementation is affecting in an indirect manner more sustainable production and consumption patterns through better resource efficiency and resource and waste management, thus ensuring that the consumption of resources does not exceed the carrying capacity of the environment. This stems from the achieved reduction of the volume of waste for disposal and of hazardous waste in the five municipalities, introduction of safer waste treatment and disposal, and encouraging the re-use of waste.

The project is also contributing to the integration of environmental policy into sectoral and regional policies. The new landfills led to pollution reduction and prevention of future impacts of industry on the environment. As the last activities under the implementation of the project (i.e. construction supervision) finished at the end of 2009, there are no real figures yet measured on the ground. The estimated increase is based on preliminary research, construction estimates and annual statistical data for the regions. The exact volume and capacity of the landfills could be measured at the end of the year or after specialised engineering measurements on the sites. The waste quantity recycled per year is expected to increase significantly, as follows⁴⁶:

- the Municipality of Ruse-the new landfill is recycling 2 337 000 m³/Year (compared to 106 200 m³/Year before the construction of the landfill);
- the Municipality of Montana has capacity for 950 000 m³/Year compared to 38 000 m³/Year before the construction of the landfill;
- the municipality of Sozopol provides capacity for 1 323 000 m³/Year compared to 529 200 m³/Year before the construction of the landfill;
- the municipality of Sevlievo has capacity for 852 000 m³/Year compared to 38 700 m³/Year before the construction of the landfill;
- the municipality of Silistra provides capacity for 1 223 000 m³/Year compared to 48 920 m³/Year before the construction of the landfill;

It could be considered in a way that the project implementation had some impact on reducing territorial disparities and imbalances in terms of location of economic activities. The new landfills which have bigger capacity and offer safer services assisted some of the regions to revive their economies through offering better conditions to business in terms of development possibilities without increasing the pollution of the environment. The implementation of the project in regions with predominant rural areas and small settlements is a step towards overcoming the lagging behind and decreasing the disparities between urban centres and rural regions through improved waste disposal infrastructure. The project is contributing to increased competitiveness through the reduction of local firms' production costs and business constraints, attraction of external business interests into the areas, and ultimately, contributing to the generation of employment opportunities. In addition, the local economies benefited from the procurement of construction materials and from personnel employed during the construction and operation phase. Additional

⁴⁶ There are no official statistics related to the exact numbers and volume of the waste quantity for each of the municipalities concerned before the approval of the project. The figures provided are based on average country waste quantity per number of population related to the total number of population in each municipality. The data after project implementation is according to the information provided in project fiche.

income was generated by job creation and procurement that had positive down-stream benefits via indirect employment and increased expenditure on goods and services.

The overall assessment of the project from the environmental point of view shows that it will contribute significantly to the improvement of overall solid waste management in Bulgaria. There is also a reduction in the pollution of groundwater and soil, as well as limitation of the potential damage to bio-diversity in the project areas. The environmentally friendly management of hazardous waste and substances in the two landfills are minimising the environmental risks for the neighbourhood. Thus it could be thought as implementation of environmentally friendly practices in agriculture in non-polluted areas. The cleaner areas in Sozopol municipality and the two additional regions, served by the landfill, contributed to the development of sustainable tourism. Improved growth conditions require an integrated policy in the field of environment in order to ensure a positive effect on the quality of life. The general long-term strategic objective of the country in the sector of environment is: "Improving the quality of life of the country's population by ensuring a healthy and favourable environment and by preserving the rich natural heritage based on sustainable management of the environment". In this programming period, Bulgaria is concentrating its limited resources into those pressing areas because waste collection and treatment problems increase in intensity as the economy grows. The environmental infrastructure as part of the SG(E)I in the country is essential for both the quality of life and for public health. That is why a serious amount of Structural and Cohesion Funds for the Programming period 2007-2013 are directed to interventions in the area. With strong linkages to economic resources management, this sector is strategic for the future development of the country and is definitely an important part of the development of SG(E)I and SGEI in Bulgaria.

Acknowledgements

The content of this case study derives from official documents related to the project implementation. Due to the long implementation period (nine years) and frequent staff turnover within the units responsible for its management, most of the original staff that used to be responsible for the project were not available. The opinion of some experts is used during preparation of the project and the author takes the opportunity to thank these experts for their cooperation:

- Borislav Petkov - former expert within the Central Coordination Unit, Ministry of Finance.
- Martin Georgiev - head of "Programming" Department within Ministry of Transport, Communications and Information Technologies, Bulgaria.
- Sergey Mihailov - former expert in ISPA Financial Department, Ministry of Regional Development and Public Works (MRDPW), currently financial expert in CBC Unit, MRDPW.
- Violeta Vrancheva - former head of "European Funds for Environment" Directorate, Ministry of Environment and Waters.

The author takes the full responsibility for the content of the study.

4. Cyprus.

Contemporary social and cultural services at the former municipal home for the elderly

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4.0. Background information

a) Country	Cyprus
b) Region	Municipality of Nicosia
c) Full Project Title	Contemporary Social and Cultural Services Centre at the former Municipal Home for Elderly
d) Duration	02.2005-01.2008
e) Programme	Objective 2 Programme 2004-2006
f) Total Cost	EUR 1 983 333.00
g) EU Contribution	ERDF 50%
h) National Contribution	50%
i) Private Contribution	0%
j) Sector	Social Infrastructure
k) Sub-Sector	Childcare infrastructure
Beneficiary	Department Town Planning and Housing of the Ministry of Interior
m) Implementing Body	Municipality of Nicosia

4.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The National Strategic Reference Framework (NSRF) for Cyprus is comprehensively discussing the macroeconomic performance and perspectives of the Cypriot economy. The NSRF detects major structural weaknesses of the Cypriot economy: a) the level of productivity is lagging behind the average of the EU-25 (now EU-27), a fact negatively affecting the competitiveness of the economy in a time of intensified competition and globalisation⁴⁷; b) Shrinking of the share of manufacturing in production and employment; c) insufficient research and technological development; d) limited dissemination of ICT; e) despite the high rate of employment and of participation in the labour market, an increasing rate of unemployment is observed among youth, women and adults between 54 and 65; f) labour supply and demand is characterised by qualitative and quantitative imbalance, etc. These structural weaknesses are threatening the course of the Cypriot economy towards real convergence with the European Union, tending to restrict its integration in the internal market of the Union and weakening its capability to adapt to the changing international competitive environment. These structural weaknesses relate also to the provision of SG(E)I.

For the ICT sector the NSRF-Cyprus highlights the necessity to improve e-governance in order to improve the quality of services offered to citizens, and to promote the integration of ICT applications in basic services (i.e., health services) offered by the public sector in an effort to increase accessibility to services, with particular focus on inhabitants of rural, mountainous and remote areas. Structural Funds provide funding for interventions in this field as regards a) the enhancement of e-governance services offered by public authorities and b) expansion of provision of e-health services. Furthermore, the NSRF envisages the possibility of including measures to be co-funded by the Structural Funds for the expansion of broadband networks and e-Trade.

For the transport sector the NSRF features the requirement of immense investments focusing on a) the integration of Cyprus into the Transeuropean Networks and b) development of a modern public transportation system. The development of a modern

⁴⁷ The structural weaknesses that hinder the improvement of competitiveness relate to the small size of enterprises and inability to diversify the structure of the economy towards economic activities with high added value.

public transportation system is considered of great importance for environmental protection, quality of life and social cohesion. Interventions in the transport sector co-funded by the Structural Funds include measures for a) improvement of the port infrastructure, b) improvement of the road network and c) enhancement of means of public transportation, construction of urgently needed roads and regulation of traffic to ease traffic jams in urban centres.

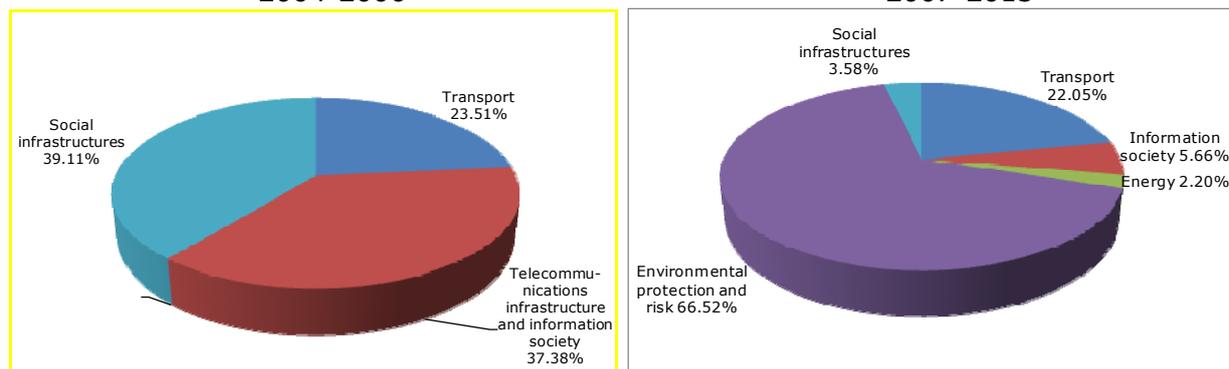
The divergence of Cyprus from the EU average indicators as regards management of solid and liquid waste is much debated in the NSRF, as is the impact on environment of the oil dependency of Cyprus for power generation. With the intention of facing deficits in these fields the Structural Funds provide funding for measures aimed at a) the creation of modern Solid Waste Management Plants, b) the promotion of recycling, c) the management of hazardous waste, b) expansion of Sewerage Systems, etc., while for energy the NSRF foresees funding of measures addressing a) the diversification of power production with the promotion of actions and incentive schemes supporting the production and consumption of renewable energy and b) introduction of natural gas with emphasis at this stage on development of the national distribution network.

Within the framework of the objectives to enhance social cohesion and integration, and to promote the creation of sustainable urban and rural communities the NSRF has various measures to be co-funded by the Structural Funds designed to improve social infrastructures and health care services. The measures discussed in the paper include a) enhancement of independent or hospital-integrated centres for provision of specialised primary and/or secondary health care services, b) expansion of provision of health care services in rural and remote areas, c) improvement of the skills of personnel providing health services, e) promotion of e-Health services, f) expansion of social and cultural infrastructures in urban and rural areas and g) improvement of accessibility to services of general economic interest for rural populations.

The NSRF does not contain any explicit analysis related to the provision of SG(E)I nor to the inter-relationship between the provision of SG(E)I and the Structural Funds. Characteristically, the term Services of General Economic Interest appears only once in the paper, in relation to the strategy to improve the attractiveness of rural areas. However, it may be concluded that the Structural Funds' contribution to the provision of SG(E)I is particularly appreciated in SG(E)I sectors which face structural problems and requires considerable infrastructural investments.

During the 2000-2006 Structural Funds programme period, Cyprus benefited partly from the Structural Funds, since it became full member of the EU in 2004. Cyprus' funding from the ERDF for the period 2004-2006 amounted to about EUR 28 million. Approximately 26% of this funding was directed to projects related to the provision of SG(E)I. The ERDF 2007-2013 makes provision for an amount of EUR 492 million for Cyprus. 55% of expenditure programmed by the ERDF for Cyprus is committed to provision of SG(E)I, with environmental protection and transport accorded a dominant position. The graphs below present a comparison of the distribution of expenditure programmed by the Structural Funds in SG(E)I for Cyprus for 2000-2006 and 2007-2013 respectively.

Figure 5: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

4.2. National framework in the provision of SG(E)I

The provision of services in the social infrastructure sector is governed and regulated by various national laws and regulations. The contemporary Social and Cultural Services Centre—the outcome of the project selected for the case study for Cyprus, run by the Nicosia Municipality Multifunctional Foundation—operates under the provisions of two laws: a) the Children Protection and Care Centres Law and b) the Adult Care and Recreational Centres Law. No legal framework exists for the provision of home care services for the elderly. However, The Social Welfare Services of the Ministry of Labour and Social Insurance is now drafting a new law, since the demand and delivery for such services is lately increasing.

Both of the abovementioned laws state that such centres may be operated by physical persons and/or legal entities provided that the centres have a certificate of registration issued by the competent authority and fulfil certain standards regarding the educational background of personnel employed, hygienic and safety conditions, furnishing and equipment, capacity etc. This legislation does not apply to centres operated by the Welfare Services of the Ministry of Labour and Social Insurance.

The competent authority for the registration of centres and monitoring of their compliance with national legislation is the Welfare Services of the Ministry of Labour and Social Insurance. Day care services for children and the elderly are mainly delivered by non-profit foundations and local authorities and, to a lesser extent, by private persons or private entities. Service-providers coincide in all cases with owners of infrastructures. Art. 86(2) of the EC Treaty does not apply to the provision of this SG(E)I.

In addition to the registration and monitoring of centres, the Welfare Services are responsible on behalf of the government to support financially the delivery of these services in form of annual subsidies. However, eligibility to annual subsidies is limited to services provided by NGOs or by local authorities.

4.3. Project description

The project was designed to enhance the social infrastructure of undeveloped urban areas of the city of Nicosia through the creation of a Contemporary Social and Cultural Services Centre providing social services in the broader sense, with cultural emphasis. The centre is accommodated in the former Municipal Home for the Elderly, located within the Venetian city walls.

The Structural Funds financial support for the project included:

- Study and supervision of the works included in the project for implementation. The study and supervision for the project related to the architectural study and construction plans, the static study, electromechanical study, quantity surveillance and supervision of the construction works, which were subcontracted to two private companies.
- Construction works for restoration of the building of the former Municipal Home for the Elderly. The building is of great architectural importance. Together with the Famagusta Gate it is included in the "Monuments A List". The construction works included the rehabilitation of the 800 m² of the building of the former Home for the Elderly, and its modification in order to render it fit to host the services of the Contemporary Social and Cultural Services Centre. Construction works also included rehabilitation of the 2 700 m² of the surrounding grounds.
- Administration of the project. Administration of the project was entrusted to the Department of Town Planning and Housing of the Ministry of Interior and the Municipality of Nicosia.
- Purchase of equipment for the needs of the Contemporary Social and Cultural Services Centre: furnishings, office equipment, equipment for the computers training facility, multimedia equipment, equipment for the Centre's kitchen, etc.

Eager to secure the sustainability of the project, the Municipality of Nicosia has committed to undertake the operation of the Centre and to cover its operational costs. The Municipality of Nicosia thus created the "Nicosia Municipality Multifunctional Foundation". The Foundation was created as a non-profit foundation in accordance with National Law 57/72 (The Guilds and Institutes Law).

The Centre provides its services within the framework of various programmes targeting the welfare of vulnerable groups. The centre is currently running the following programmes:

- the Multicultural Children's Day Care programme aimed at providing care services for migrants' children, so as to enable migrant mothers to undertake employment;
- the Children's Day Care programme (Rainbow Programme) with priority to single-parent families and families with more than 4 children;
- Day Care for the Elderly, aimed at providing care services for elderly people who are normally attended by female relatives (e.g., daughters), so as to enable the latter to undertake employment;
- Home Care programme providing home care services for the elderly and persons with disabilities (cleaning, cooking, shopping, escorting to hospital, or for other outdoor tasks, etc.);
- Multicultural Adults' programme aimed at providing educational and recreational services for migrants (i.e., Greek lessons, computer lessons and internet facilities);
- Counselling programme aimed at providing various psychological and family counselling services;
- Cultural and Adults' Educational Events programme aimed at raising awareness and disseminating information on various issues.

In addition to the above services the Centre also offers the city's public its facilities for the organisation of third-party events.

The Centre, with its activities and services, increases local children's and elderly day care capacity by 42 and 69 percent respectively. For the rest the Centre provides employment for 10 persons, exceeding the initial expectation of 5.

4.4. Specific aspects of SG(E)I affected by the project

According to an exhaustive study conducted in the framework of preparation of the programming document, the area within the Venetian city walls of Nicosia, especially Takt-El-Kale parish, is one of the most underdeveloped areas of Nicosia. The area is included in the Objective 2⁴⁸ programming document.

The proximity of the area to the so-called Green Line, marking the *de facto* partition of the city, has hindered its smooth functional development. Continued reduction of its local population over the years and the declining numbers of younger and economically active age groups has led to the transformation of the area into a location with high concentration of vulnerable groups: 44% of the population of the area are migrants, while a further 20% are pensioners. The area is deprived of basic social facilities and is faced with structural and developmental problems.

The creation of the Centre, along with other completed or planned interventions (i.e., housing projects), was intended to enrich the area's social and cultural applications and thereby increase its attractiveness for its present inhabitants and for other potential inhabitants or for visitors to the city.

The SG(E)I aspects being enhanced by the project are: universal access, guarantee of continuous service, quality and quantity of service and affordability of service.

- **Universal access:** the project would enhance the conditions for universal access to social and cultural services of particularly vulnerable groups concentrated in the area, such as migrants and senior citizens, by increasing the area's social and cultural capacities.
- **Guarantee of continuous service:** the restoration of the building concerned in conjunction with the commitment of the Municipality of Nicosia to undertake and operate at the building a Centre providing social and cultural services ensures continuous services for target groups and potential users.
- **Quality of service:** as explained in Section 4.3, the building of former Home for the Elderly was used prior to implementation for the provision of certain day care services for the elderly. It was expected that, with the implementation of the project, the Centre's services would provide more services to more people in need, as well as improving the quality of those services. This would be possible through restoration of the building, its modification to a Centre able to accommodate such services, the procurement of modern equipment, and the employment of more and better-skilled personnel.
- **Affordability of service:** the implementation of the project would finally ensure the provision of social and cultural services to more potential and eligible users at affordable prices. For the price-setting policy of the services provided at the Centre see Section 4.6.

Besides the Municipality of Nicosia other municipalities or communities also took advantage in the 2004-2006 Structural Funds programme period to enhance their engagement in providing social and cultural services. However, the project of this case study presents the most integrated effort of a local authority to enhance and expand the provision of social and cultural services. The successful outcome of this project is expected to encourage local authorities to utilise Structural Funds in this direction.

This and similar projects, are increasingly leading local authorities to undertake initiatives in providing social, cultural and health services to their citizens. This fact, and the

⁴⁸ Objective 2 aims at revitalising areas facing structural difficulties, areas which may be industrial, rural, urban or dependent on fisheries. This may relate to socio-economic difficulties that are often the source of high unemployment.

increasing interest of local authorities to respond to the needs of their citizens for adequate social services, is gradually triggering a debate around the issue “who should organise and deliver social services”. Responsibility currently lies with the “Social Welfare Services” of the Ministry of Labour and Social Insurance. Local Authorities have neither the mandate nor the means to organise and deliver social services. The representatives of local authorities are therefore increasingly raising the issue of decentralisation of the organisation and delivery of social services, where local authorities could play a central role. This would require the State to provide local authorities with the financial means required to undertake the organisation and delivery of these services.

The issue of decentralised organisation and delivery of social services is expected to be raised and discussed extensively in the context of the current debate on local governance reform.

4.5. Governance aspects

In a wide perspective the realisation of the project is a result of direct or indirect involvement of various public, non-governmental and private stakeholders. All these stakeholders interacted for the realisation of the project in various ways and in different phases of the project: conception, design, implementation and publicity. In this wide perspective, the involvement of stakeholders includes the creation of conditions for the inclusion of projects aimed at enhancing the social infrastructure in the project’s area. This was a result of a public consultation process conducted by the management authority of the Structural Funds in Cyprus in the course of formulating the respective operational programme.

For the purpose of this short case study the analysis of stakeholder involvement is limited to those who were formally and practically involved in the development and implementation of the project. These are: a) Planning Bureau, b) Structural Funds Unit of the Ministry of Interior, c) Department of Town Planning and Housing of the Ministry of Interior, d) Municipality of Nicosia, e) Department of Antiquities and, to some extent, the f) Council of Ministers.

Planning Bureau

The Planning Bureau, as Management Authority of Structural Funds in Cyprus, had overall responsibility for the management and implementation of project operations and for the sound financial management of funding from the Structural Funds. In this capacity the Planning Bureau issued guidelines to all involved stakeholders for the management of projects. In compliance with its competence as the Management Authority, the Planning Bureau was also responsible for the approval of the project.

Structural Funds Unit of the Ministry of Interior

The Structural Funds Unit of the Ministry of Interior was the Intermediate Body of the project. The Unit, within the framework of its responsibility to issue call for tenders, selected, evaluated and proposed the project for approval to the Management Authority. The Unit was also responsible for monitoring and for first-level controls of the project.

Department of Town Planning and Housing of the Ministry of Interior

The Department of Town Planning and Housing acted as the Final Beneficiary of the project. In this capacity the Department had responsibility for management and implementation of the project, though implementation of the project was delegated per contract to the Municipality of Nicosia. The Department was responsible for project reporting to the Intermediate Body (Structural Funds Unit of the Ministry of Interior).

Municipality of Nicosia

The project proposal was developed by the Municipality of Nicosia upon a decision of the Welfare Committee of the Municipal Council. The Municipality of Nicosia developed and submitted the project proposal in conformity with its overall goal for enhancing the social and cultural infrastructure of the urban area to which the project referred.

As mentioned above, the Municipality of Nicosia was delegated responsibility for actual implementation of the project. In its capacity as Implementing Body, the Municipality had responsibility for architectural planning and for the supervision of works subcontracted to private companies. This responsibility was executed by the City Master Plan Division of the Municipality, assisted by external electromechanical engineers and quantity surveyors.

As end-user of the project the Municipality of Nicosia committed to finance and operate the Centre. This commitment of the Municipality was fulfilled with the establishment of the Nicosia Municipality Multifunctional Foundation, which is the operator of the children's care, elderly care and other social and cultural services programmes at the Centre.

Department of Antiquities

The involvement of the Department of Antiquities in the implementation of the project was related to the Department's responsibility to approve the restoration and maintenance works of the building of the former Home for the Elderly carried out by the Implementing Body.

Council of Ministers

The involvement of the Council of Ministers related to the proprietorship of the building of the former Home for the Elderly. The Council of Ministers had adopted a decision allowing the leasing of the building to the Municipality of Nicosia for 20 years, with an option of renewal for a further 20 years.

The project was completed within very tight deadlines, and interaction between the involved stakeholders proceeded in a more fluent, more productive manner than observed in comparable projects with no Structural Funds contribution. An interviewed representative of an involved public authority attributed this evaluation to the fact that projects with Structural Funds' contribution are subject to rules and regulations clearly setting out the role of each party involved in the implementation of a project. Other cited factors were the political pressure executed on public authorities and the government, and a kind of "patriotic" ambition to exhaust all the available financial resources from the Structural Funds.

4.6. Universality of access and affordability

Universality of access

The access of citizens to the services provided by the Centre is defined by the nature of the services concerned, the character of the service-provider, the capacities of the Centre (these being subject to the provisions of the respective national legislation), the target group orientation of the programmes of the Centre and the location of the Centre.

The Centre is operated and financed by the Municipality of Nicosia, so its services are generally restricted to residents within the boundaries of the Municipality. Further limitations of access to the services of the Centre relate to the specific characteristics of the programmes run at the centre (i.e., the Multicultural Children Day Care programme provides day care services for children of migrant families, while the Rainbow Programme provides day care services for children of single-parent families and families with more than 4 children, regardless of nationality).

The Centre is committed to equal treatment of men and women, both as regards access to the services provided and to employment policy.

The support of the Structural Funds has decisively helped in ensuring easier access of the project's target groups. The Centre is located in an area with high concentration of migrants and elderly persons who are now benefiting from the services provided by the Centre.

The Centre presents the first modern municipal structure commissioned to provide services for migrants and to elderly people, and child care services for single parents and migrant families residing within the city walls of Nicosia. The building now hosting the activities of the service-provider (the Nicosia Municipality Multifunctional Foundation) was operated prior the implementation of the project by the Municipality of Nicosia as a Home for the Elderly. The Home for the Elderly was established in 1902. Its initial name was "Municipal Almshouse of Nicosia". In an effort to avoid the stigmatisation of the inmates it was renamed in the 70's as the Municipal Home for the Elderly. The Home for the Elderly was home to 25 senior citizens without relatives to take care of them and not covered by the Social Security Scheme and, thus, had no income from the pension scheme. Due to decreasing numbers of eligible persons⁴⁹, and to inappropriate conditions due to decay of the fabric of the building, in 1990 it ceased to operate as a home for the elderly. The remaining inmates of the home were transferred to Archangelos Michael Community Home for the Elderly in Kaimakli.

In the mid-80's the Municipal Home for the Elderly also started a Day Care Programme for the Elderly, providing services for senior citizens against payment of a nominal membership fee. These included transport, meals, educational and recreational activities, and a day trip once a month. The programme had around 100 members; on average 35 of them participated in the daily activities of the programme. After implementation of the case study project, the Day Care for the Elderly programme was taken over by the Nicosia Municipal Multifunctional Foundation and is still in operation⁵⁰.

Affordability

The centre's tariff policy differs from service to service. Services delivered within the framework of programmes receiving funding from external sources are offered to users free of charge (i.e., the Rainbow Programme, which receives funding from the Republic of Cyprus, the Norway Grants and the EEA Grants). Certain other services which are subject to annual subsidies by the Welfare Services are provided for a token annual fee (i.e., the Day Care for the Elderly programme and the Multicultural Adults' programme), while others are provided on the basis of low monthly fees (i.e., the Multicultural Day Care Programme, which receives annual subsidies from the public Support Scheme for Local Authorities) or low per-hour service rates (i.e., the Home Care for the Elderly programme, which also receives annual subsidies from the Welfare Services).

The rates for the provision of the Centre's services are fixed according to the principle that generation of income should not exceed expenditure incurred in the provision of the service concerned. Rates of service receiving public subsidies are subject to consultation with public authorities (i.e., Welfare Services). Rates setting also takes into consideration the rates policy of similar service-providers in the non-governmental sector or of other local authorities. The generation of income (rates and fees payable by users + subsidies) is currently not sufficient to cover the cost of running the Centre's services (operation and maintenance). The Centre is therefore resorting to the organisation of charity or other income-generating events to balance its deficits.

⁴⁹ In 1981 there was a major social security scheme reform, with which coverage was progressively secured to almost all senior citizens. The number of senior citizens deprived of basic income was thus radically reduced in later years.

⁵⁰ See Section 4.3 for all services now provided at the Centre.

The Centre does not follow a formally diversified rates setting policy according to the income of its users or on any other characteristics, since all of its services are mainly delivered to low-income and/or disadvantaged users. The Centre may, however, on a case-by-case basis and upon the decision of its administration, reduce rates if particular users are faced with extraordinary financial difficulties.

The support of the project from the Structural Funds and the Republic of Cyprus had a positive impact in providing the Centre's services at affordable prices, as their support covered the cost of the infrastructural investment and, thus, the Centre's services may be set at substantially lower rates.

4.7. Thematic focus

Though the area where the project was implemented lies in the geographical centre of the city of Nicosia, it is one of the most underdeveloped areas in Nicosia. It lies within the Venetian city walls, to the south of the so-called Green Line dividing the city. The northern part of the walled city has been under Turkish occupation since 1974, though the *de facto* partition of the city goes back to 1964 in the aftermath of the inter-communal riots of the time. The partition of the city and the high concentration of military personnel have led over the years to the reduction of its population (particularly the young and economically active population) and to the decline of economic activity. The territory has consequently lost its way to development and now faces with huge structural problems. The territory covering the area within the Venetian Walls was therefore proposed for and included in the Target II List.

The project area covers a territory of approximately 1.4 km², representing some 45% of the total territory of the walled city. According to a census held in 2004 the project area has a population of approximately 3 000. 44% have migrant background, while a further 20% are pensioners.

The creation of the Centre has, besides other completed or planned interventions (i.e., housing projects), enriched the area's social and cultural applications and increased its attractiveness for present inhabitants and for other potential inhabitants or for visitors to the walled city.

As anticipated, the Centre's services reflect the composition of the project area's population and address needs of vulnerable groups, such as the elderly and migrants. Most of the services provided by the Centre are designed to respond to multiple needs of the respective target group.

The Day Care for the Elderly programme provides the elderly with opportunities for meaningful and productive activity, while at the same time providing conditions for their relatives (who otherwise would be taking care of them) to have access to the labour market. The Home Care Programme which provides services for persons with permanent or temporary disabilities is a facilitating service enabling users to remain integrated in their family environment without loss of independence and social functionality.

Services offered to migrants are also designed to meet multiple needs. The Multicultural Day Care programme is designed to provide care services for migrant children and accommodate their parents' integration into the labour market, while the Rainbow programme provides tailored services for single-parent families and to families with more than four children. The Multicultural Adults' programme facilitates the inclusion of migrants into society and the labour market by providing educational support (i.e., Greek language and computer courses), while its cultural and recreational components meet their personal developmental needs.

The support of the Structural Funds to the project has been important. Structural Fund participation in the infrastructural investment of project has secured the conditions for the provision of the services provided at the Centre.

4.8. Contribution to cohesion policy objectives

The extraordinary circumstances prevailing in Cyprus due to the division of the island as a result of the Turkish invasion and occupation of the northern part of Cyprus are exemplarily reflected in the social, economic and territorial situation of the city of Nicosia. The Green Line, which runs through Nicosia, has led to the creation of a buffer zone in the very middle of the historic heart (within the Venetian walls) of Nicosia. The presence of the buffer zone caused the partition of the historic centre into two separate urban parts, which have developed independently of each other, leading to deformation of the city's structure and to the disintegration of its territorial integrity. This situation also has led over the years to social and economic disintegration, as a result of abandonment by its residents and relocation of undertakings.

In an effort to respond to all these accumulated structural disparities, the city's authorities in co-operation with their counterparts in the northern part of the Nicosia have developed the Nicosia Master Plan aimed at revitalising the historic heart of Nicosia. Under this plan various programmes have been designed and implemented, are now in implementation or under development. The Municipality of Nicosia, with the assistance of government of Cyprus, is also developing various other subsidiary programmes for the southern part of the city, completing the overall strategy for the development of historic heart of Nicosia.

The importance of the project analysed in this case study has therefore to be understood and evaluated in the framework of this wide strategic perspective and in synergy with other developmental programmes. The enhancement of the social and structural infrastructure of the walled city with the provision of the Centre's services has a direct impact on the welfare of the area's inhabitants. However, the importance of the project has more far-reaching relevance: in synergy with other projects implemented or planned for the project's area it contributes to the sustainability of the local community, the restoration of a part of the historic heart of the city, improvement of the business environment for future economic activities and generation of employment, and the integration of the project's area into the overall structure of the City of Nicosia. The project therefore has a positive impact on the social, economic and territorial cohesion of Nicosia in general and of the project's area in particular.

The project of this case study, aimed at enhancing the infrastructure for the provision of social and cultural services to vulnerable groups of the walled city of Nicosia, is of limited strategic relevance for Cyprus, due to the fact that the services provided are restricted to vulnerable groups residing within the walled city of Nicosia. However, the provision of social and cultural services in an island wide perspective is of great importance, particularly for the development strategy for remote and mountainous regions and urban areas with accumulated structural problems. As the provision of social and cultural services lie, both in quantity and quality, far behind the EU average, the expansion and improvement of these services is of strategic importance for the whole territory of Cyprus. Policy formulation and design at national level therefore attaches great importance to enhancing the provision of social and cultural services.

To the extent that regional policy is aiming at strengthening social and economic cohesion by supporting development efforts towards the reduction of disparities between the Union's regions, it is indeed the appropriate place to reinforce provision of SG(E)I. Regional economic backwardness is often or, better, mainly attributed to the lack of sufficient, proper, modern, good-quality SG(E)I. In the case of Cyprus, for example, enhancement of provision of SG(E)I is considered of vital importance for boosting economic and social development and, thus, countering depopulation pressures in remote rural and mountainous areas and/or social and economic marginalisation of urban areas faced with specific difficulties (i.e., the walled city of Nicosia).

Recognising the appropriateness of regional policy, it should also be noted that enhancement of provision of SG(E)I may be of national importance for convergence of Member States of the EU. Convergence between Member States (southern, eastern and central European Member States) are held to bridge disparities of regional development and to meet average EU development targets, which are closely related to the provision of SG(E)I. Cyprus, for example, lags behind the average EU target indicators as regards solid and liquid waste management. Cyprus is also faced with an enormous national challenge as far as its energy sector is concerned. Cyprus' near-total energy dependency on (imported) oil, the absence of access to Transeuropean Energy Networks and low efficiency of its energy system require immense infrastructural investments, both for utilisation of non-oil conventional fuel (i.e., natural gas), and increased utilisation of renewable sources of energy. Cyprus is also faced with serious national shortages in the transport sector. The absence of an efficient public transportation system forces citizens to resort to private passenger vehicles for their journeys, causing serious environmental problems, additional dependency on oil and traffic jams with negative effects on the quality of life and social cohesion. A nationwide divergence from the EU averages and, hence, the necessity for nationwide interventions, may also be observed in the provision of other SG(E)I.

The immense infrastructural investments required to meet the abovementioned challenges now facing Cyprus point to the importance of Structural Funds. The Structural Funds contribute to the mobilisation of the financial means needed to enhance the provision of certain SG(E)I. In the case of Cyprus this is particularly observed in the provision of SG(E)I in the environment and transport sector. In the Operational Programme "Sustainable Development and Competitiveness 2007-2013" almost half of the available Structural Funds financial means is committed to interventions in those two sectors.

In addition, the Structural Funds' complementarity, consistency and additionality conditions are "forcing" the Government of Cyprus to improve and better adjust its overall development strategy, and to mobilise its own national financial resources for the enhancement of provision of SG(E)I. Finally, the Structural Funds have an incentive effect for implementation of national development strategy. The Structural Funds are considered of vital importance for national economic growth; governmental authorities entrusted with the management of Structural Funds in Cyprus are therefore redoubling their efforts to exhaust all available resources of the Structural Funds. Given the weight that enhancement of SG(E)I has in the operational programme, this incentive is expected to benefit the provision of SG(E)I.

However, it has to be noted that implementation of programmes co-financed by the Structural Funds is not an easy task. According to the NSRF-Cyprus, the existence of rigidities and inherent weaknesses has a negative impact on the capacity of the public administration to implement programmes co-financed by the Structural Funds, which have to be overcome by coordinated efforts aimed at improvement of the civil servants' adequate skills and capabilities.

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The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

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- Athina Georgiou, Architect, Master Plan Team of the Municipality of Nicosia.
- Elena Patsalou, Officer, Structural Funds Unit of the Ministry of Interior.

- Elena Petropoulou, Architect, Master Plan Team of the Municipality of Nicosia.
- Eleni Mavrou, Mayor of Nicosia.
- Georgios Georgiou, Director of Planning Bureau.
- Loucia Damianou, Head of the former Municipal Home for the Elderly.
- Roula Georgopoulou, Programmes Director, Nicosia Municipality Multifunctional Foundation.

5. Czech Republic. Renewal of local transport system Mlada Boleslav

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5.0. Background information

a) Country	Czech Republic
b) Region	Central Bohemia
c) Full Project Title	Renewal of local transport system in Mlada Boleslav
d) Duration	4.7.2005-30.6.2006
e) Programme	Joint Regional Operational Programme 2004-2006
f) Total Cost	EUR 900 000 (23 398 383 CZK)
g) EU Contribution	ERDF 75%
h) National Contribution	25% contribution of Town of Mlada Boleslav
i) Private Contribution	0%
j) Sector	Transport
k) Sub-Sector	Urban transport
l) Beneficiary	Public Transport Company Mlada Boleslav
m) Implementing body	Ministry for Regional Development/Centre for Regional Development

5.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

Since joining the EU (in 2004), the European Structural Funds (SF) have been and are still of great importance for financing infrastructure projects in all segments of the transport sector in the Czech Republic. Attached Figure 6 shows that, both in the programming period 2004-2006, and in the current programming period 2007-2013, the transport sector benefits, among the SG(E)I, from the largest share of ERDF with, respectively, about 55% and about 49%. In absolute terms, the ERDF resources in the programming period 2004-2006 were about EUR 985 million, while for the period 2007-2013 the financial budget has increased to about EUR 22, 528.08 million, confirming the highly strategic value of the use of the ERDF in the transport sector.

This important use of Structural Funds corresponds, precisely, to the high levels of investment that are still needed in the Czech transport systems, such as roads and highways, railways, undergrounds and other rapid mass transport, airports, inter-modal hubs, etc., in the Czech context of this SG(E)I.

The location of the Czech Republic predetermines the country's importance for transport within Europe, giving it an important role on transit in both the north-south and west-east directions. The density of the transport networks ranks among Europe's highest, but the transport infrastructure suffers from numerous serious deficiencies.

The share of public to private automobile transport has shifted from a ratio of 4:1 in the 1990s to the current ratio of 1:1. This situation contributes considerably to damage to the environment, mainly in urban areas. In the public interest, the Czech Republic guarantees so called basic availability of transport, i.e. reasonably available transport through the whole week.⁵¹

In the Czech Republic generally, the transport infrastructures need modernisation and expansion of their capacity. At the beginning, EU funds were mainly used to support the connection of national transport networks to the European networks and cross-border connection, later they were also used for regional and urban infrastructure.

The conditions and needs of the transport systems, mentioned above, are the basis of national policy for the sector, which the objectives outlined in the national programming, i.e. the National Strategic Reference Framework (NSRF) for the transport sector, are derived from. The National Strategic Reference Framework is based on the document of the

⁵¹ National Strategic Reference Framework (NSRF).

Ministry for Regional Development-"National Development Plan of the Czech Republic 2007-2013", which is an updated version of the National Development Plan of the Czech Republic 2004-2006 reflecting the new approach to Economic and Social Cohesion of the EU and the ambition of the Czech Republic to be a "fully-fledged" member of the EU.

In particular, the strategy and objectives of mobility are specifically stated as "Strategic Objective IV-Balanced Development of Territory"⁵². The document explicitly highlights the consistency and the complementarity of regional policy with national and Community policies⁵³.

The framework document also lists the operational programmes (OP), which are of three kinds: seven Thematic (or Sectoral) Operational Programmes (TOP)⁵⁴, managed at national level, eight Regional Operational Programmes (ROP), managed at regional level, OP Competitiveness and OP Adaptability of Prague (under Objective Regional Competitiveness and Employment) and OPs under European Territorial Cooperation.

Investments in the transport sector are planned both in the proper Thematic Operational Programme (OP Transport), and in regional operational programmes (ROPs). The OP Transport is reserved for investments at national level, that have the specific objective of contributing to the creation of a national logistics system, supporting the construction of a national network of transport terminals and logistics, that are integrated, safe, interconnected and homogeneous. The ROPs fund both investments related to sustainable urban mobility and urban logistics, and investments that have the specific objective of improving regional, rural and urban transport services.

Projects under OP Transport are co-financed by a national source-State Fund for Transport Infrastructure Urban transport projects are mainly co-financed by municipal budgets.

NSRF does not explicitly refer to SG(E)I. These are implicitly included in NSRF when referring to Strategic objectives III (Attractive Environment) and Objective IV (Balanced Development of Territory). Nevertheless, NSRF does not explicitly refer to SG(E)I or any document-e.g. White Paper on services of general interest.

Strategic Objective III-Attractive Environment: to provide a high quality physical platform for economic and social development through investments aimed at improving the quality of the environment and access to transport networks.

The objective has the following priorities:

- Priority A-Protection and Improvement of the Quality of the Environment;
- Priority B-Improving Accessibility to Transport: is focused on reinforcing access to transportation and public transportation services, developing environmentally friendly means of transport.

Strategic Objective IV-Balanced Development of Territory:

- Priority A-Balanced Regional Development;

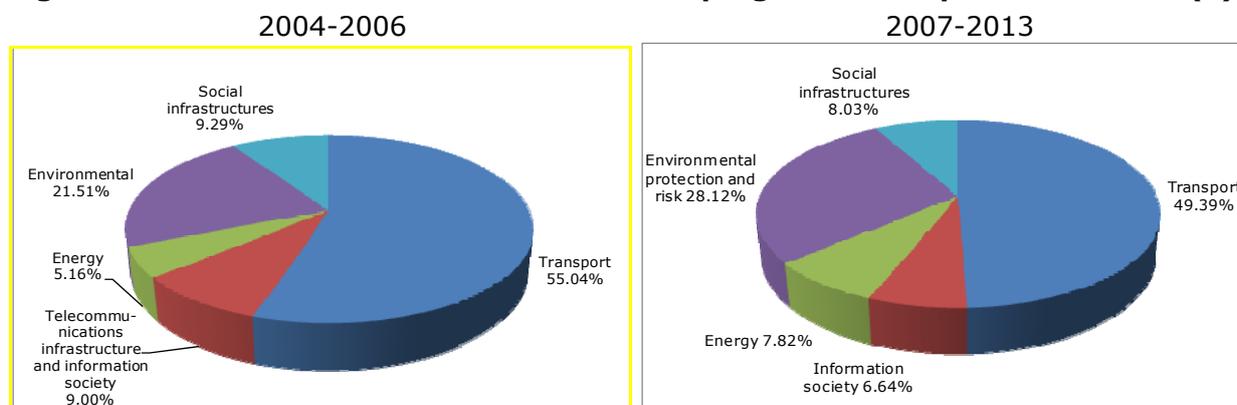
⁵² "Balanced and harmonious development of the whole territory of the CR achieved by mitigating disparities between regions and within regions. Economic growth and an increase in employment will be supported by the use of natural, economic and socio-cultural regional dissimilarities and their differentiated internal potential. At the same time, respect for the variability of the geographical structure (population structure, hierarchy of towns, types of rural area) will reinforce territorial and social cohesion".

⁵³ The Lisbon Strategy, the Community Strategic Guidelines, the National Reform Plan in implementation of the Lisbon Strategy and National Development Plan, Strategy for Regional Development and Policy of Territorial Development.

⁵⁴ OP Enterprise and Innovation, OP Research and Development for Innovations, OP Human Resources and Employment, OP Education for Competitiveness, OP Environment, OP Transport, Integrated Operational Programme.

- Priority B-Development of Urban Areas: is focused on strengthening the role of towns as accelerators of regional growth, development of regions and support for revitalisation of decaying districts;
- Priority C-Development of Rural Areas.

Figure 6: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

5.2. National framework in the provision of SG(E)I

This section describes the strategic and institutional framework for the provision of SG(E)I in the field of urban transport in the Czech Republic.

The government framework on Czech transport policy is the "Transport Policy of the Czech Republic for 2005-2013"⁵⁵, approved in July 2005. The strategy sets the strategic and conceptual goals for transport and transport networks and also aims to harmonise the conditions of the transport market and create conditions for ensuring the quality of transport in the framework of sustainable development and declares the commitments of the state executive.

The main priorities of transport policy are to ensure:

- equal conditions of access to the transport market;
- the quality of the transport infrastructure to enable economic growth;
- funding of the transport sector;
- the support of the development of transport in the regions.

In the field of public transport service, the Ministry of Transport (government) is responsible for the legislative framework, financing, supervising and monitoring.

Regions/regional governments are responsible for regional ground infrastructure (regional roads) and public transport in the region, including the integration of transport systems. They are also responsible for contracting and financing of public transport services in the region.

The responsibility for urban public transport belongs to the particular city; but, as was mentioned above, the responsibility for integration and coordination of particular systems in the region lies with the regional government.

⁵⁵ <http://www.mdcz.cz/en/Strategy/Transportation+Policy+for+2005+-+2013/>

Urban public transport is a typical example of a “closed market”. In this market, it is not possible to ensure sufficient pressure for competition in tenders for the operation of transport services, because of a lack of competitors.

Contracts for public service obligations are awarded in cases where it is not possible to provide the required service on a commercial basis and where the operation of public transport is in the public interest. Public financing allows the existence of public transport as a functional network. These funds, however, must be used effectively and the provider must ensure and guarantee the specified quality of the services. In most of the large cities, public transport is provided by transport companies owned by public bodies (Municipal Property), which allows better control of the quality of the services and costs. The public body also owns the transport infrastructure.

In March 2008 the European Commission approved a proposal for a vehicle recovery program for the years 2008-2013 submitted by the Ministry of Transport. The programme funded replacement (renewal) of vehicles used for public transport and this replacement increased subsidies for gas or electric powered and low-floor buses and contributed to the information systems for blind and partially sighted persons, etc.

A public transport company provides services under a contract on public service obligation, between the provider and the municipality. Under the contract of public service, the city is obliged to reimburse “provable losses” relating to public service obligations to the Public Transport Company.

5.3. Project description

The following short paragraphs provide a full description of the project, organised according to the topics of greatest importance for the understanding of what the project properly is.

The project was a part of the programme of Mlada Boleslav local transport system modernisation. The first phase was started in 2005 and financed under the Joint Regional Operational Programme-JROP (ERDF), the second one was started in 2008 and financed under the Regional Operational Programme Central Bohemia-ROP (ERDF) in the framework of the Integrated Development Plan of the Town of Mlada Boleslav.

The Joint Regional Operation Programme 2004-2006 (JROP) was the first SF programme reflecting specific regional needs, although the programme was managed by a national authority-Ministry for Regional Development. The project was funded under Priority 2.1 “Development of transport in the regions”. This priority financed mostly regional infrastructure projects (reconstruction and modernisation of regional roads), but some of them were focused on increasing accessibility for all citizens, especially disabled persons.

The overall objective of the project was an improvement of the quality of public transport services in the Mlada Boleslav region.

In more detail, the specific objectives of the project were:

- renewal of buses;
- creation of new jobs;
- increase in the comfort of transport services for disadvantaged persons, through ICT.

The project aimed to increase the mobility and the quality of travel services for citizens, especially for specific disadvantaged groups, in the area of Mlada Boleslav.

In more detail, the project aimed to address the following specific needs:

- to fulfil the demand for the renewal of low-floor buses (poor technical condition of old vehicles);

- to maintain the quality/comfort of the transport for citizens;
- to fulfil the mobility and accessibility of citizens, especially for elderly and disabled passengers (this need was identified in partnership with NGOs representing blind persons).

The project did not aim to increase transport capacity (number of passengers).

The final beneficiaries of the project were all the citizens of Mlada Boleslav and of the villages connected by the public transport system, focusing on elderly and disabled persons.

Final beneficiaries:

- inhabitants of Mlada Boleslav (44 807)⁵⁶ (3.8% of Central Bohemian population);
- inhabitants of surrounding villages;
- disadvantaged persons-blind and disabled persons (5 300)⁵⁷, and elderly persons (5 207)⁵⁸ (3.3% of Central Bohemian population).

The investment concerns the purchase of four modern low-floor buses equipped with:

- a wheelchair ramp allowing access for disabled persons;
- voice information units for blind passengers, both in the buses and at the bus stops;
- a modern system of passenger dispatching and the implementation of a smart card system for more comfortable and cheaper travelling.

Project activities mainly consist of:

- 1st phase (4th July-22nd December 2005):
 1. the public procurement procedure;
 2. the signing of the contract with the supplier;
 3. the delivery of 1 bus;
- 2nd phase (2nd January-30th June 2006):
 4. the delivery of 3 buses;
 5. new buses commencing operation.

Note: the project for renewal of low-floored buses continues. Since year 2004, twenty new buses have been replaced (financed by SF, municipal and national funds).

In the current programming period 2007-2013, seven new buses will be funded by SF the (total amount is EUR 1.17 million; EU Contribution-(Regional Operational Programme NUTS2 Central Bohemia) is EUR 0.47 million).⁵⁹

The goal of the project is to replace technically non-compliant buses and to continue increasing the quality of transport (standards) for all citizens, especially those that have positive effects on disadvantaged persons. In this case, an increase of passenger number is not expected.

⁵⁶ www.mestaobce.cz

⁵⁷ Estimation provided by Town Mlada Boleslav. Number of disadvantaged persons is not officially monitored.

⁵⁸ IPRM (2001).

⁵⁹ This new project is submitted under complex urban development project of Town Mlada Boleslav (in the framework of Integrated Urban Development Plan).

5.4. Specific aspects of SG(E)I affected by the project

Specific aspect/objectives of SG(E)I realised/enhanced with the project

The following specific aspect/ objectives are enhanced with the project:

- universal and continuous accessibility;
- territorial accessibility;
- social affordability;
- improving social inclusion;
- efficiency and effectiveness;
- safety and security of supply;
- reliability and long term sustainability;
- energy efficiency and environmental friendliness.

Main results expected from the project with reference to the specific aspect/objectives of SG(E)I

- **Universal and continuous accessibility:** the modernisation of public transport allows continuous mobility, enhances the accessibility to public transport services for all citizens, esp. disabled and elderly passengers)-the total number of passengers was more than 3.9 million in 2009. The new low-floor buses and new transport system has increased the number of disabled passengers by 6%⁶⁰. The project also increases accessibility of other groups of citizens-for instance parents with small children/baby pushchairs.
- **Territorial accessibility:** The project partly improves the connection between the centre of the town and its surroundings and between Mlada Boleslav and surrounding villages (by 450 inhabitants⁶¹). The project was not aimed at increasing the total number of passengers (except the disabled), but at increasing the quality of public service. In the future, the public transport service will be extended to other surrounding communities.
- **Social affordability and improving social inclusion:** New low-floor buses enhance the accessibility to the public transport service for disabled and elderly persons. Voice information units placed in buses and at bus stops allow better orientation for blind passengers. This has positive effects on equal opportunities and social affordability. Smart cards offer monthly passes at discounted rates for special categories of users, such as: retirees, seniors, students, parents on maternity leave.
- **Efficiency and effectiveness:** Modern buses are more efficient because of lower fuel consumption and lower expenses for maintenance and repairs (in comparison with the old ones).
- **Reliability, safety and security of supply:** The new modern buses ensure higher service reliability (old buses often broke down and were not reliable).
- **Energy efficiency and environmental friendliness:** All the new buses meet high European eco-standards, have lower fuel consumption and lower emissions (than the

⁶⁰ Data provided by Urban Transport Company.

⁶¹ Estimation provided by Urban Transport Company based on the methodology of Ministry of Transport.

old ones) with positive environmental effects-lower production of greenhouse gas emissions and of other air pollutants.⁶²

Improvement of public service approach, at regional and / or national level, because of the expected results of the project

The success of the project will increase, at regional level, the choice of giving priority to urban public transport, while adopting high quality and efficient design solutions with high social inclusion aspects esp. for disadvantaged persons and with lower negative environmental impact.

Expected changes in the use of Structural Funds in the SG(E)I, at regional and / or national level, as a consequence of the experience of the project co-financed by such funds

The contribution of the Structural Funds has made possible the financing and the implementation of the project.

In the programming period 2007-2013 the following changes can be noticed:

- a more strategic approach to urban development and higher concentration of funds have been implemented-using the concept of Integrated Urban Development Plans for all larger cities in the Czech Republic;
- a new arrangement of the programming structure in the Czech Republic has been implemented. Each NUTS2 region has its own ROP (instead of one common ROP for all regions in the previous programming period);
- higher support for the development of an (urban) transport infrastructure accessible to all groups and environmentally friendly solutions in the regions.

5.5. Governance aspects

The main stakeholders involved in the project are:

- Ministry for Regional Development⁶³-role of Managing Authority of Joint Regional Operational Programme (JROP); responsible for managing the programme and approval of the projects;
- Centre for Regional Development⁶⁴-role of Intermediary Body; responsible for implementing the Joint Regional Operational Programme (JROP) and for control of the project implementation and expenditures;
- Ministry of Finance⁶⁵-National Fund: role of co-financing subject providing EU co-financing;
- Regional Council NUTS2 Central Bohemia: responsible for selecting projects;
- Town of Mlada Boleslav⁶⁶-co-financing subject; responsible for public transport in the town-designer of public transport conception; the founder and owner of the Public Transport Company;
- Public Transport Company Mlada Boleslav⁶⁷-a public in house provider for the town of Mlada Boleslav responsible for local public transport services; the final beneficiary

⁶² For example: http://en.wikipedia.org/wiki/Euro_5#Emission_standards_for_lorries_and_buses

⁶³ Ministerstvo pro místní rozvoj (www.mmr.cz).

⁶⁴ Centrum pro regionální rozvoj (www.crr.cz).

⁶⁵ Ministerstvo financí-Národní fond (www.mfcr.cz).

⁶⁶ Statutární město Mladá Boleslav (www.mb-net.cz).

responsible for project implementation and sustainability and the owner of the new buses;

- Municipalities-villages participating in the local transport system in the Mlada Boleslav region; co-financing of public transport services;
- EvoBus Praha-private company-supplier of low-floor buses;
- Association of the Blind-representatives of blind persons-consultation role.

In the current programming period, the following subjects are also involved:

- Regional Council Central Bohemia NUTS2-role of Managing Authority of ROP;
- Town of Mlada Boleslav-responsible for designing and implementing the Integrated Urban Development Plan and projects funded in the framework of the Plan;
- there was a tender for the supply of buses according to public procurement rules.

As can be seen from reading the above list of project partners, all the bodies involved in the project are public (Public Transport Company Mlada Boleslav is owned by the Town of Mlada Boleslav). Public transport service is provided under a contract between the Transport Company and the town. Users were not formally involved in the project partnership (the public transport company discussed the needs and technical solution for blind persons with the Association of the Blind).

Although partnership is strongly promoted by the European Commission and is one of the conditions of the Structural Funds. In fact, the partnership was often very formal, established only for implementing a particular project. One of the main reasons for this in the Czech Republic was the lack of a clear legal framework for partnership between private and public bodies and practical experience.

5.6. Universality of access and affordability

This section discusses two main issues related to SG(E)I's provision: the universality of access and affordability.

Universality of access

This project promotes equal access to all citizens, without any limitations, to the new transport service.

The project mainly increases the accessibility of disadvantage groups-disabled, elderly and blind persons-and of women/men with small children. New buses and bus stops are equipped with devices to provide better access for the blind, persons with reduced mobility, the elderly, etc. It also supports accessibility of the town and surrounding villages participating in the transport system.

- the Transport Company estimates that about 50-55% of the overall population of the town uses the urban transport services;
- the number of passengers was almost 3.9 million per year (2009)⁶⁸;
- the project increased the number of disabled persons using urban transport services by 6%; total the number of disadvantaged passengers was about 49 thousand⁶⁹;
- three new villages (with 450 inhabitants) are involved in the local transport system.

⁶⁷ Dopravní podnik Mladá Boleslav (www.dpmlb.cz).

⁶⁸ Public Transport Company Mlada Boleslav.

⁶⁹ Public Transport Company Mlada Boleslav.

Affordability

Ticket prices are not proportional to the length of the journey. The price of a single ticket is 12 CZK (approx. EUR 0.46⁷⁰), the price for a single ticket paid by smart card is 10 CZK (approx. EUR 0.38). A monthly pass costs 440 CZK (approx. EUR 16.90). While the special categories (seniors, youths, students, and parents on maternity leave)⁷¹ already benefit from discounted prices:

- pensioners under 70 years of age - 12 CZK (5/10 CZK Smart Card);
- pensioners over 70 years of age, children under 15 years of age and parents on maternity leave travel free of charge.

The price of the service is not proportional to the "quantity" and "quality" of the service—there is no mechanism that correlates the tariffs with service quality and quantity. For example, disadvantaged passengers using the devices do not pay a higher price for using this service. Passengers using a Smart Card can use one ticket for travelling freely for 45 minutes (they can use any line, any time they want).

The Town of Mlada Boleslav is responsible for financing urban transport within its territory. The City Council decides on price policy and the price list for passengers (the price list was approved in January 2008).

The project was entirely financed by public funds (EU Structural Funds and national funds). It is possible to provide an affordable service, because Structural Funds (and the national funds) fully fund the investment costs of the project. Under the contract of public service, the city is obliged to reimburse "provable losses" relating to public service obligations to the Public Transport Company.

5.7. Thematic focus

An aging population is a relevant theme for this project. Low-floor buses equipped with a kneeling device⁷² are more easily accessible than the older buses to elderly people and better meet their needs for mobility. In addition, most of the bus stops in the city centre were adjusted for better accessibility. This type of urban transport service increases the quality of life and leads to better inclusion in society for elderly people. It helps them to maintain and to increase their personal (with relatives and friends) and social relationships, to participate in social activities, and to more easily take advantage of public or private services, administrative, medical or other. Bus public transport provides the connection of residential areas with city centre and commercial areas.

The primary focus of the project was on increasing the accessibility of disadvantaged persons, which also automatically increase the accessibility of elderly people and other groups.

Geographical remoteness and cross-border cooperation are not topics that represent a relevant dimension for the project analysed.

5.8. Contribution to cohesion policy objectives

Mladá Boleslav (44 807 inhabitants) is a town situated in the central part of the Czech Republic with a highly developed industry, where the first Czech car was produced. The most famous and the most important company is ŠKODA AUTO, which is the principal domestic automotive producer and exporter. About 20 000 of their employees commute every day. High economic growth and the increase in the number of private cars in last couple of decades have led to a sharp increase in the volume of car traffic in the town. The

⁷⁰ 1 EUR = 26 CZK.

⁷¹ Identification or specific ID issued by Town of Mlada Boleslav is needed.

⁷² Low floors complemented by a 'kneeling device' can be used when the bus is not in motion, tilting it or lowering it at the front axle even further, often down to normal kerb height. (www.wikipedia.org).

increase in car traffic causes problems such as a lack of parking areas, both in the centre and in the residential areas and traffic jams and pollution.

A modern and effective traffic system is one of the key factors for further and sustainable development, both economically and environmentally, of the region. In addition, quality and ecological public transport services are important for the attractiveness of the city for workers and the good quality of life of the citizens. High quality, comfortable public transport services may attract more people to use this form of more environmental and sustainable transportation instead of using cars.

Public urban transport in Mlada Boleslav is provided by the Public Transport Company owned by the Town of Mlada Boleslav. This company owned 16 buses in 1997, when it was established. By 2000, the company owned 19 buses and increased transport capacity. In 2004, it was decided to renew and modernise the fleet, because of its poor mechanical condition and to increase the quality of services. The town of Mlada Boleslav was not able to cover this investment from municipal resources. In May 2004, the Czech Republic joined the EU and obtained access to Structural Funds. The project funded by Structural Funds was the first step towards the renewal and modernisation of the transport system and infrastructure in Mlada Boleslav. It was also the beginning of a new phase of increasing standards in public transport services in the area.

The project, which, as mentioned above (see Section 5.3), is part of a wider project of an integrated transport system in the Mlada Boleslava region, contributes to cohesion-mainly to social cohesion, but also to economic and partly to territorial cohesion within the region.

The project funded by Structural Fund is part of a wider project. In the future, Mlada Boleslav is planning to create an integrated transport system in the Mlada Boleslav region, which also involves building new car parks in peripheral areas of the town and incorporating some other villages to the system. Last year, the Public Transport Company of Mlada Boleslav carried more than 3.9 million passengers.

The primary focus of the project was not on increasing capacity, but on qualitative improvement-i.e. an increase in public transport standards and an increase in the mobility and social inclusion of disabled and elderly persons. Modernisation of public transport contributes to improvement in the quality of life for all citizens and to higher inclusion of disadvantaged persons. The new low-floor buses and new transport system has increased the number of disabled passengers by 6%. Replacement of the old buses with modern ecological ones has reduced pollution and greenhouse gas emissions. This project has the potential to improve the connection for all citizens and to facilitate relations between individuals and groups, and supports cohesion within the town and the region.

The consultation with the blind, as a target group (users), at the beginning was very useful for better planning and success of the project. Cooperation in the partnership and involvement of stakeholders at local level, especially users, are the right way to take account of the key factors so that the project contributes towards improving social convergence. It is recommended that real partnership be supported at each level and that barriers for development of partnership in practice be eliminated. The Managing Authority has presented this project as an example of good practice at conferences and features good examples of the Programme in its brochure.

This project has shown how to increase accessibility and comfort for disadvantaged persons and how to set a higher standard for public transport service in the Czech Republic. It also shows the importance of programming in terms of setting the "right priorities" (demand driven) and requirements in SF programming documents corresponding to the demand of target groups and trends referring to high quality standards of public service.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

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- Jan Vozáb, ex-ante evaluator of National Strategic Reference Framework.
- Jiří Beránek, Head of Project Management Unit, Town of Mlada Boleslav, responsible for projects under the Integrated Urban Development Plan.
- Karel Prančl, Department of Managing Operational Programmes, Ministry for Regional Development.

6. Denmark. Baltic-eHealth

Author: Davide Sartori
CSIL, Centre for Industrial Studies

6.0. Background information

a) Country	Denmark
b) Region	Southern Region
c) Full Project Title	Improving Life in Rural Areas of the Baltic Sea Region by eHealth Services
d) Duration	01.09.2004-31.08.2007, 36 months
e) Programme	Baltic Sea Region INTERREG IIIB: ERDF 2000-2006
f) Total Cost	EUR 2 141 731.00
g) EU Contribution	ERDF 45.7%
h) National Contribution	54.3% (of which Norwegian funds: 7.4% of the total)
i) Private Contribution	0%
j) Sector	Telecommunication
k) Sub-Sector	Service and application for citizen
l) Beneficiary	Southern Denmark
m) Implementing body	Hospitals involved in the project

6.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The National Strategic Reference Framework (NSRF) defines the strategy adopted and the key priorities set by the concerned country for the delivery of the Structural Funds (SF) policy during the programming period 2007-2013. For the purpose of the study, the Danish NSRF has been reviewed in order to define the national approach to Structural Funds (SF) support on Services of General Interest (SG(E)I) / Services of General Economic Interest (SGEI), and in particular healthcare services.

At a first glance, the NSRF does not contemplate any specific provision regarding the typical issues of SG(E)I, since the document is tailored alongside horizontal themes and triggers of growth, rather than on sectors. 4 priorities have been therefore identified and included into the NSRF:

- innovation;
- entrepreneurship;
- new technology (particularly ICT);
- human resources.

Support to healthcare infrastructure-as intended in its more traditional meaning, such as hospital construction, clinics empowerment, equipment purchase, etc.-is no more eligible, it is an exclusive national competence. However, reference is made about new services that can be applied to the healthcare sector, citing examples of projects that can be implemented under the New technology priority, for example as relocation of enterprises from areas facing structural difficulties to these new opportunities. Similar evidence has been found in the two Operational Programmes (one for ERDF and one for ESF) specifying the strategy adopted by the NSRF under the Regional Competitiveness and Employment objective. Innovation and ICT development is therefore the key priority of the Danish strategy. This is not surprising, considered that Denmark can be taken as an example of excellence in this field⁷³. In addition, the following cross-cutting objectives are envisaged as

⁷³ This is not indeed the first time of a public policy relating healthcare with ICT in Denmark. In 1996, the Ministry of Health published an Action Plan for Electronic Health Records, whose strategies was focused on creating a national network for the exchange of data between health institutes. The National Strategy for IT in the hospital system 2000-02 pointed out the benefits that can be generated with e-services (such as high health professional quality and short waiting lists) in order to achieve a higher user compliance. The 2003-07 strategy turned onto the

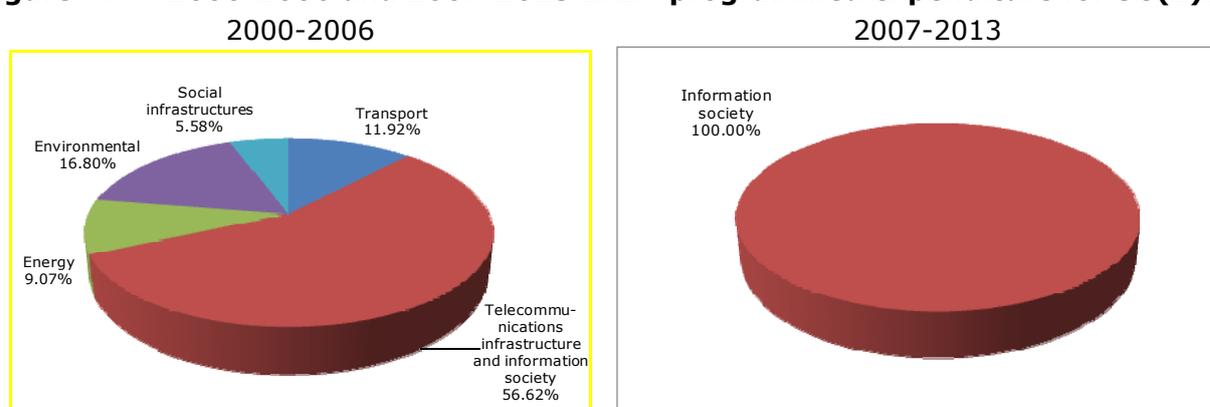
issues upon which projects selection must be based on: environment, equal opportunities, employment, territorial and social inclusion (peripheral areas, rural districts, towns and cities)⁷⁴. The approach depicted in the strategic documents is confirmed by examining financial data on ERDF expenditure in both periods 2000-2006 and 2007-2013 (see Figure 7). In the period 2000-2006 Denmark has assigned to projects in the social infrastructure's field of intervention (grouping together health, childcare, education and housing) only EUR 1 670 982.60, equal to 5.58% of the total amount of expenditure. Telecommunications was, on the contrary, the first priority absorbing more than half resources.

During the current period this path has been followed even more radically: social infrastructures are no more eligible, all resources being devoted to ICT development⁷⁵.

The desk analysis of the Danish NSRF and Operational Programmes has been complemented with fresh evidence gathered from the Danish Managing Authority, according to which Danish programmes financed with the SF-including those under INTERREG or the European Territorial Cooperation objective - are not aimed at building or empowering infrastructures to provide a SG(E)I. They rather focus on issues that affect horizontally the SG(E)I provision, such as the development of a new technology that can be applied to a specific SG(E)I sector or the consideration of certain social matters. The NSRF explicitly mentions, for example, the necessity to intervene in the geographically peripheral areas of Denmark that suffer from population decrease and unemployment dynamics.

In conclusion, in Denmark as well as in other EU-countries the construction, management and running of healthcare facilities is firstly a national competence.⁷⁶ Considering the magnitude of the ERDF expenditure devoted to health infrastructures, the contribution of the funds to the provision of health services in Denmark can be therefore assessed as near to zero. However, if innovative projects-dealing with ICT but applied to the health sector-are considered, the picture changes and a role to *complement* and *innovate* the services already provided by the national authorities can be played by the Community instruments.

Figure 7: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

development of the clinical infrastructure (model, standards and terminology) by ensuring coordination with the political goals of digitization of the public administration, while the current 2008-12 strategy is more focused on business support, multi-level governance and stakeholders involvement.

⁷⁴ Programme for the European Regional Development Fund in Denmark 2007-2013-Regional competitiveness and employment, "Innovation and Knowledge" available on www.deaca.dk.

⁷⁵ Together with the Regional Competitiveness and Employment objective, in the period 2007-2013 it has been reinforced the European Territorial Cooperation objective, which have allocated to Denmark about 103MEUR under three programmes (Cross-border, Transnational and Interregional cooperation). Data on expenditure allocation on the supported sectors are however not available.

⁷⁶ Art.168 Lisbon Treaty

6.2. National framework in the provision of SG(E)I

The Danish Public Health System (DPHS) was based on the 1970 local government reform and has not radically changed until the administrative reform of 2007. As a consequence of the fiscal federalism introduced by the reform of 1970, the DPHS turned to a *decentralised* system, similarly to other North-European experiences (Sweden, Norway and Finland). Political, operational and financial decentralisation meant that the 14 Danish counties became fully responsible for the entire process of healthcare provision within their own territory. In particular, each administration of the county had to:

- decide the investment priorities through their own strategic planning: investment in renovation, new hospital, R&D, etc.;
- hold the responsibility to operate the services provided in public hospitals by hiring medical staff with public and transparent procedures;
- Borne most costs generated by health care activities. The central government contributed through an intricate block grants system based on objective criteria (like the county population) covering about 17% of the public expenditure borne by the county in healthcare. The remaining 83% was covered through county-level taxes, in particular proportional income and property taxes.

The administrative reform in 2007 has radically changed the DPHS, giving to the central government the prime responsibility for financing healthcare. The reform lowered the number of counties (now "regions") from 14 to 5 and the number of municipalities from 275 to 98, assigning to the regions the responsibility of providing hospital services, and to municipalities the provision of nursing home services, dentists for children and disabled people, school health services, treatment of alcoholics and drug addicts. Moreover, to municipalities it has been assigned the promotion of preventive activities aimed to reduce hospitalizations which in the foregoing system was shared with counties⁷⁷. All former central and regional taxes have been replaced by one national tax, called *health contribution*, which amounts at 8% of the taxable income. The 80% of the funds raised are allocated to the regions and the remaining 20% to municipalities. This radical reorganisation has inverted the process of decentralization, by removing the main element characterizing a decentralized system, such as fiscal federalism.

The DPHS reflects the principle of universal, equal and free access to healthcare for residents, regardless their economic and social condition. The financial mechanism is based on the *capacity to pay* and it is separated from the use of the services. The beneficiaries are all inhabitants recorded in the National Register of Residence of Denmark (including legal immigrants and refugees). The population which perceives an unmet need for medical examination in Denmark is below 1% of the total⁷⁸. For non-residents special rules to regulating the access to health services are in place, but all categories are guaranteed in case of acute treatments by emergency hospital services.⁷⁹ Every resident in Denmark can choose between two different kinds of public social security insurance. If the first category is chosen, every patient is listed with a general practitioner who refers patients to specialists, hospitals, medical labs as needed with no charge for patients. Almost 98% of population choose this type of insurance. The other 2% prefer to maintain the freedom to choose a physician or a specialist, who is paid in part by the DPHS and in part directly by

⁷⁷ Vrangbaek (2008), The Danish Health Care System

⁷⁸ Philipa Mladovsky, Sara Allin, Cristina Masseria, Cristina Hernández-Quevedo, David McDaid, Elias Mossialos (2008), "Health in the European Union, Trends and analysis", European Observatory on Health Systems and Policies

⁷⁹ Strandberg-Larsen, Nielsen, Vallgård, Krasnik, Vrangbæk (2007), "Denmark-Health system review", Health system in transition, Vol.9 No.6, WHO, European observatory on Health System and Policies (p.29)

the patients⁸⁰. Within this framework also private insurances exist, since costs related to services such as drugs subsidies, adult dental care and glasses, are only partially reimbursed by the public insurance system⁸¹.

Finally, it is to be mentioned the role played by the recently introduced Danish Health Data Network (DHDN), adopted in 2001 and now fully operational. The DHDN national network allows fast information flow from patients and General Practitioners to pharmacists, diagnostic services and specialist consultation at hospitals and vice versa⁸². Benefits are both for citizens and healthcare providers. For the first benefits derive from faster, more reliable and more efficient communication between health and social care professionals. The latter benefit of the effective and efficient use of eHealth to transfer data, the improvement of data quality and concerning time and costs savings in preparing and sending information to other healthcare services⁸³. As part of the DHDN, in December 2003 the Danish health portal www.sundhed.dk was launched. It provides information about healthcare providers and health promotion to citizens. For example through the portal they can consult their General Practitioners (GPs) via e-mail, enter their GPs' online booking system, renew prescriptions online. GPs themselves can order laboratory tests through the portal and access to patients medication data⁸⁴.

6.3. Project description

The project analysed in this case study is "Baltic eHealth" and was part of the Baltic Sea Region INTERREG IIIB programme 2000-2006⁸⁵. Eleven countries (Estonia, Denmark, Finland, Germany, Latvia, Lithuania, Poland and Sweden as well as Norway, North-West Russia and Belarus) participated in this programme, which aimed to develop new forms of organisation and institutional cooperation in order to improve the competitiveness and the attractiveness of the rural and peripheral areas of the concerned countries. The programme consisted of 129 projects approved in several sectors.

Baltic eHealth project took part under Priority 2 "Promotion of territorial structures supporting sustainable BSR development", which was identified as being of special importance to better integrate the Baltic Sea Regions. Within this priority, the project was implemented under Measure 2.1 designed to improve balanced polycentric settlement structures in order to strength urban-rural partnership in cross-sector activities.

Five countries participated in Baltic eHealth project: Denmark, Estonia, Lithuania, Norway and Sweden. Two pilot cases have been realised by the project:

- eRadiology (between Denmark-Estonia-Lithuania);
- eUltrasound (between Sweden-Norway).

In both cases the goal was to create a virtual and secure exchange network for the provision and consumption of healthcare services, ultrasound images in the first case and radiology services in the latter. In this way patients could benefit from the experience of doctors from the other regions through the use of the telemedicine.

The project contributes to prove that telemedicine is an effective mean in increasing access to healthcare of high quality in rural areas to counteract migration dynamics. This objective

⁸⁰ MISSOC-INFO 02/2005-"Health care: User charges", available on http://ec.europa.eu/employment_social/spsi/missoc_info_en.htm

⁸¹ Vrangbaek (2008), "The Danish Health Care System"

⁸² Electronic messaging processes include: GP referrals to hospitals, GP prescriptions, GP requests for diagnostic tests, Test reports, Discharge letters to GPs, Notifications of discharges to community and home care services, Reimbursements.

⁸³ C.E. Wanscher, C.D. Pederson, T. Jones (2005), "MedCom, Denmark: Danish Health Data Network (DHDN)".

⁸⁴ www.sundhed.dk, (2009) "IT brings the Danish health sector together"

⁸⁵ The European Commission adopted the Community Initiative Programme (CIP) "Baltic Sea Region INTERREG III B-Trans-national Co-operation on Spatial Planning and Regional Development" on 14 September 2001.

is achieved by the creation of a trans-national eHealth network, the Baltic Sea Healthcare Network (BSHN), in which small hospitals of rural areas with capacity problem can offer high quality services to their patients thanks to their connection with a network of foreign hospitals with surplus capacities. Moreover, it can prevent brain drain from those countries with a surplus of specialists (especially from the Eastern European countries) and it can contribute to achieve the European goal of paperless hospitals

The main needs addressed by the project are:

- to create a large trans-national infrastructure for eHealth optimizing the infrastructural resources across the Baltic Sea Countries, through the launch of two pilot services;
- to improve the access and quality of healthcare provision in remote areas in order to prompt a person to live in an outlying area;
- to reduce waiting time and costs for specialized exams (especially transport costs for patients), keeping high quality standards.

The direct final beneficiaries of the project are the staff of the hospitals which took part in the project. Indirect beneficiary is the population of the BSRs that can benefit from the implementation of the BSHN connecting national healthcare institutes in Norway, Sweden and Denmark and two local networks in Lithuania and Estonia. In particular, those who could profit from eRadiology pilot case are all the Danish residents who use X-Ray services in the Funen University Hospital (in 2006 the Hospital carried out about 120 000 radiology examinations). In the eUltrasound pilot case instead the beneficiaries are Swedish pregnant women of the county of Umeå and of the Northern part of Sweden (in one year the Fetal Medicine Unit of the University Hospital of Umeå carries out about an average of 4 500-5 000 ultrasound examinations).

The first step of the project was to create a common legal and organisational framework, in which the BSHN could operate. For this purpose, the project scheduled the publication of different reports on the impacts of eHealth in rural areas and on the issue of cross-border cooperation in the BSRs⁸⁶. The second fundamental step was the realization of a standard technology, hardware and software, to enable the communication between health institutes of different countries. Only after these two fundamental steps the actual cooperation between hospitals, through the implementation of the two pilot cases, started.

In eRadiology pilot case, whether Danish practitioners have not capacity or time, the radiology images of patients of Funen University Hospital (Denmark) can be transferred within few minutes via secure internet connection to East-Tallin Central Hospital (Estonia) or to Vilnius University Hospital (Lithuania), which have a surplus of radiologists who can examine them.

The second pilot case is eUltrasound project. It was realized between the National Centre for Fetal Medicine (NCFM) at the St. Olav's Hospital (Norway) and the Fetal Medicine Unit (FMU) at the University Hospital of Umeå (Västerbotten-Sweden), a combined centre for Ultrasound and Special maternal treatment which examine routine ultrasound on pregnant women in the county of Umeå and has the second opinion responsibility for the rest of the Northern part of Sweden.

The request of clinical co-operation with second opinion examination at NSFM can be carried out by Fetal Medicine Centre/ Umeå through different way:

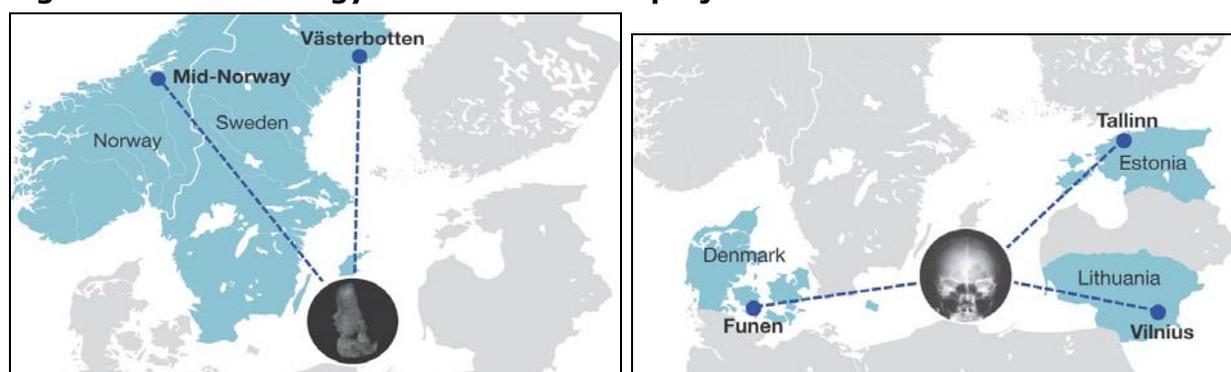
⁸⁶ see "Report on identified legal issues of the Baltic eHealth project", available on www.baltic-ehealth.org/publications.htm and "Rural eHealth Report-Denmark, Norway and Sweden" -and "Cross-border eHealth in the Baltic Sea Region", both available on www.baltic-ehealth.org/publication.htm

- images sent via web portal, will be answered by written text in a few days;
- by video conference, with an immediate response.

At the end of the project the National Centre for Fetal Medicine (NCFM) at the St. Olav's Hospital (Norway) has carried out about 15 second opinion cases, but both clinics are still available to continue the cooperation.

The costs of running the two services are self-financing thanks to the business market model on which the system is based. Both pilot cases created a virtual and secure exchange for the provision and consumption of healthcare services. This is translated into a quick and equal access to optimal medical care for patients.

Figure 8: eRadiology and eUltrtrasound project scheme



Source: Project fiche

6.4. Specific aspects of SG(E)I affected by the project

Specific SG(E)I aspects involved in the project

The project's results allowed the countries involved to provide two specific types of health service regardless the proximity of the patient from the hospital where the examination takes place. Thus, a new specific public service, has been realised by means of the project. The results produced can be therefore analysed also in light of some aspects which are typical of any SG(E)I provision:

- **Efficiency and effectiveness:** the outsourcing of healthcare services to foreign countries where the cost of labour is lower or where there are clinics with a surplus of capacity allowed to increase efficiency thanks to lower operating costs. To avoid that such costs saving could undermine somehow the quality and effectiveness of the services provided, specific provisions and guarantees have been included in the contractual agreements signed between the clinics involved.
- **Sustainability:** the transnational cooperation network of the project is based on a business market model, which is capable to finance the operating current costs without any additional public support. This guarantees the long term sustainability of the project, even after the end of the European financing. This was possible thanks to regulated agreements between the hospitals, concerning quality standards and prices of consultancy. According to the project manager's opinion, more and more Danish hospitals are now interested in the economic gains offered by the project. Indeed, the project frees radiologists to examinations with direct patient contact, allows to take the advantage of lower production costs in Baltic States other than Denmark, and optimise the flexibility in production.

- **Improving territorial and social inclusion:** the last few years saw the trend of concentrating and developing the newest medical technologies in the largest cities of the Baltic countries. Simultaneously, in the rural and peripheral areas cases of little hospitals that closed down have been increasing. The new technology developed by the projects enables to offer medical services in peripheral and rural areas while keeping high quality standard and saving the costs of maintaining these services physically located on the territory. Thus, the use of this technology allows to mitigate the inequality of access existing between urban and rural/peripheral areas and to foster the attractiveness of the more remote areas (see also Section 6.6).
- **Development of ICT in the field of public services:** the European Council in 2000 has established as a community goal the introduction of new technologies in several areas of the public administration for the development of an information society. Health care is one of the 10 sectors involved in the public administration's reform, whose aim is to tone up the administration, facilitate accounting and enable effective management control. It also deals with collection, storage, retrieval, communication and optimal use of health related data, information and knowledge base. The project analysed is an good example of the introduction of ICT in the public administrations of the EU, creating an interoperable digital network that can help European integration.

6.5. Governance aspects

The Danish Centre for Health Telematics (Denmark)⁸⁷ is the coordinator and the lead partner of the project.

The partnership was established among different types of institution, holding different roles but with a similar hierarchical level, being for most public hospitals:

- who provided legal and organisational consultancy:
 - Region Syddanmark (Denmark)⁸⁸;
 - Västerbotten Läns Landsting (Sweden)⁸⁹;
 - Central Norway Regional Health Authority (Norway)⁹⁰;
 - Carelink (Sweden)⁹¹;
 - Norwegian Centre for Telemedicine (Universal hospital of North Norway HF, Norway)⁹²;
 - Danish Centre for rural research and development (Denmark)⁹³.
- who provided technology infrastructure:
 - Danish Centre for Health Telematics (Denmark);
 - Carelink (Sweden);
 - Norwegian Centre for health informatics (Norway)⁹⁴;

⁸⁷ <http://www.cfst.dk/wm142478>

⁸⁸ <http://www.regionsyddanmark.dk/wm157175>

⁸⁹ <http://www.vll.se/default.aspx?id=1456&refid=1405>

⁹⁰ http://www.helse-midt.no/defaultMaster_____79317.aspx

⁹¹ <http://www.carelink.se/>

⁹² <http://www.telemed.no/>

⁹³ http://www.sdu.dk/Om_SDU/Institutter_centre/C_clf_CenterLanddistriktsforskning.aspx?sc_lang=en

⁹⁴ <http://www.kith.no/>

- Norwegian centre for Telemedicine (Universal hospital of North Norway HF, Norway)⁹⁵.
- who implemented the pilot cases:
 - County Hospital of Funen (Denmark)⁹⁶;
 - County council of Västerbotten, University hospital, Umea (Sweden);
 - Mid-Norway Health Enterprise (Norway);
 - Vilnius University Hospital Santariskiu Clinic (Lithuania)⁹⁷;
 - East-Tallinn Central Hospital (Estonia)⁹⁸.

Private partners have not participated in the project. As mentioned in Section 6.3, the national health care systems of the countries concerned are in charge of public administration, private enterprises having only marginal roles. The public partners preponderance is a common element of all countries involved in the project.

6.6. Universality of access and affordability

Universality of Access

Since the project has realised new services in peripheral and rural areas, where there is a higher concentration of elderly and less educated people, a contribution to raise the universality of access to healthcare in the regions involved can be directly attributed to the project. The informatisation process of the healthcare system can be seen as a tool to improve and simplify the access to services. However, according to Sorensen&Svendsen (2007)⁹⁹, elderly and less educated people find more difficulties to gain the new opportunities offered by the ICT tools, due to a lower attitude towards new technologies. Since peripheral and rural areas are more characterized by higher average age and lower education rates, a perverse effect may be produced. The embedded mistrust of the residents can be a hard drawback to solve for having a successful implementation of the new service provided by the project. The best way to build confidence has been identified in the general practitioners: since they are reliable and trusted persons, especially for elderly and less educated people, they can be a reference point for the patients, helping them to get familiar with the new technology.

Affordability

Costs generated by the project and imputable to the Danish partner are borne by the Danish public administration and not directly by the patients, according with the structure of the DPHS. The patients do not have to pay any additional tariff to use the new telematic services offered. Indeed with the health reform of 2002, if waiting time list in Danish public hospitals is over 2 months, the DPHS covers all the expenses for healthcare services, also in private and in foreign hospitals. The covered healthcare services include consultancy and second opinion too. Although affordability is automatically ensured by the inclusion of the project into the health systems of the concerned countries, increasing affordability was not seen as a priority the project aimed to solve, as instead occurs in countries with more

⁹⁵ <http://www.medcom.dk/wm1>

⁹⁶ <http://www.sygehusfyn.dk/wm259883>

⁹⁷ <http://www.santa.lt/>

⁹⁸ <http://www.itk.ee/>

⁹⁹ Sorensen, Svendsen (2007), "Access to health care service in remote rural areas: what impact does it have on settlement?"

heavy private payments finance health care, where these costs are likely to be an important cause of inequity on access¹⁰⁰.

6.7. Thematic focus

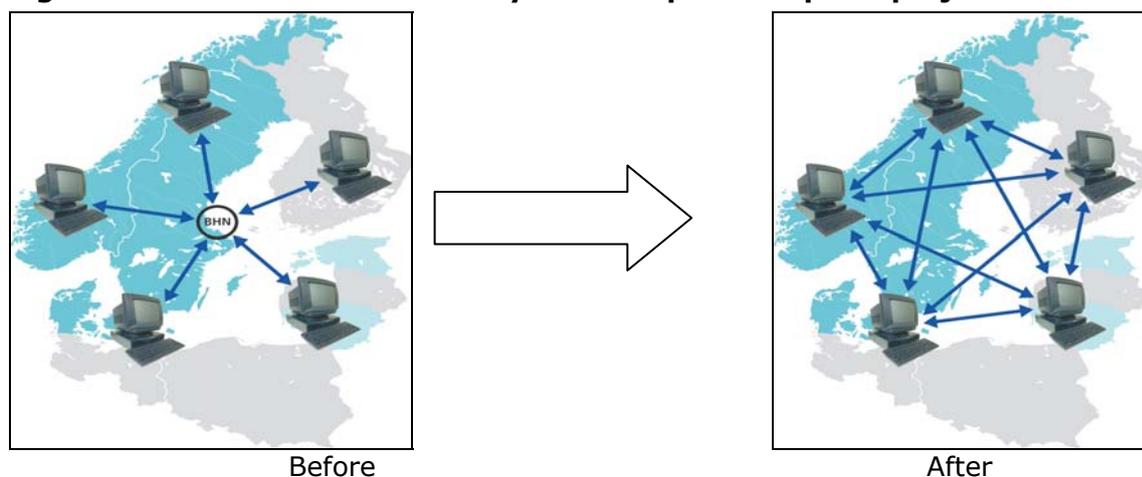
Geographical remoteness and cross-border cooperation represent the two most relevant thematic dimensions of the project analysed. Moreover, the supply of eHealth solutions can improve the access of elderly people with low mobility to efficient and high quality services.

Cross-border service delivery

The main achievement of the project was the creation of a strong cooperation in the health sector between Baltic Sea regions. This was possible through the adoption by the partners of guidelines and procedures to overcome different kinds of barriers: technical, legal, economic and organisational¹⁰¹.

Concerning the technicalities that must be faced to create an interconnected and interoperable network, the guidelines insisted on the necessity of homogeneous technological standards on internet connections and security. The latter topic is crucial to protect patients' privacy and confidential information. Both pilot services realised with the project rely on safe and secure exchange of potentially very sensitive information and must establish strict and credible security regimes. The Baltic Health Network is designed as a private network, which cannot be accessed from the outside due to special permission required.

Figure 9: Cross-border delivery services pre- and post- project



Source: Project fiches

When establishing a routine cross-border eHealth service, not only different technological standards, but also different national rules and laws must be taken into account. It is advisable to clarify these issues with the national health authorities to avoid any malpractice charges, to ensure quality of service and to define the possible content of the service in question. This is the reason why a compatible common legal framework was established within the Baltic eHealth project framework. Confidentiality, security and safety were, again, the first to be considered. To reduce furthermore vulnerability of the data protection system the partners common duties that all the medical staff involved in the

¹⁰⁰ Philipa Mladovsky, Sara Allin, Cristina Masseria, Cristina Hernández-Quevedo, David McDaid, Elias Mossialos (2008), "Health in the European Union, Trends and analysis", European Observatory on Health Systems and Policies

¹⁰¹ Leif Erik Nohr (2006), "Cross border eHealth in the Baltic Sea Region-what issues should be considered?"

project had to keep. Another important legal issue concerned responsibility. The use of eHealth solutions and services shall not in any way reduce the professional responsibilities and duty of care of the personnel. At the same time, with a restrictive regulatory approach on responsibility, eRadiology and eUltrasound could have been used only for a doctor-to-doctor advice or for research purposes and in this first phase they could not have replaced such services where a hospital or a medical centre does not have radiologists in house or where the existing radiologists' workload is too heavy. Thus, to find a balance between ensuring the responsibility principle and having an effective operation of the services had been necessary.

The main economic barrier to overcome mainly concerned public reimbursement. Each country has a different national healthcare system covering different services and public reimbursement of cross-border eHealth services is not contemplated so that prices and quantities of the services exchanged on the transnational network have been regulated with specific contracts between the parties.

According to the opinion of the project manager, even if the project can finance its operative costs itself, the contribution of Structural Funds was essential to overcome the more relevant barriers show above. Without the intervention of European Community's funds probably nothing would be done¹⁰². However, an issue that was not possible to solve through a guideline was the cultural one. The nationalism is still a strong element of the European cultures that all European policies have to face it. The only way to overcome this hinder is working together in cooperation. The main point is to make the parties more familiar with each other so that trust can developed. A good collaboration between the clinicians and the technicians is fundamental in any eHealth service. The creation of a good communication habit implies however some organisational changes and not all practitioners may have a positive opinion about the cooperation, and a change forced in a "top-down" direction can be refused by someone. Thus, this change has to include the participation of the medical staff (both doctors and nurses) from the beginning of the process, in a "bottom-up" process¹⁰³. To have this it seems advisable to start cooperation on small scale through pilot cases, as it happened in the Baltic eHealth project.

Geographical remoteness of the service provided

The geographical remoteness has a role in the supply of health care services. In a context of on-going depopulation and closures of small hospitals in rural areas, the development of telemedicine and new technologies applied to health can be a way to counteract these trends.

Although for the majority of population the access to health care services is not a decisive factor in the choice of residence, all appreciate high qualitative and accessible health services, and in rural areas about half citizens stands up for reach these targets through eHealth technologies¹⁰⁴. As underscored by the survey of Sorensen and Svendsen (2007), eHealth solutions (i.e. consulting a specialists over video phone or having a doctor in a foreign country who evaluate X-rays), under certain conditions can be able to counteract part of probable migration from remote rural areas and can improve the attractiveness of those areas. They permit also to avoid closure of many small hospitals with capacity problem thanks to their connection to a network of foreign hospital with surplus capacity.

Aging population

One of the big challenge facing all the Danish regions, as well all Western Europe ones, is the demographic change. In the future years, the increase of non-working population will

¹⁰² Opinion of the project manager

¹⁰³ Leif Erik Nohr (2006), "Cross border eHealth in the Baltic Sea Region-what issues should be considered?"

¹⁰⁴ Sorensen, Svendsen (2007), "Access to health care service in remote rural areas: what impact does it have on settlement?"

be more pronounced in rural areas than in the cities. Elder inhabitants need more medical treatments and eHealth solutions can improve the health services offer without an untenable costs increase. However, a precondition for a successful implementation of eHealth technologies is that users have a positive attitude towards these solutions. Elderly and people with low educational level feel less comfortable with these technologies¹⁰⁵ and this is one of the reasons for which it is difficult a full achievement of the paperless hospitals goal in short term.

6.8. Contribution to cohesion policy objectives

In the Denmark NSRF, “peripheral areas” are defined as relatively weak municipalities-with low income and low demographic growth-characterised by a business structure with a large number of small enterprises in traditional sectors such as agriculture and manufacturing. The population in the peripheral areas is stagnant or actually in decline, and for the coming years no change is foreseen. The level of education is lower. Unemployment is relatively higher than the national level, and the areas are characterised by a higher proportion of persons outside the workforce.

Patients employment status, income, education, and financial system of the service have a strong influence on the accessibility of health services (access to hospital, to general practitioners or specialists)¹⁰⁶. One of the main goal of cohesion policy is to improve the attractiveness of these areas, in order to mitigate their problems. The provision of public services, included healthcare services, can support the growth of peripheral areas’ economies. According to the evolution of the European policies (see for example eTen programme), a new approach to do it is through the new technologies since they can increase regional competitiveness while keeping costs low.

The Baltic eHealth project perfectly fits into this context, even if its actual impact on cohesion policy targets is today limited, due to the need of consolidating the newly adopted legal and technical framework between the countries concerned. However, if all project’s partners will keep maintaining their engagement about the implementation and running of the network, the project will generate long-term effects, contributing to the realisation cross-border service delivery. The creation of a cross-border health technology can contribute to spread best practice and knowledge and helps to overcome cultural prejudice between specialists, especially about competence of foreign practitioners. For example, concerning service outsourcing, Danish radiologists have fear of the economically unequal competition of the East European specialists. In the opinion of the project manager, the only way to shatter these barriers is to work together and to build a common platform of knowledge to reduce differences between European regions and improve healthcare services. It is therefore recommended to enlarge partnership with other hospitals in rural areas and to integrate all project member, i.e. to allow to Swedish and Norwegian clinics access to e-radiology services in Estonia and Lithuania, and vice versa. With these solutions it will be possible to improve health care services for all patients in the Baltic Region.

Although a cross-border health network between Baltic countries was already conceived in the early ‘90 years, in the project manager opinion, nothing would have been implemented without the EU support because nobody would have taken charge to borne the starting costs. Thus, despite a still limited impact of the project on regional cohesion, the ERDF has given a fundamental contribute to start an ongoing transnational cooperation. For example in 2007 the R-Bay project has started, a spill-over project based on eRadiology with the aim to establish an online eMarketplace within the field of radiology and to thereby pave

¹⁰⁵ Sorensen, Svendsen (2007), “Access to health care service in remote rural areas: what impact does it have on settlement?”

¹⁰⁶ Philipa Mladovsky, Sara Allin, Cristina Masseria, Cristina Hernández-Quevedo, David McDaid, Elias Mossialos (2008), “Health in the European Union, Trends and analysis”, European Observatory on Health Systems and Policies

the way for the creation of an internal market for exchanging imaging services which will lift the sharing of healthcare resources to a new dimension within a pan-European scope and consequently even out the radiological resources¹⁰⁷.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Claus Duedal Pedersen-Danish Centre for Health Telematics-Project Manager.
- Niels Bjerring Hansen-Denmark Managing Authority-Member of the Monitoring Committee.

¹⁰⁷ R-Bay Final Report (2009), Creating an eMarketplace for the transfer of imaging related eHealth services in Europe.

7. Estonia.

River Emajõgi and River Võhandu Catchment Area Water Management

Author: Merit Tatar
PPMI, Public Policy and Management Institute

7.0. Background information

a) Country	ESTONIA
b) Region	Ida-Viru, Jõgeva, Tartu, Põlva and Võru County
c) Full Project Title	River Emajõgi and River Võhandu Catchment Area Water Management
d) Duration	31.03.2005-31.12.2010
e) Programme	Cohesion Fund, National Programme 2004-2006
f) Total Cost	EUR 53 695 000
g) EU Contribution	Cohesion Fund 85%
h) National Contribution	15%
i) Private Contribution	0%
j) Sector	Environment
k) Sub-Sector	Management and distribution of water (drinking water) and water treatment
l) Beneficiary	Ltd Emajõe Veevärk (private body); (Emajõe sub-project) Ltd Põlva Vesi (private body); (Põlva sub-project) Ltd Võru Vesi (private body); (Võru sub-project)
m) Implementing body	Ltd Emajõe Veevärk; (Emajõe sub-project) Ltd Põlva Vesi; (Põlva sub-project) Ltd Võru Vesi; (Võru sub-project) Implementing Agency for Cohesion Fund projects: Environmental Investment Centre (EIC)

7.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

A large part of the Estonian National Strategic Reference Framework¹⁰⁸ (NSRF) is directed to the provision of services of general interest.¹⁰⁹ Estonian NSRF states: "To develop in the years 2007-2013 the eligible policy areas with the help of European Union (EU) structural assistance as efficiently as possible for attaining long-term development (including moving towards the objectives of the "Sustainable Estonia 21"), the headline objective for the NSRF is set as follows: fast and sustainable development." This objective entails in itself three sub-objectives: increase the competitiveness of the economy; increased social cohesion; more sustainable use of environment. It is indicated that adding EU structural assistance to own resources allows Estonia to potentially remarkably accelerate the socio-economic development in the country and raise national competitiveness. Estonian NSRF SWOT brings out that some important weaknesses of the country are regional imbalance of development as well as relatively large environmental burden of economic activity, including outdated and insufficient environmental infrastructure. Setting the priorities for funding also reflects the importance actually given to the provision of SG(E)I. 4 out of 6 priority axes in the NSRF are *directly* addressing the provision of SG(E)I out of which NSRF priority 4 addresses especially environmental theme: Priority 4: Sustainable use of environment-Development of water use and protection and waste management. This priority is in compliance with the general Community guideline "Make Europe and its regions more attractive places to invest and work". Within the framework of the priority, attention will be paid to the strengthening of synergy between environmental protection and economic growth. The planned activities will primarily be connected with the task defined in the guidelines to make essential investments into infrastructure for achieving

¹⁰⁸ http://www.strukturifondid.ee/public/Estonian_NSRF_21June07_ENG.pdf

¹⁰⁹ Even though not explicitly mentioned in the NSRF in sense of this exact *definition* (as referred for example in Green and White Paper on Services of General Interest).

compliance with the EU environmental *acquis* related to water protection, waste prevention as well as the protection of air and nature and species.

It is inevitable and common understanding among the public administrators in Estonia¹¹⁰ that ERDF and CF support (mainly investments), especially in remote and sparsely populated areas may extend the scope of SG(E)I and especially reinforce social and territorial cohesion. This support will thus have a positive effect on the evolution and extension of services offered. Without such support, the territorial differentiation in availability, price and quality of services in those remote areas will remain. This is more than relevant when considering the provision of drinking water and waste water services.

Therefore, the Estonian NSRF clearly takes the focus on the provision of SG(E)I in different areas. Mid-term evaluation of Structural Funds Operational Programmes (OPs) 2007-2013 in Estonia¹¹¹ brought out the proportions of ERDF support to different areas as well as the proportion of investments in these areas. According to this, the share of the investments into infrastructure is very high in Estonia, forming 70% of the funds, highest in transport (18%) and environment (13%) sector. On the one hand large scale support to construction sector helps to sustain domestic demand and clearly contributes towards the objectives set by the EU in provision of SG(E)I. On the other hand the evaluation criticised that these are the investments which have only moderate influence on the main economic goals: the creation of knowledge-based economic structure and the growth of productivity. However, considering the ultimate aims of the provision of SG(E)I (e.g. universality, continuity, quality of service, affordability)¹¹², infrastructure investments in Estonia are extremely important in order to provide possibilities for the inhabitants to get universal access to basic services and entrepreneurs to be able to facilitate their activity in the first place.

Therefore, NSRF strongly emphasises the role of SF in supporting the modernisation of basic infrastructure needed for the provision of high quality public services as well as services of general interest including water resources management. Promoting universal access to public infrastructure and basic services for equal and high quality life is a horizontal theme in almost all priority axes and one of the main focuses of the NSRF and its OP-s.¹¹³

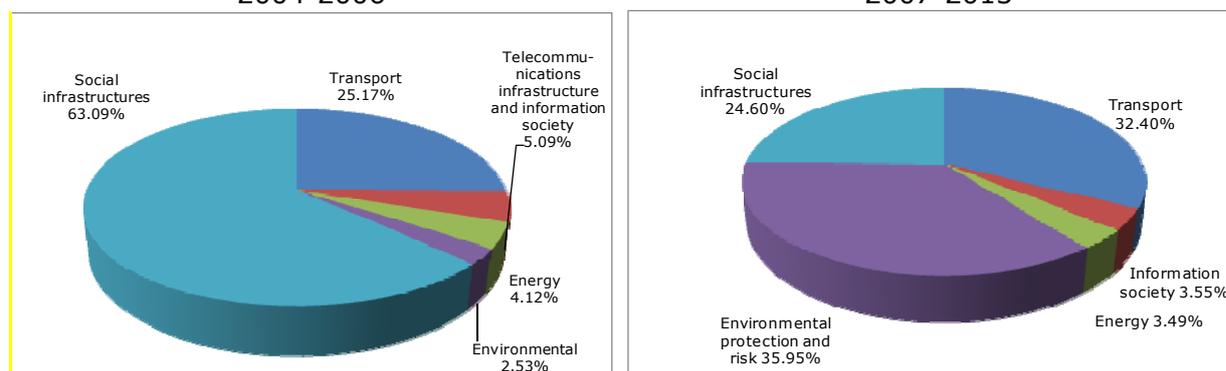
As can be seen from the Figure 10 in 2000-2006 most of the ERDF support was directed into social infrastructure (over 63%). However, this does not indicate the Cohesion Fund (CF) figures which in 2007-2013 is subject to the same rules of programming, management and monitoring as ERDF under the Convergence objective. Therefore, the proportion of environmental infrastructure for example is quite low compared to the period 2007-2013 where CF is considered together with all SF funding in NSRF (amounting to EUR 1 151 million). In addition to the amount of ERDF in 2004-2006 (EUR 375.4 million), EUR 431 million of CF expenditure was distributed to infrastructure projects in Estonia (especially environmental infrastructure). As seen from the funding proportions of 2007-2013 most of the support is directed to investments in social infrastructure, transport and environmental protection and risk-classically the areas of SG(E)I provision.

¹¹⁰ Also indicated by the interviews conducted for the case study.

¹¹¹ http://www.struktuurifondid.ee/public/Struktuurivahendite_rakenduskaava_hindamine.pdf

¹¹² See also European Commission (2003) Green Paper on Services of General Interest in Europe.

¹¹³ There are three OP-s attached to the Estonian NSRF: Operational Programme for Human Resource Development; Operational Programme for the Development of Economic Environment; Operational Programme for the Development of the Living Environment (<http://www.struktuurifondid.ee/index.php?id=12034>).

Figure 10: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I

Source: Authors processing of DG Regio data

The strategic approach of the NSRF in 2007-2013 largely follows similar set of priorities as were addressed by the Single Programming Document (SPD) and its implementation plan in 2004-2006. The biggest change regarding the provision of SG(E)I which also includes support to water resources management comes from the overall change in the EU Cohesion Policy according to which whole programming process at EU, national and local level will be driven by a single political document and not separately for the CF and SF as was in 2004-2006. This should guarantee the simplification and more flexible management of the funds as well as stronger involvement of regions and local players in the preparation of programmes. This has meant a thorough change in the management and operation systems of the CF resources in Estonia. Such arrangements introduced open application round procedure in water resources management sector and have also enabled local governments to submit environmental infrastructure projects individually. This, for example, was not applicable to them in 2004-2006 as the CF rules prescribed a minimum size of the project which enforced local governments to submit larger scale projects in cooperation with other local authorities. Moreover, stronger competition pushes local governments to plan and prepare their projects more carefully and responsibly. This was one of the weakest links in the previous CF environmental infrastructure projects in Estonia. Overall, this rearrangement in the operation of the environmental infrastructure support is welcome for the better planning of targeted SG(E)I investments.¹¹⁴

7.2. National framework in the provision of SG(E)I

Attaching high priority to environmental activities in Estonia is warranted mainly due to the weaknesses related to the insufficiency and ageing of environmental infrastructure (water supply, waste water treatment, landfills, external air protection equipment, etc). Also, regarding the low number of population of Estonia and the low productivity level, the negative impact on natural environment in some areas is too big. It generates dangers to people's health and/or worsens the conditions for entrepreneurial activity in certain areas. As the area of use and protection of water in the EU is largely regulated by directives, it is of primary importance for Estonia to achieve compliance with the requirements established by these. The central pieces of legislation governing the field of water management in Estonia are the Water Act (consolidated text July 2002) and Public Water Supply and Sewerage Act (consolidated text July 2002). Under these several pieces of secondary

¹¹⁴ Also described by the Ministry of Environment: Principles of Funding Water Infrastructure Projects from the State and the Cohesion Fund (October 2007)
http://portaal.ell.ee/orb.aw/class=file/action=preview/id=12108/Veeinfrastruktuuri+rahastamise+phimtted_31.10.07AU.pdf

legislation have been established. All requirements and obligations established by the EU water legislation¹¹⁵ have been transposed in Estonia mainly in the framework of these Acts. Water management activities for achieving a good status of water bodies are organised on the basis of sub-basin water management plans. Water management plans provide a common framework of action to protect and improve the status of aquatic ecosystems and prevent it from further deterioration, promote sustainable use of water, protect the aquatic environment from discharges, emissions and other damages and dangerous substances. This arrangement also enables better to achieve a sufficient supply of high quality surface and groundwater for sustainable and balanced use of water. According to these requirements this case study project has been prepared in accordance with the Lake Peipsi sub-basin which is part of the big East-Estonia basin.¹¹⁶

According to the Local Government Organisation Act (1993) Art. 6 Functions and competence of local governments include among others the supply of water and sewerage. Art. 35 (1) states that a rural municipality or city may found agencies for the provision of important services, may be a partner or shareholder in a company of significant importance in the development of the municipality, may found foundations and be a member of a non-profit association. Accordingly, this type of arrangement-shareholding in local municipal water companies providing the services-has been almost universally used in local governments in Estonia and is a system supported and suggested by the Ministry of Environment especially for enhancing the use of CF. In 2004-2006 CF rules prescribed that the minimum amount of CF projects must be at least EUR 10 million (this requirement has been abolished in 2007-2013) which was very difficult to achieve by municipalities on their own. Thus, in order to achieve the minimum required amount of EUR 10 million in CF projects as well as to reduce the number of applications (and thus the management burden of the Fund) the Ministry of Environment designed the system of regional water utility companies where several municipalities had to cooperate and which could apply for CF support. This also solved the question of VAT as being private enterprises these regional water utility companies can claim the refund of VAT while buying goods and services. This is not an opportunity for municipalities and therefore this would have considerably increased the co-financing rates of the latter while applying for CF support and implementing the projects.

Therefore, the water management in Estonian municipalities is carried out through the delegated management where the service provision is entrusted to a legal entity in the form of private company controlled by the delegating local authorities (according to the Local Government Organisation Act Art. 35 (1), see above). This does not involve public procurement process. Local governments belonging to the same hydro graphic water basin areas are full shareholders of these regional water utility companies. Own financing (usually 10%-15%) will be covered by the water utility companies which they in turn cover from selling of shares to the local governments. At the same time the infrastructure that will be built/reconstructed with the CF support will be the property of the water utility company for at least 5 years after the finalisation of the project. This kind of system was favoured by

¹¹⁵ Urban Wastewater Directive 91/271/EEC and Drinking Water Directive 98/83/EEC are the most investment intensive ones among water directives. Implementation of the above two directives requires the reconstruction of old and construction of new sewage treatment plants and drinking water treatment plants, but also the extension of public water supply and sewer systems and reconstruction of worn-out pipelines (see also Ministry of Environment <http://www.envir.ee/67388>). Overall, the SG(E)I improvement analysed here is important for achieving actual implementation of the following EU water sector legislation in Estonia (Project Application): Water Framework Directive 2000/60/EC; Directives 80/778/EEC, 98/83/EC and 75/440/EEC on drinking water and drinking water sources; Groundwater Directive 80/68/EEC; Dangerous substances, Directive 76/464/EEC together with its daughter directives; Directives 91/271/EEC according to Articles 3, 4 and 5; 93/481/EEC on urban wastewater treatment.

¹¹⁶ Estonia has 3 main hydrographic river basins (East-Estonia river basin, West-Estonia river basin and Koiva river basin) and 9 sub-basins (<http://www.envir.ee/67250>).

the government and represents initiative for restructuring local water and wastewater sector through which also small municipal water utilities were motivated to be merged into bigger regional water and wastewater companies. This in turn was meant to enable to put on place proper pricing mechanisms, guarantee better management and implementation practices and overall sustainability of water and wastewater infrastructure. Currently the whole sector is managed through the cooperation of local governments in these water utility companies (52 bigger ones, however, also a number smaller ones belonging to the local governments). This relationship between local governments and water utility companies as actual providers of SG(E)I implies that the private company (owned 100% by local governments) has complete responsibility for operating the system, and making the necessary investments in the infrastructure; it thus takes also responsibility for financing them at its own risk.¹¹⁷ Following this, the arrangement of the water management in this case study is more precisely agreed upon in the Shareholders Agreement which is similar in almost all CF water management projects in Estonia due to the development and design of its necessary legal aspects with the help of the Estonian government.

Such delegated form of the service provision has been also regulated by the previously mentioned Public Water Supply and Sewerage Act which is the main regulation on national level for practical arrangements in the water management sector. It states that setting up the water utility company (when local government is owning the infrastructure) as well as setting the prices for services will be decided by the formal acts of local councils (Art. 7 and Art. 14 (3), also in accordance with the Competition Act Art.14¹¹⁸). There have been concerns over the limitations set by these clauses to the water utility companies. The latter are the direct beneficiaries of the CF in water management sector. They are also responsible for the implementation of the projects and further operation of the services (according to the CF rules at least for 5 years after the completion of the project). The fact that at the same time they have no full control over the pricing and tariff policy (as the latter must be agreed by the local government councils) does not take away the responsibility of water utility companies to provide high quality service and the maintenance of the infrastructure. However, the pricing policy as confirmed by the local governments may not envisage all necessary costs in the price of the service.¹¹⁹ This has also generated the situation where tariffs in services provided by the same water utility company differ considerably according to the shareholder municipalities or where local governments have artificially tried to keep the prices down. The latter in turn can seriously threaten the sustainability of the infrastructure and service as the result may be intolerably high tariffs for households in the future to compensate the deficits induced by the uncovered infrastructure amortisation costs.

However, currently a new regulation is being discussed in the parliament regulating monopolies providing universal services for citizens which also includes water services.¹²⁰ The aim of this draft bill is bigger consumer protection by giving the control over SG(E)I prices and tariffs from local government and water utility companies to the Estonian Competition Agency (especially considering 52 bigger water utility companies including the

¹¹⁷ Water utility company is the owner of the infrastructure as well as a service provider during and at least 5 years after the completion of the CF project. However, all important decisions (e.g. tariff setting, finding additional operators etc) are ultimately made by the shareholders local municipalities. After 5 years and depending on the decision of each shareholder municipality a certain part of the infrastructure may be converted back to the property of local governments. The latter can then decide about different service provision models (e.g. finding operator through the public procurement process or operating the service on its own).

¹¹⁸ Stating the rules for private legal actors nominated the special status or sole role in a specific sector market.

¹¹⁹ Interviews; Principles of Funding Water Infrastructure Projects from the State and the Cohesion Fund (October 2007)

http://portaal.ell.ee/orb.aw/class=file/action=preview/id=12108/Veeinfrastruktuuri+rahastamise+phimtted_31.10.07AU.pdf

¹²⁰ Act for Steering Monopolies-draft bill

(http://www.riigikogu.ee/?page=en_vaade&op=ems&eid=790420&u=20100305111029).

current project beneficiaries) and setting the rates of reasonable profitability that can be calculated into the service provision costs. This should better regulate the universal access of consumers to these services and decrease the risks of inequality in the tariffs according to the jurisdiction areas of local governments.

7.3. Project description

According to the project application the main goal of the project is to enable municipalities of the project area (altogether 28 municipalities in five counties) to achieve compliance with relevant Estonian and EC environmental law.¹²¹ The overall objective will be achieved by attaining the two following specific objectives:

1. to improve and guarantee the supply of high quality potable water in municipalities that are located in the project area;
2. to control and minimise of wastewater pollution loads within and originating from the project area.

The main problem in the project area is poor condition of the water and waste water systems and still poor access to central public water supply and public sewerage system (on average 60-75% of the population concerned, in some settlements below 50%). There are also problems with drinking water quality in the project area. Most problematic is high content of iron and fluoride. Water network is mostly in poor condition and 10-40 years old, constructed of cast iron, iron and plastic pipes. There is no water treatment in most of the participating settlements. Existing waste water treatment plants (WWTP) have different problems-low treatment efficiency, poor condition or missing post-treatment (bio ponds), missing sludge treatment, over- or under dimensioned WWTPs for present hydraulic load etc. Implementation of the project helps to improve water and wastewater management in the region and gain two main priorities:

- construction and reconstruction of water treatment systems and networks gives to population possibility to consume high quality drinking water, allows better and rational use of water resources;
- construction and reconstruction of sewage treatment systems and networks helps to reduce overall pollution load, minimize health risks, decrease load of infiltration water in sewerage system and protect groundwater resources and surface water bodies.

The ultimate beneficiaries of the project are inhabitants of the included settlements (28 municipalities) who will get an access to high quality water supply and waste water treatment systems. In that sense the project is targeted to all citizens concerned (who live in the area) and the objective is to provide to 95% of the inhabitants of the villages and areas of Emajõe and Võhandu catchment area an access to qualitative water and sewage systems (average rate 60-75% before the project). The project is a group of projects and therefore it covers following sub-project areas:

- Project 1 (managed by Ltd Emajõe Veevärk) covers 22 municipalities - 18 in Tartu County, 3 in Jõgeva County and 1 in Ida-Viru County (149 006 inhabitants in 2010);
- Project 2 (managed by Ltd Põlva Vesi) covers 4 municipalities of the Põlva County (43 853 inhabitants in 2010);

¹²¹ Estonian Policy on Raw Sewage Discharges, Water Framework Directive 2000/60/EC, Urban Waste water Directive 91/271/EC, Directives 80/778/EEC, 98/83/EC and 75/440/EEC on drinking water and drinking water sources and the Trans-Border Water Bodies Convention and HELCOM Recommendations.

- Project 3 (managed by Ltd Võru Vesi) covers 2 municipalities in the Võru County (8 800 inhabitants in 2010).

Figure 11: Map of the project area



Source: Project fiches

Actually, the application does not explicitly indicate neither the exact number of the affected people (it only gives estimation of the proportion) nor the future service area which actually questions the whole value of the cost-benefit analysis of the project. There is a threat that the actual connection rate after the completion of the project may be much smaller as the connections will be drawn until to the border of the private properties and the connection fee (approximately EUR 640) must be covered by the households themselves in order to benefit from the service. However, the latter may be too high for several households. One option for completing the target is not to levy additional connection fee from the households after the completion of the construction works. This will be the decision of affected municipalities and water enterprises after the completion of the project (estimated in 2011). Indeed, currently the sub-projects do not levy additional connection fees, however it was clear from the interviews that this situation will only last for some time and will probably be changed in the future (after 2010). Project managers as well as representatives from the Environmental Investment Centre (EIC, acting as Implementing Agency for the CF) are also quite optimistic about the actual number of final beneficiaries (including the current ones who will benefit from the reconstruction works as well as new clients and the number of those groups who will have a *possibility* to join after the project has been completed). Even though final conclusions can be made only after the project has ended in 2011 currently no serious risk of refraining from initial target for beneficiaries has been envisaged by interviewed authorities and project managers.

The project includes renovating or drilling new wells where drinking water does not comply with standard and building and reconstruction of outdated water and waste water networks. The project consists of three specific sub-projects: 1) In Emajõe sub-project building and reconstructing 166 km water supply network, 208 km sewer pipe, 54 drill wells, 29 drinking water treatment stations, 67 water tanks, 58 waste water pumps and 33 sewage plants; 2) In Põlva sub-project building and reconstructing 39 km water supply network, 61 km sewer pipe, 7 drill wells, 2 drinking water treatment stations, 2 water tanks, 9 waste water pumps and 7 sewage plants; 3) In Võru sub-project building and reconstructing 33 km water pipe,

38 km waste water pipe, 1 drill well, 1 drinking water treatment station, 2 water tanks, 1 waste water pump and 1 sewage plant.¹²²

7.4. Specific aspects of SG(E)I affected by the project

Environment is clearly one of the areas subject to SG(E)I discussion. Providing the population an access to clean drinking water as well as waste water system is inevitable, stated in many EU Directives as well as Estonian national laws.¹²³ Environmental infrastructure construction has been also one of the most important areas for local governments in Estonia, especially in most remote areas like also addressed in Emajõe and Võhandu Catchment area project. As with many other CF water management projects the following specific aspect/objectives of SG(E)I will therefore be realised and enhanced with this particular project:

- **Territorial accessibility:** the project area covers parts of Estonia where due to the low density of population and therefore extremely investment intensive service provision needs the previous drinking and waste water network was missing or very defective. In some settlements in the included sub-projects less than 50% of population had an access to the water and waste water networks. This CF investment clearly is an enormous benefit for increasing the territorial access to water services and providing quality of life to inhabitants located in the project area (altogether affecting directly or indirectly approximately 202 000 inhabitants i.e. over 15% of Estonian population).¹²⁴
- **Service continuity:** low quality and defective systems will be reconstructed, pollution risks limited and new connections to further settlements established. Supplying more inhabitants with water and sewerage services and guaranteeing the service continuity by proper reconstructions of water and waste water treatment systems also helps to improve environmental quality and whole quality of life in the project area.
- **Social accessibility and affordability:** the expansion of the access to high quality drinking water systems as well as waste water and sewerage networks requires large investments and further operation costs which inevitably affects the price of provision of these services. According to the views of the project managers affordable and reasonable tariffs can be set due to the expansion of the infrastructure as a result of the large scale CF investment. As Public Water Supply and Sewerage Act¹²⁵ prohibits the discrimination of service clients in setting tariffs, local governments and water utility companies are not envisaging measures for price subsidies for more disadvantageous groups in this particular service. Rather local government social support schemes will be used in order to prevent less advantageous groups from retaining from the access to the service and therefore distorting the overall objectives of the investments.
- **Efficiency and effectiveness of service provision:** this is enabled by expanding the necessary infrastructure and therefore capturing the benefits of "economies of scale". Moreover, further operation of the water services will be more efficient and the service provision effective when the client base increases, large amortisation costs are reduced and new systems established. This is also facilitated by the current set up in water provision services where local governments are grouped together in holding shares and

¹²² See also EIC <http://www.kik.ee/?op=body&id=41&art=66>.

¹²³ After the implementation of the project, compliance with directive 98/83/EC Water Intended for Human Consumption, will be achieved by the fact that a lot of inhabitants will have access to high quality public freshwater supply services. Compliance with Urban Waste Water Directive 91/271/EC and Estonian Requirements for Waste Water Discharged into Water Bodies or into Soil will be achieved by increasing number of population provided with sewerage services.

¹²⁴ Participating local governments cover over 10% of the total surface area of Estonia which impacts the overall condition of Lake Peipsi sub-basin of approximately 10 000 km² i.e. over 20% of Estonian surface area.

¹²⁵ Art. 14 (4)

cooperating in a water utility company¹²⁶ which has the following effects on overall sustainability of water and wastewater operations in the region:

- overall decrease of operational expenses as one company has considerably smaller overhead expenses;
- increased efficiency in using equipment, due to fact that company has better opportunity to use equipment (as it has wider operational territory and higher number of clients);
- uniformed standards of service and environmental protection can be put in place and centralized monitoring of those standards can be implemented. Smaller companies have no capability for this kind of regulation;
- quality of the drinking water due to the fulfilment of the requirements set with the EU and national level regulations. Additional supplying of inhabitants with public water supply provides good quality of drinking water to the population unsupplied in present time. Waste water services and application of drinking water purification (removal of iron, stabilisation) should lead to an overall improvement of health and environmental protection;
- extension of sewer and purification service, preservation of natural water resources, protection of water bodies and the improvement of environmental parameters. Project will result in reduced pollution loads into River Emajõgi and River Võhandu and conserve freshwater reserves due to reduced leakage.

In short, the expected result of the project is to provide 95% of inhabitants of the Project area an access to high quality water and sewage systems; reduce water losses (5-10%); avoid that the polluted waste water will damage the surface water, surface and ground water and avoid that the infiltration water will damage the sewage systems (on average expected achievement rate 10%). Longer term results and impacts of the project according to the summary of its socio-economic impact analysis refer to the increase in overall life quality of population, decreasing difference between life quality of rural and urban areas which reduces migration of population from rural areas to towns and improvement of the quality of environment for the entrepreneurship which means increase in the number of workplaces and decrease in unemployment. Therefore, this clearly emphasises the aspects of SG(E)I, mainly universal access to services and quality of life along with the overall territorial and social cohesion.

However, the achievement of the targets and anticipated impacts with the help of CF in this SG(E)I may be problematic due to several shortcomings in the preparation of involved large scale sub-projects as well as in their implementation and governance. For example, due to the increases in construction works prices during last years many participating municipalities have faced difficulties in order to cover their own financing (10% for local governments) in the project as well as the project management expenses.¹²⁷ Overall

¹²⁶ This general framework for water management was established exactly due to the CF investment possibilities, see also Section 7.2.

¹²⁷ Increase in construction works prices seriously halted the implementation of the project and water management projects in general. Ministry of Environment estimated that planned CF investments almost doubled due to the economic boost and rapid increase in prices in 2005-2007 and this increased the need to find proper measures for dealing with the situation by the state and local governments. Current project also faced increase in prices by approx. EUR 1.1 million. Therefore, many initially planned investment plans had to be reconsidered (at the same time not seriously hindering the set targets), several procurement procedures cancelled and implemented in smaller parts. The latter is actually favoured approach by the Ministry of Environment as it enables to facilitate competition by allowing also smaller construction companies to take part in the procurement process and activate local economic situation (Principles of Funding Water Infrastructure Projects from the State and the Cohesion Fund (October 2007). Strategic decisions taken by the state as well as the overall economic crisis which

economic crisis and the worsened situation of households may strongly influence the degree of actual access to these services in the future. Therefore, correct management decisions should be made in order to fully consider the obstacles and achieve the anticipated results of the project.

However, it is still clear that the contribution of the SF and in this case the CF has made possible the financing and the implementation of the project. All project participants at the national, local and practical level are quite convinced that investments of this kind would have not been possible without the CF support. This would have meant real distortions for complying with necessary EU Directives. What is more important, it would have seriously halted the provision of universal access to this service (drinking water, waste water treatment) to a large amount of people.¹²⁸

7.5. Governance aspects

While developing CF water management projects, the principle of hydro graphic basins and sub-basins is considered, according to which it is viable to develop projects in a group. That is why several water-related cooperation projects of local governments have been initiated, including the current one, in collaboration with the Ministry of Environment, the Ministry of Finance and the EIC. In all 2004-2006 CF water management projects in Estonia participating municipalities have decided to rely in their region upon a single water utility company that would deploy sufficient resources to implement the project and furthermore manage the infrastructures in a sustainable way after the project is completed. For this purpose, respective Shareholders' Agreements have been concluded in June 2004 for this project as well.¹²⁹

has considerably lowered the construction prices have still enabled to carry out most necessary investments as envisaged in the project and its sub-projects.

¹²⁸ To some records more than 30% of overall Estonian population suffered from low quality drinking water and the lack of sewerage before CF investments were prepared in 2004. In larger settlements the standards have been mostly fulfilled, however, bigger problems were related with smaller towns and rural areas. See also <http://www.postimees.ee/160304/esileht/129155.php>.

¹²⁹ Key points of the Shareholders Agreements are:

- (a) All participating municipalities will become shareholders of the company. The company's shares will belong only to municipalities and no third party, including private funding, is involved as shareholder.
- (b) The shareholders of the company will raise capital to cover 10% of the total project investment as co-financing. As a general rule, each municipality will pay for its shares according to the volume of planned investment on its territory. Regarding the rest of the investment, it is expected that up to 85% of the project will be financed by Cohesion Fund through National Fund and the remaining amount (minimum 5%) will be financed by the State.
- (c) The company concludes with the State a co-financing and project management agreement that governs financing of the project by the company (10% + VAT) and the State (Cohesion Fund expected 85% + state's own resources 5%), public tenders, provisions on company's liability before the State, rules on monitoring, reporting and supervision etc.
- (d) The company will act as the beneficiary for the municipalities and will commission all the works, pay VAT and seek recovery of VAT.
- (e) The company will acquire, as in-kind contribution to the company's share capital, all water and waste water infrastructures in the project area that currently belong to the municipalities or their subsidiaries. This is to achieve a situation where all new or reconstructed infrastructure that will be funded by Cohesion Fund as well as other existing infrastructure that have been already renovated would form together coherent networks that belong to the company. It will eliminate risks of shared ownership and fee sharing disputes and will contribute to sustainable and transparent management and pricing.
- (f) The Company's main activities are maintenance of infrastructure and selling water and wastewater services for private and institutional clients in the project area. Pursuant to Estonian law, each municipality has to appoint an operator who renders water and wastewater services through a public competition. In case the company will not win the public competition, it is obliged to rent its infrastructure to the operator and collect respective fee.
- (g) The Shareholders Agreement regulates all price calculation mechanisms and implementation of prices, both for (a) instance when the company rents the infrastructure to an operator or (b) instance when the company itself renders water and wastewater services to the clients.
- (h) The Shareholders Agreement prohibits any profit distribution in any form whatsoever during next 25 years i.e. all income generated by the company will be accumulated or used to further water and wastewater investments in the municipalities.

Therefore, the main partners and direct beneficiaries (in terms of funding) of the project (and its three sub-projects) are three water utility companies in affected regions-Ltd Emajõe Veevärk, Ltd Põlva Vesi, Ltd Võru Vesi.¹³⁰ They in turn are accountable to the local governments affected by the project and acting as shareholders of these companies (28 municipalities altogether out of 46 in the project area). The government (especially Ministry of Environment and EIC) can be considered as an important partner of the project which funded all the necessary preparation work for the project application, including legal services for the establishment/organisation of water utility companies, cost-benefit analysis etc. (funded by the budget of EIC).¹³¹ Additional preliminary design projects and procurement documents for investments had to be prepared which were also funded by the state and not foreseen in the budget of the project. No technical assistance was used for this as it would have taken more time than anticipated. All in all the project as well as CF projects in general have been clearly a motivation for increased cooperation between local municipalities in Estonia as well as in the dialogue between the state and the local government level.

If to consider the triangle "the state-involved municipalities-regional water utility companies" then all have one common goal for the implementation of the project-improve both drinking water supply and wastewater treatment systems of the settlements in the catchments areas of River Emajõgi and River Võhandu in Estonia. However, each has individual interests as well. For Estonian Government (Ministry of Environment and Ministry of Finance in this case) it is essential to fulfil the responsibilities taken by the accession to the EU in environmental context namely fulfilling the necessary Directives by the time required. Therefore, it was inevitable that the government was heavily involved in the preparation process of CF applications (this is usually not the case of ERDF funding which is smaller in volume and usually implemented through open application rounds; this heavy involvement of the state in the preparation phase has also been abolished in CF projects in the period 2007-2013). Local governments are interested in building and reconstructing outdated infrastructure in order to improve the living environment and benefit from happier inhabitants and further potential investments in the region as a side result of these improvements. Both, the government and local municipalities are concerned with the principles of SG(E)I as the ultimate goal is to raise the living standards in the (remote) regions in Estonia. Water utility companies (out of which for example Ltd Emajõe Veevärk was established directly for this project) seek to broaden their coverage in providing the service in the future as well as are interested in making profits. According to the Shareholders Agreement involved water utility companies have two main functions: the implementation of the CF project and guaranteeing of the maintenance and sustainable development of the infrastructure and the service. The most important incentive scheme in the Shareholders Agreement for the water utility companies is the possibility to set the tariffs for the service which enables to generate certain profitability.¹³² However, the tariff system must be in accordance with the general requirements according to which the tariff for these services should not exceed 4-5% of the household income.¹³³ By now it is clear

¹³⁰ Ltd Emajõe Veevärk is a new stock company with 22 shareholder municipalities whereas other stock companies were expanded by admitting new shareholder municipalities: Ltd Põlva Vesi (with 4 shareholder municipalities), Ltd Võru Vesi (with 2 shareholder municipalities). Therefore, in order to fulfil the CF requirements and at the same time address the local needs this kind of public-private partnership was seen most suitable for enhancing necessary cooperation of the project area and guaranteeing a proper management of newly built and renovated systems in the future.

¹³¹ Interviews; National Audit Office of Estonia (2007) Development of waste water treatment infrastructure in rural areas by the support of the Cohesion Fund. Audit.

¹³² Act for Steering Monopolies-draft bill

(http://www.riigikogu.ee/?page=en_vaade&op=ems&eid=790420&u=20100305111029): Indicates that reasonable profitability remains between 7-8%.

¹³³ Guidelines from the EU (The New Programming Period 2007-2013. Methodological working documents. Working document no 4 "Guidance on methodology for carrying out the Cost-Benefit Analysis" CDRR-06-0006-00-

that there were several shortcomings in the cost-benefit and economic analysis of the project (also enhanced by the limitations for tariff setting induced by the Public Water Supply and Sewerage Act)¹³⁴ and the actual possibility for this profit achievement is still questionable.¹³⁵

The whole project is very strongly built around the institutional context of the SG(E)I sector involved. The project is linked to the implementation of relevant Community environmental legislation as well as national legislation (see above). The project is also in accordance with the National Environmental Strategy and National Environmental Action Plan which is a prerequisite for CF projects in Estonia. Therefore the institutional framework of the SG(E)I sector involved in the project did influence the project design and its realisation to date to an utmost extent and was the main motive and impetus for developing such a large scale (involving 28 municipalities) and in many aspects exceptional project in Estonian environmental sector.

7.6. Universality of access and affordability

Universality of access

The main focus of the project is to provide high quality and acceptable service for the population affected by the project territory universally. One basic aim of this large scale environmental investment project is therefore to reduce the disparities in the access to the services between population living in urban and rural regions in Estonia which is explicitly also mentioned in SPD 2004-2006 and Reference framework for the Cohesion Fund 2004-2006 in the environment sector as well as in NSRF 2007-2013. In urban areas in Estonia the consumption of water is higher and the amount of investments directed to the necessary infrastructure has been quite remarkable during the recent years. The situation is completely different in sparsely inhabited rural regions like mostly covered by the current project. As entire drinking water supply of target region relies without exception on groundwater, the fact that an important proportion of the inhabitants do not have an access to the public sewerage system enhances the upper groundwater level pollution and the condition of River Emajõgi, River Võhandu and Lake Peipsi as well as affects the overall well being of local population. Without these investments in rural areas (most of the involved local governments are small and located in remote areas) the regional development gap in Estonia which is considerably high¹³⁶ would intensify even more.

Still, even though the objective of the project is to raise the accessibility rate to the service to 95% of all inhabitants, some problems may occur in achieving this goal. These problems refer mostly to certain degree of uncertainty in the actual management and service provision in the future (who will provide it and at what price).¹³⁷ It is quite likely that the

EN) lay down that by setting the prices of SG(E)I its impact on less advantageous groups must be considered. Wide spread principle has been that the tariffs should not be higher than 4% of the households income. According to EBRD (EBRD Working paper no. 92 May 2005, <http://www.ebrd.com/pubs/econo/wp0092.pdf>) actual costs for households for the access to drinking water and waste water systems in Estonia are among the lowest from the new member states-1-1.5% of average income of the households (see also Ministry of Environment: Principles of Funding Water Infrastructure Projects from the State and the Cohesion Fund (October 2007). However, when considering Estonian conditions applicable also to the current project area where the territory is large and density of population is extremely low, it is evident that setting even the maximum tariff for the services may not be sufficient covering the real costs of the provision of the services not to mention its huge impact on the affordability principle. Therefore, it is evident why the Ministry of Environment has been strongly supportive towards motivating local governments for cooperation through regional water enterprises which enables to provide more effective and efficient services and better address the risks with relevant tariff setting.

¹³⁴ Ultimate decision about the tariffs is still made by local government councils.

¹³⁵ Interviews; National Audit Office of Estonia (2007) Development of waste water treatment infrastructure in rural areas by the support of the Cohesion Fund. Audit.

¹³⁶ As addressed in the Estonian Regional Development Strategy 2005-2015 regional disparities in Estonia as compared in international context are remarkable in spite of the smallness of the country.

¹³⁷ The intention of most of the local governments involved in this project has been to overtake the operation of the infrastructure after the compulsory CF 5 year requirement (National Audit Office of Estonia; Interviews). This

actual service provision costs will be much higher than anticipated which cannot be fully covered by the user tariffs (although principle of affordability sets certain limits). This will mean that the public sector has to find additional resources for subsidising the provision of service in order to guarantee the sufficient level of service users.

However, the project has not yet finished (even though a large amount of procurement processes have been conducted-over 87 contracts have been signed for construction and other works and 58% of the payments had been made by the end of 2009¹³⁸) and project managers are not very pessimistic about the possible flaws in expected and estimated service accessibility. Most of the project participants are convinced that the project still clearly demonstrates how strongly SF (in this case CF) support helps to ensure citizens easier access to universal services with SG(E)I elements. Environmental infrastructure construction has been one of the most important areas for local governments in Estonia, especially in most remote areas. The decisions how to define necessary infrastructure projects have been the subject to intensive consultations between the government and the local level and not always has the result been the best one for all parties. Also this project could have not happened without the CF support as well as the proactive behaviour of the government in the preparation phase. It can be assumed that even though there have been shortcomings in the implementation of the project (increase in costs of construction works as well as project management, flaws in the economic analysis etc.) this investment helps to solve a great deal of the environmental issues in Estonia in terms of complying with necessary EU and national regulations and addressing the basic principles of SG(E)I.

Affordability

Public Water Supply and Sewerage Act in Estonia determines the tariff setting for drinking water and waste water services. In accordance with this tariffs for the services are set by local governments (decision of local councils), however, if the infrastructure is managed and operated by the water utility company owned 100% by shareholders municipalities, the proposal for tariffs may come from the water utility company. Still, the latter cannot actually control the tariff setting. According to the views of water companies this may cause many difficulties for setting the price for the service to be in accordance with all related costs of the provision of the service as well as enabling reasonable profitability for the water utility company.¹³⁹

In conformance with the Public Water Supply and Sewerage Act this case study water management project in Estonia set the general principles for the tariffs during the project preparation phase. However, the analysis by the National Audit Office of Estonia conducted in 2007 (see also below) reveals that due to the low quality of input data in cost-benefit analysis the actual operation costs cannot be covered with estimated tariff prices as some important elements were not included in the calculations. In order to maintain initially planned service tariffs after the completion of the project would therefore still require additional subsidies from the public sector when local governments are not willing to raise the price level (which in turn will be a risk for increasing the access to services).¹⁴⁰ Project

is seen as one of the threats of the sustainability of these investment projects inhibiting the long-term planning of the provision of the service and its completeness. Project managers are still positive that the current set-up for the service provision will continue and will not be abolished by the local governments. For example, on the contrary what was afraid at the beginning, Ltd Emajõe Veevärk has been able to attract interest of more municipalities to be "merged" in the water service provision (Interviews).

¹³⁸ Interviews.

¹³⁹ Especially difficult has been fair price setting attempts in Emajõe sub-project where 22 local authorities are involved. Surprisingly, exactly this sub-project is in the agreement process with its shareholders to set up an uniform tariff system for the provided services in 2010 (Interviews).

¹⁴⁰ Ministry of Environment is also quite sceptical in this issue (Principles of Funding Water Infrastructure Projects from the State and the Cohesion Fund (October 2007)). As seen above and also indicated by the interviews municipalities are not willing to increase drinking water and sewerage services prices which considerably threatens the sustainability of the water infrastructure (not covering amortisation costs). Therefore, Ministry of Environment

managers see the unwillingness of the local governments to optimise the tariffs in order to be able to provide high quality services as a short-sighted strategy which would ultimately threaten the sustainability of the CF investment and the quality of the service. Indeed, having the infrastructure but not the necessary or adequate means and resources to manage, operate and maintain it in a good condition would be rather a useless allocation of EU resources.

Moreover, so far in all sub-projects tariffs differ between regions (local governments) and consumers even within one sub-project. Municipalities have not been willing to set uniform tariffs as the price of the service is dependent on several local conditions (territory, density of population) which can be considerably different between involved local municipalities. Therefore, setting uniform tariffs would mean that some local governments inevitably will subsidise others. On the other hand water utility companies would like to see uniform tariff setting as rather necessary for easing the calculation of prices, avoiding possible disputes over new connecting municipalities as well as helping to avoid the situation where in some municipalities the actual price calculation would mean such high tariffs that it seriously affects the affordability of households in that area.

Overall, tariff setting for the particular infrastructure investment project is still under process and needs deliberation by included 28 municipalities. It is evident by now that set tariffs will be higher than were planned several years ago. As mentioned above, for the protection of consumers there is a draft bill in the parliament addressing the regulation of universal services monopolies aiming among others to move the price setting control of 52 larger water companies under the responsibility of Estonian Competition Agency. This should guarantee that universal access to services will be followed and no groups will be discriminated by too high service prices. However, it is not yet known, whether the bill will be ratified in the parliament.

Therefore, setting uniform and affordable tariffs for the provision of these water services in targeted regions has seen many difficulties emanating also from the inadequate initial planning and is not a complete process yet. It can still be concluded and is also strongly emphasised by the affected parties that without the CF support the situation in targeted regions considering the particular SG(E)I aspects would have been intolerable. In that sense the CF support has played an invaluable role not only in this project but in water management projects in Estonia in general.

7.7. Thematic focus

The project is strongly related to providing a possibility for high quality services to inhabitants in remote areas. The project is hoped to come to fruition so as to improve the quality of life and environment for the people in involved districts and to create opportunities for the development of local enterprises. River basins around which the project area has been formed (Emajõe catchment area, Võhandu catchment area) cover approximately 11 000 km². Affected 28 municipalities form over 10% of the total surface area of Estonia. Many of the participating municipalities in this large scale project remain below 2 000 inhabitants and uniformly almost all face low density of population (in 18 involved municipalities less than 20 inhabitants live in a km² and in six this number is 10 or less) which complicates (also makes it more expensive) the provision of drinking water and waste water system network services.

The project has been considered as an unusual and extraordinary project among funded CF water management projects in Estonia because of its volume as well as slight deviation from the requirements to follow one river basin area. Indeed, some exceptions were made here, namely, investments are not only being made in Lake Peipsi sub-basin (Emajõe and

estimates that the state has to support and subsidise the provision of this SG(E)I in local governments at least yet another 6-7 years.

Võhandu) as described in the Reference framework for the Cohesion Fund 2004-2006 in the environment sector but also in some municipalities belonging to the Võrtsjärve sub-basin.¹⁴¹ This represents an example of large scale coordination by the government as well as lobby from the part of municipalities to enable necessary investments in areas in need which in any other case would not have been able to form a group and fulfil the CF project funding minimum limit (EUR 10 million). Interviewed representatives of the project are convinced that 2004-2006 CF investment period was exactly right timing for this project as it would probably not have been selected for funding in the new period where the management rules of CF have been considerably changed. However, as seen from its preparation phase it is very difficult to coordinate a large amount of municipalities and motivate them to cooperate. As the state is not so to say intensively "holding hands" of the applicants anymore in the new CF period it would be questionable whether same investments would have been made by local municipalities without this kind of large scale and strongly supported cooperation.

Altogether, the initial project application is positive by predicting that this way of planning the project and coordinating investments in five counties should improve the economical situation in project area. Establishing proper water and waste water infrastructure allows considerable increase in tourism in rural areas and increase in employment. As a result the GDP in affected regions will increase. In line with GDP increase, tax revenues of local municipalities and the state will increase (as a result of increased employment). Decrease in sewage treatment costs as envisaged by the cost-benefit analysis and increase in operational cash flow of local water enterprises has also been envisaged. However, it is still too early to make conclusions about these long term impacts of the project and probably initial planning has been too positive considering many complications that have emerged during the implementation of the project (like fluctuations in the economy affecting construction prices, reconsideration of construction plans, time lags, coordination problems etc.). Even though the exact socio-economic benefits may not emerge in the scale as anticipated it is clear that the impact of the project in affected areas out of which most are considered among the least developed ones in Estonia (except Tartu county)¹⁴² has still been priceless if to consider the volume of the investments and the possibility for the expansion of SG(E)I.

In addition, even though cross-border cooperation is not exactly addressed by the project, it is still indirectly affected. Both River Emajõgi and River Võhandu flow into Lake Peipsi. Lake Peipsi is subject to Convention of Protection and Use of Transboundary Watercourses and International Lake and therefore its catchment area is treated as a sensitive area. Pollution loads into it are therefore subject of bilateral agreement between Estonia and Russian Federation.

Aging population is not a topic which represents a relevant dimension for the project analysed.

The following map presents local governments participating in the project in the project area where Lake Peipsi sub-basin border has been given (light blue line), towns participating in the project (marked with red), rural municipalities (marked with dark blue) as well as municipalities who were left out or retained from the project (marked with light blue).

¹⁴¹ Both still belong to the large East-Estonia hydrographic basin and therefore the project remains into the territory of one hydrographic basin. Fulfilling the objectives of the project therefore helps to improve the ecological condition of two of the largest lakes in Estonia (Lake Peipsi and Võrtsjärve).

¹⁴² Estonian Regional Development Strategy 2005-2015.

Regional Development Strategy 2005-2015 and its updates in statistics¹⁴⁴ Põlva and Jõgeva county for example have demonstrated the smallest average net income of households as well as levels of GDP for years. According to the latest study initiated by the Ministry of Internal Affairs¹⁴⁵ most of the municipalities involved in the project engage last positions according to the Estonian local government administrative capacity index which in general terms has been calculated by taking into consideration territory and population, density of population, strength of the economic situation and variability of economic structure, well being of inhabitants, financial capacity of the local government, its administrative strength and volume and quality of public services.

At the same time the project is directed to large investments towards improving one of the very important universal services in the area concerned-the drinking water and waste water networks-playing a remarkable role for the overall development of the project area. This is not only because of the EU requirements imposed on Estonia but most of all in order to provide inhabitants of these rural and in many cases remote border areas equally access to high quality services necessary for quality of life and well being as well as for the boost of the economic development of the area. In this way the project should also be considered together with the future investments in the project area (as many local governments in the area still need to make huge investments in their outdated water infrastructures). Over the next years (2007-2013) Estonia is receiving more than EUR 3.3 billion in EU funding (ERDF and ESF), with EUR 1.6 billion being allocated to the development of the living environment. The most important sphere of activity, and financially the largest at approximately EUR 0.45 billion, is water. For example, by now it is known that also Ltd Põlva Vesi and Võru Vesi are participating and applying for further investments in the new period of CF funding in Estonia in order to broaden the access to high quality water service infrastructures in their operative areas.

As explained above, the common approach promoted by the Ministry of Environment for the implementation of CF projects and now dominating in the local water management is the provision of services as well as organising necessary investments and maintenance of the infrastructure through regional water utility companies. This arrangement has been directly influenced by the EU Cohesion Policy. Moreover, the state has taken quite a large role in coordinating and supporting the applicants in every stage of the preparation as well as in implementation of the large CF infrastructure projects. Due to this local governments in this project as well as in general have certainly learned to cooperate more in the provision of important services to their citizens. Project participants (especially from the state level) are convinced that although being initially "voluntarily enforced" into cooperation to fulfil the funding requirements (minimum required size EUR 10 million per project), this experience has been positive for building more cooperative way of thinking among local governments in Estonia as well as enhanced the understanding of the importance of SG(E)I and the role of effectiveness and efficiency in its provision.¹⁴⁶ Local governments in Estonia are small and in some terms not even comparable to villages in some other member states. They are not having sufficient administrative and financial capacity, are not used to cooperate in the provision of public services and are often with conflicting views. As the heritage from the past this kind of culture has been resulting in many ineffective investments or in no necessary investments at all in many important SG(E)I areas. In that sense it may be said that in the project and in coordinating the water management in Estonia the state level has acted reasonably in supporting the local

¹⁴⁴ Mid-term review of the monitoring data of Estonian Regional Development Strategy 2005-2015 (<http://www.siseministerium.ee/5370/>).

¹⁴⁵ Geomedia (2009) Index of Evaluation of Local Government Administrative and Financial Capacity and Analysis (<http://www.siseministerium.ee/haldussuutlikkus/>).

¹⁴⁶ Interviews.

governments and pushing them towards cooperation in water service provision which is definitely one of the key elements in further regional development issues in Estonia.

In 2007 the National Audit Office of Estonia investigated CF supported water management projects in Estonia which also included River Emajõgi and River Võhandu Catchment Area Water Management project.¹⁴⁷ This audit found several shortcomings in many aspects, especially referring to the poor preparation of the project applications and technical solutions, cost-benefit analysis and doubts in achieving the results and impacts of the projects and guaranteeing their sustainability (especially due to the possibility that local governments can abolish the delegated service provision system through regional water utility companies after the 5 year compulsory period prescribed by the CF rules). In spite of addressed shortcomings the audit acknowledges the comprehensive support by the government in initiating and enhancing the implementation of these water management projects including the current one in the light of lack of experiences, tight schedule and with so many cooperation partners with few resources and no motivation to truly cooperate. Therefore, the state itself has learned a lot in "holding hands" of these water management projects especially targeted to poorly-developed rural and remote areas of Estonia. The difficulties handled through the operation of this project have been also beneficial in order to learn to be able to avoid weaknesses in similar projects in the future. This is already evident from the reorganised management of the CF support in 2007-2013 which has considerably changed the rules for CF. In 2007-2013 the open CF application round pressures the municipalities to prepare high quality applications from the beginning (and without such a large scale support by the government as was offered in 2004-2006 CF projects) as well as set the focus to most critical needs in the area. As 2004-2006 water management projects including the one under investigation have raised some doubts about their actual sustainability (price setting and tariff equalisation)¹⁴⁸ now more attention is given to the cost-effectiveness of the projects. This in turn should enforce the applicants to foster more competition on their own in making investments (through strategic decisions for carrying out procurements) as well as to be more responsible in the price setting process of the services in order to guarantee the sustainability of these important SG(E)I projects.

This case also clearly represents the example where the European regional policy essentially intervenes with respect to infrastructures necessary for the service provision under investigation. Firstly, even though all those missions of general interest are generally laid down by national, regional and/or local authorities, they now also depend on the legal framework of the EU, especially those stemming from sectoral and horizontal directives (directives and national regulations for the water management sector as described above). Secondly, as stated by the overview of the thematic issues of the SG(E)I in this study,¹⁴⁹ targets of regional and social cohesion set that entire areas cannot be left without the basic services on which modern economic and social life depends as well as lag behind the level of activity and living standards in the rest of the country. This idea is strongly built in the objectives of this case study project as well. This large scale investment already has and certainly will have a strong contribution in extending the scope of this SG(E)I provision in targeted areas and reinforcing social and territorial cohesion. This support will thus per se have a positive effect on the evolution and extension of water services offered. It has been clear from the beginning that without such CF support, the territorial differentiation in availability, price and quality of water services in directed remote areas of Estonia would be almost impossible to overcome. As evident from the reasoning of the EU regional policy remote regions are less attractive to commercial operators in a number of sectors. Due to

¹⁴⁷ National Audit Office of Estonia (2007) Development of waste water treatment infrastructure in rural areas by the support of the Cohesion Fund. Audit.

¹⁴⁸ National Audit Office of Estonia <http://www.riigikontroll.ee/>.

¹⁴⁹ See methodology part of this study.

specific constraints and the low population density, making investments and ensuring the maintenance of existing basic infrastructure, or seeing to its upgrading, is rarely profitable as the Estonian past experience clearly indicates. To counter market failures, there is thus a need for subsidies for infrastructure in these services in such areas, both from national governments and through the EU regional policy to achieve the goal reducing disparities set out in Article 158 of the Treaty of Amsterdam.¹⁵⁰ By means of CF the possibility of “tariff equalisation” that takes into account the service’s financial equilibrium, contributes strongly to the possibility of the provision of the service at an affordable cost for those users targeted by the project (and largely situated in more remote, peripheral or sparsely populated areas of Estonia).

This project has certainly been one of the good ones for “learning lessons” as also stated by the participants in this project. From its beginning it proposed huge challenges for the administration and coordination of large amount of cooperating municipalities each at the same time with its own distinct requirements. Slightly exceptional structure and composition of the project area in terms of hydro graphic basins, lack of knowledge and prevailing old habits in the provision of this SG(E)I in many local governments hindered the project development at the beginning. Important changes that had to be made in the project due to the poor quality of the initial application and project documents, economic boost increasing enormously the prices for construction during 2005-2007 etc. all challenged the actual implementation of the project. Still, the set targets have to be met and investments made and in spite of many difficulties the project participants are still optimistic about the potential final results and future impacts of the project. However, final conclusions whether it shows the impacts envisaged for the project area (socio-economic development), can be made only after 2010 when the project has been completed.

All in all, although it is still too early to make final conclusions about the actual success made by the project in enhancing and expanding one of the most important SG(E)I areas (water and waste water management), it is evident that this project represents one of the important regional development projects in Estonia. It will help to solve huge water service provision problems of many settlements and therefore bring along the positive aspects of SG(E)I as envisaged by the EU. It has also been a good learning platform for future planning of large infrastructure projects and for involved local governments to understand more closely their role and responsibility in the effective and qualitative provision of these services as well as the importance of future cooperation and planning activities.

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- Andres Aruhein, Member of the Board, Ltd Emajõe Veevärk.
- Eduard Sizov, Project Coordinator (Emajõe sub-project), Environmental Investment Centre.
- Former high level administrator of Ministry of Environment (wished to remain anonymous).
- Kai Helm, Project Coordinator (Võru and Põlva sub-project), Environmental Investment Centre.

¹⁵⁰ See also methodology part of the study.

- Karin Nagel, Financial Manager (Project Contact Person), Ltd Võru Vesi.
- Katre Illak, Development Manager (Project Contact Person), Ltd Emajõe Veevärk.
- Kristo Kivisaar, Development Manager (Project Contact Person), Ltd Põlva Vesi.

8. Finland. Renovation and enlargement of the Kuusamo airport

Author: Gelsomina Catalano
CSIL, Centre for Industrial Studies

8.0. Background information

a) Country	Finland
b) Region	Northern Ostrobothnia Region-Sub regions: North Country-City: Kuusamo
c) Full Project Title	Renovation and enlargement of the Kuusamo airport
d) Duration	1.4.2008 - 31.11.2009
e) Programme	Northern Finland Operational Programme 2007-2013-Priority 3 Regional accessibility and operational environments
f) Total Cost	EUR 7 700 000
g) EU Contribution	ERDF 23.0%
h) National and Local Contribution	National: 15.7% Local: 4.5% - Finavia: 56.8%
i) Private Contribution	0%
j) Sector	Transport
k) Sub-Sector	Airport
l) Beneficiary	Finavia - public company
m) Implementing body	Finavia- public company

8.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The provision of services of general interest is widely addressed in the Finland National Strategic Framework. NSRF SWOT analysis shows that long distances within the country and to other countries, cold climate and sparsely populated areas, sensitive environment, ageing of the population and regional differences in its impact, uneven regional distribution of expertise and innovation are among the main weaknesses affecting the country. Accordingly the document specifically states that Finland's businesses need increased expertise, well-functioning transport services and international connections, clean environment and efficient service structure, by taking into account the special needs of sparsely populated areas. Setting the focus areas guiding the use of the Structural Funds and of the national resources in all the ERDF and ESF Operational Programmes¹⁵¹, the NSRF reflects the importance of the provision of SG(E)I to strength national and regional competitiveness. Among the four focus areas identified, the area "Improving regional accessibility and the operating environment" specifically addresses the need for efficient and social sustainable transport connections that is the focus of this case study. In particular, the provision of transport services is considered to be a key factor for fostering business competition in eastern and northern Finland (especially tourism), where the geographical distance with regard to European and global main markets is a permanent disadvantage¹⁵². Good public transport connections, with specific reference to the Helsinki Metropolitan area and the Tampere and Vaasa areas, are also addressed by the separate priority for major urban area development included in the ERDF operational programmes for southern and eastern Finland. The aim of this urban dimension, that is missing in the

¹⁵¹ The strategic priorities of the Finnish NSRF are implemented through seven operational programmes: five regional programmes for Eastern Finland (Phasing-in), Northern Finland, Western Finland, Southern Finland and the Åland Islands co financed by the ERDF, and two thematic programmes for mainland Finland and the Åland Islands co financed by the ESF. Eastern and Northern Finland regions benefit from a special allocation from the European Regional Development Fund given the very sparse population. A special sparsely populated area contribution of EUR 35 per inhabitant per year, or EUR 359 million over the entire programme period (EUR 186 million for eastern Finland and EUR 173 million for northern Finland).

¹⁵² "Efficient transport connections are needed both to improve the business environment and to safeguard services. Development of transport services support the functioning of other services, accessibility and logistical efficiency. In particular the remote location of eastern and northern Finland with regard to European and global main markets and long distances within Finland itself are considered to be a permanent disadvantage", National Strategic Reference Framework.

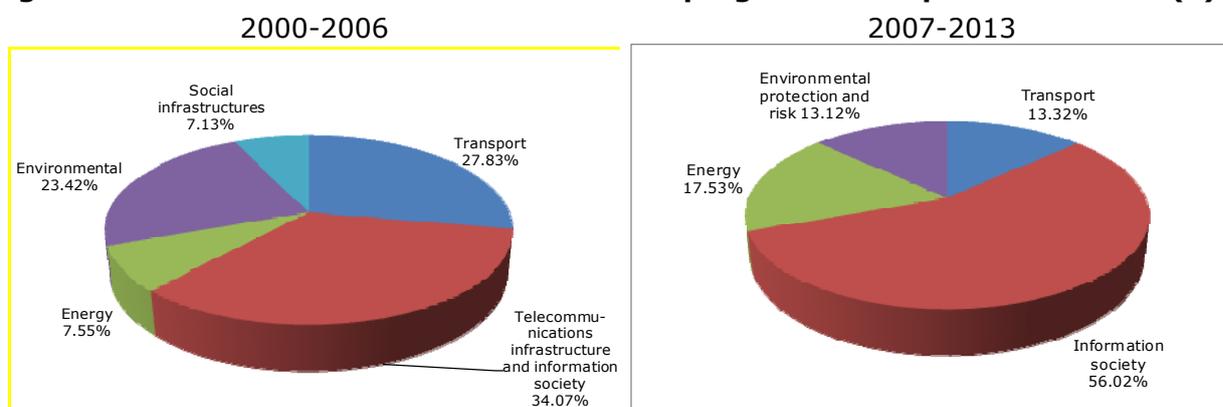
programmes for eastern and northern Finland¹⁵³, is to promote an increased use of more environmentally friendly modes of transport.

The use of the Structural Funds in the provision of SG(E)I is also recognised by the National strategic document, when it states that the allocation of the national and European resources should be oriented to reduce the distance between the sparsely populated areas and the urban areas, in terms of basic services and expansion of business activities. What is needed is to enhance networking and improving interactions between towns and countryside, in order to avoid a depopulation of the rural areas in favour of the urban ones. The role of the Structural Funds in improving the provision of services of general interest, especially in remote areas, is widely recognised also by the Finnish administration. What has been further stressed during the interviews is that the approach in the use of the Structural Funds in the provision of services of general interest has been changed over the last years. Since 1995, the attention has moved from financing health and education infrastructures to transport and innovation ones. This is confirmed by the adoption of an approach more competitiveness oriented, which requires the overcoming of the geographical weakness of Finland, represented by the long distances from the main European markets and within the country itself.

As shown by the figure below, even if the ERDF support allocated to Finland has been reduced of about 26% with respect to the previous programming period, the percentage of the ERDF contribution remains still higher for the transport and telecommunications sector, in compliance with the strategy deployed under the national strategy framework, and confirmed by the Finnish administration.

On a total of EUR 256.22 million allocated to finance SGI in Finland, under the Regional Competitiveness and Employment objective, the 13.32% have been addressed to finance transport infrastructure (against the 27.83% of the previous programming period). However telecommunications remains the sector receiving the largest share of the European contribution.

Figure 13: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

8.2. National framework in the provision of SG(E)I

Finnish Government sets the long-term guidelines for transport policy in a report to be submitted to Parliament at the start of each electoral period. The report of 2007¹⁵⁴ includes

¹⁵³ Although no separate urban area development priority is incorporated in the programmes for eastern and northern Finland, urban areas will be targeted in these parts of the country in promoting a balanced regional structure, reinforcing interaction between cities and rural areas, and enhancing regional competence in accordance with the Lisbon objectives.

the Transport Infrastructure Investment Programme for the 2007-2011 period and an overall programme for long-term transport system development. As stated in this report, transport system is an important competitive factor for Finland, because of the country's extensive area and long transport distances. Accordingly, good transport connections are considered to be vital for the Country.

With regard to the focus of this case study, the basic provisions concerning aviation in Finland are contained in the Finnish Aviation Act (1242/2005) which also regulates the operation of Finnish aircraft abroad. More detailed aviation regulations complementing the Act are also issued by the public authority responsible for the aviation service.

In Finland, the responsibility for the maintenance and improvement of the public road network, the rail network and maritime and inland waterways, as well as the scheduled airport services is up to the Ministry of the Transport and Communication, which operates through state owned agencies and enterprises. The Ministry sets annual targets for the transport infrastructure agencies and enterprises, including safety, the condition of the infrastructure and the reduction and prevention of environmental damage.

As far as air transport is concerned, aviation business operations and public authority tasks were separated, at the start of 2006, in compliance with the requirements of new Constitution of Finland and the new State Enterprise Act (1185/2002). The public authority tasks of aviation become responsibility of the Finnish Civil Aviation Authority¹⁵⁵, which is part of the Ministry of Transport and Communications, while the Civil Aviation Administration, under its new operational name Finavia, continues the business operations as a state-owned- enterprise. Following the reform of January 2010 concerning the administrative organisation of the transport sector¹⁵⁶, the Finnish Civil Aviation Administration Finavia becomes a state-owned limited liability company. As a state-owned enterprise, Finavia finances and develops its operations and infrastructure from its operating income within the framework of annual operation and financial targets set by the Government.

Finavia is responsible for maintaining and developing the network of airports and Finland's air navigation system. In particular it is responsible for the maintenance of 25 airports (of which 18 civil airports, four jointly military and civilian airports and three military airports) and the development of a network of airports. Economically, Helsinki-Vantaa airport is the most profitable part of the network.

As of 1 January 2010, all the functions of the Finnish Civil Aviation Authority, established in 2006, have been transferred to the Aviation Sector of the Finnish Transport Safety Agency (TraFi), which is also in charge of regulatory issues in the fields of road traffic, railways and maritime safety.

In compliance with EU regulations, the Finnish air transport services have been gradually opened to competition. Airlines in Finland operate in competitive markets on a commercial base. Air traffic between Finland and countries outside the European Union is mainly

¹⁵⁴ Ministry of Transport and Communications, *Transport policy guidelines and transport network investment and financing programme until 2020 Government transport policy report to Parliament*, Helsinki 2008.

¹⁵⁵ The Finnish civil aviation authority conducts audits of airports and air navigation services units to ensure that their equipment and facilities are serviceable and the operations properly organised. Airport safety management systems are also audited.

¹⁵⁶ The six transport administration agencies operating under the Ministry of Transport and Communications were amalgamated into two new agencies: the Finnish Transport Agency and the Finnish Transport Safety Agency. The Finnish Transport Agency is now managing the fairway operations of the former Finnish Maritime Administration and the central administrative functions of the former Finnish Rail Administration and Finnish Road Administration. The Finnish Transport Safety Agency is now managing the functions of the former Finnish Vehicle Administration, Finnish Civil Aviation Authority and Finnish Rail Agency, and the maritime safety functions of the former Finnish Maritime Administration. The Finnish Transport Agency's domain comprises the entire transport system and all modes of transport, except for aviation. The Agency's duty is to ensure that Finland has an effective, safe, energy-efficient and environmentally friendly transport system. The Finnish Transport Safety Agency is the administrative and safety authority in charge of transport system regulatory and monitoring functions whose duty is to promote traffic safety and sustainable development in the transport system.

regulated by bilateral air traffic agreements, often limiting the traffic rights of both parties. The aim here is to liberalize the agreements in a controlled way so that fair operating conditions and circumstances for competition are secured for the airline companies.

8.3. Project description

Located in North East Finland in the province of Oulu, close to the Arctic Circle and to about 830 km at north of Helsinki, the Municipality of Kuusamo is a sparsely populated area with a population of 16 657 (31 January 2010)¹⁵⁷. Critical problem of accessibility and mobility of the citizens can be found in this area. Kuusamo lacks of adequate and fast public transportation and this is an obstacle to the sustainable development of the entire Kusamo Lapland region and the tourism development, in particular.

The project "Renovation and enlargement of the Kuusamo airport" is among the interventions financed by the Northern Finland Operational Programme¹⁵⁸ under the Priority Axis "Regional accessibility and operational environments" aimed at improving the accessibility and attractiveness of the region for businesses, employees and tourists by providing better logistics and transport connections, as well as tourist attractions. Specific objectives of the project are to improve the airport's capacity and help to promote the development of tourism in the region. Located 6 Km from the city centre and 27 km from Ruka-the major centre of ski resorts ad winter sports-Kuusamo airport is a strategic infrastructure for increasing the accessibility of the region for foreign tourists, as well as for ensuring a better mobility for the citizens itself. The goal is to increase the number of passengers from 103 000 to 170 000 by 2014.

The project includes investments concerning the extension of around 5 000 m² and the renovation of about 1 800 m² area (as showed by the figure).

The expanded area includes a space for departing passengers, a staff security check area, the conveyor systems for departing and arriving baggage, the baggage claim area, customs, office and social areas, as well as technical premises. The departing passenger check-in area of the expansion to the Kuusamo Airport terminal was opened on November 2009. The old part of the airport has been renovated as areas for departing and arriving passengers. Both parts have non-Schengen and Schengen areas as well as areas for border guard staff. Direct beneficiaries of the project are all the citizens of Kuusamo city (about 16 657 inhabitants in 2010), and of Pudasjärvi, Taivalkoski, Salla municipalities, as well as the number of tourists visiting the Kuusamo Airport's sphere of influence (Ruka, Taivalkoski, Posio, Suomu, Iso-Syöte, Salla, Pyhä, Luosto and Viena Karelia), using air transport.

As the project has been recently completed, it is too early for measuring the results achieved. However, from the first data provided by the Project Manager, it emerges that the interventions of renovation and enlargement of the airport have increased its capacity: the number of flights has increased (three or four flights per hour) and direct flights are now available from the Netherlands, Great Britain, Russia and Ukraine. Moreover, the aircrafts are now able to transport 150-200 passengers, while three of them, mostly used for international flights, can transport two hundred passengers. The aim is to manage three-four aircrafts (200 passengers in each of them) per hour.

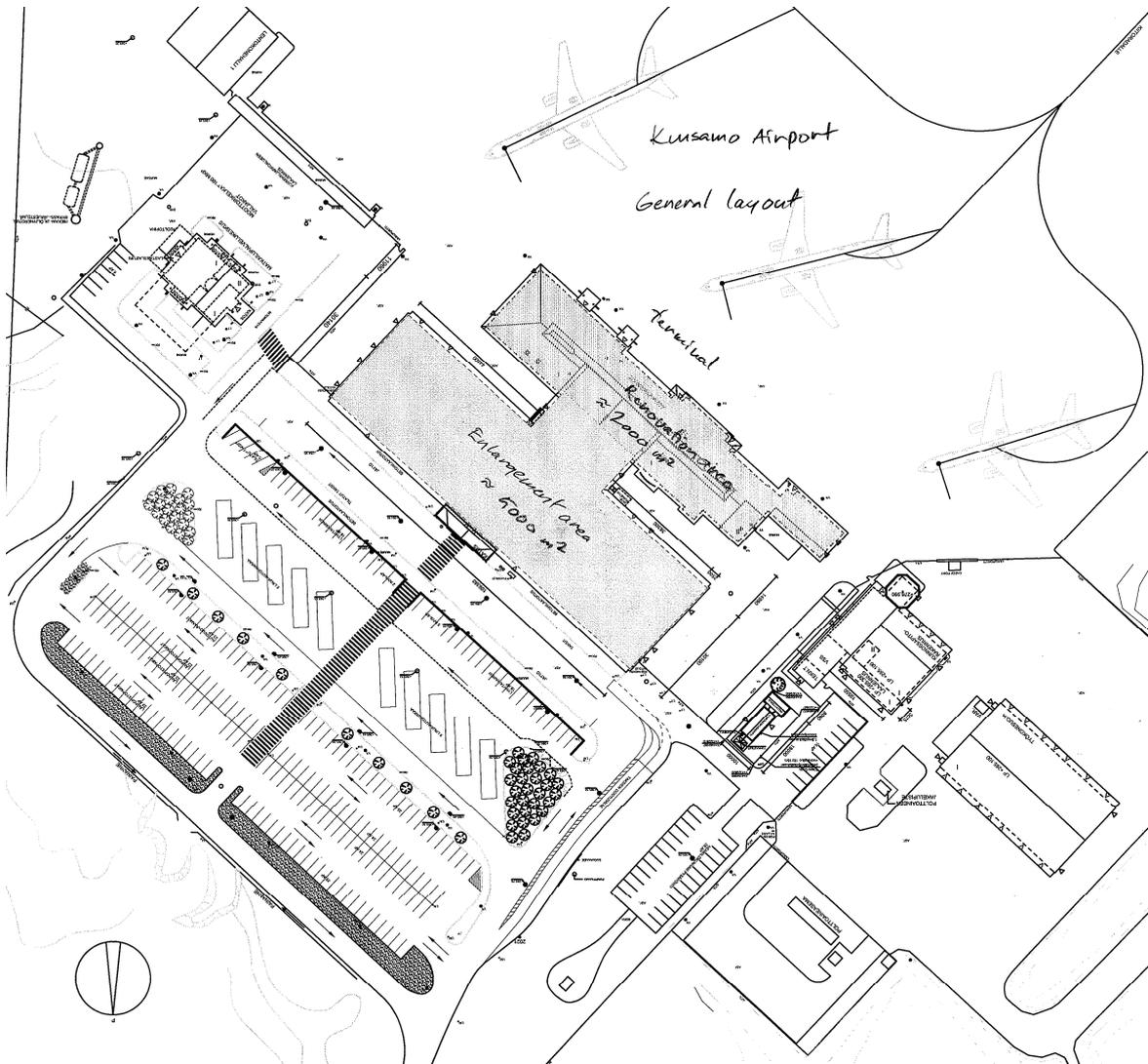
According to data provided by the monitoring system, impacts on employment have been recorded as consequence of this project. Fifteen new jobs (of which four women) out of five planned have been created.

¹⁵⁷ *Population Information System*. Population Register Center of Finland.

¹⁵⁸ The Programme has been approved within the framework of the Regional Competitiveness and Employment objective. It covers the regions of Central Ostrobothnia, Lapland, and Northern Ostrobothnia with a population of approximately 634 500 at the end of 2005.

As confirmed also by the project manager, indirect impacts are expected also on local business activities: as consequence of the improved accessibility of the Region, the number of tourists will increase and the local economy will enlarge its focus on tourism activities.

Figure 14: Map of the project



Source: Project designer

8.4. Specific aspects of SG(E)I affected by the project

The following specific aspect/ objectives are enhanced with the project:

- universal and continuous accessibility;
 - territorial accessibility;
 - efficiency and effectiveness;
 - reliability, safety and security of supply.
-
- ***Universal and continuous accessibility:*** this aspect is addressed in Section 6.1.

- ***Territorial accessibility:*** the project is expected to improve the connection between the remote areas of the north and eastern Finland with European Countries, such as Great Britain and the Netherlands, as well as with Russia.

Given its geographical location, closed to the Russian border, Kuusamo serves as a north-eastern gateway between the EU and Russia. The Finnish-Russian border (about 6 111 000 km long) runs for most part through forests and extremely sparsely populated rural areas. Currently, in the northeast Finland there are only two border-crossing roads that allows Finns and foreigners to enter Russia and vice versa. This explains why Kuusamo airport is so important for increasing the accessibility to the Northeast Finland.

As showed by Figure 15 below, the project is expected also to improve the connection accessibility to this area not only for Russian people, but also for people living in the southern Finland, by improving the connection with Helsinki-Vantaa Airport.

Figure 15: Kuusamo city-a gateway between Finland and Russia



Source: Finavia website

- ***Efficiency and effectiveness:*** the project is expected to improve the efficiency of the air transport services. The renovation of the departing and arriving areas in the old part of the airport has been designed to improve the efficiency of the services provided, in terms of time savings in boarding and disembarking the passengers.
- ***Reliability, safety and security of supply:*** the safety and security of air traffic and passengers are expected to increase with this project. The provision of a departure passengers area, a staff security check area, as well as of a conveyor systems for baggage is directly aimed at increasing passenger and baggage security at Kuusamo airport, as well as the reliability of the service provided.
- ***Environmental sustainability:*** the project is expected to contribute to the environment protection. As a part of the renovation, the airport's heating system was changed from oil to pellets. The project has financed the building of pipelines for connection to the boiler plants, that were built, instead, as part of a different project by the Energy company Vaapo Oy.

The expected success of the project, in terms of better accessibility to the Region and increased mobility within the Region, will confirm that the approach adopted by the

National Government-based on the improvement of transport connections-is actually a solution for overcoming the geographical weakness of Finland. Accordingly, greater priority will be given to the financing of such kind of intervention.

The contribution of Structural Funds has been relevant not only for the realisation of the project, that otherwise would have not been realised, but also for improving the quality of the services provided by Finavia.

8.5. Governance aspects

National and local stakeholders have been involved in the project of enlargement and renovation of Kuusamo airport. The main role has been played by Finavia, which is the state owned enterprise responsible for the business operations of the aviation sector. Finavia has planned and carried out the project. It has been responsible for the coordination of the work of more than forty companies (designers, contractors and suppliers) and has participated also to the financing of the project with a contribution of 56.8% of the total cost.

Another stakeholder involved was the Ministry of Employment and Economy, in the role of funding provider. It has co-financed the 15.7% of the total cost of the project and its main interest in the project was linked to the expected positive results on the Northeast Finland economy that could derive from the increased number of tourists accessing to the region.

Local communities of Kuusamo-Ruka, Posio, Salla, Taivalkoski were also involved in the project as funding provider. They co-financed the 4.5% of the total cost of the project. They were mostly interested in the expected positive results of the project in terms of growth opportunity for citizens to move to the southern part of Finland and to the largest European countries, as well as to an increase in the number of tourists. Accordingly, project has been designed by Finavia in close cooperation with these local communities and tourist actors (such as Ruska resort).

No formal agreement was set up among these partners.

This project is only one of the elements of Finavia strategy aimed at increasing the number of passengers who can access to this area both in high season (winter) and low season (summer). In order to improve the air service to better serve Northern Finland accessibility from both domestic and international airports, Finavia has branded all the airports in Northern Finland as Lapland Airports and has created a marketing concept that emphasis the infrastructural strengths combined with the destination brand (Lapland). Moreover, as confirmed also by a Member of Finavia Corporation, Finavia strategy aimed at increase the attractiveness of the area, is based on a work closely with local tour operators who need the air service to provide sellable packages (accommodation + flight + activities).

8.6. Universality of access and affordability

Universality of access

The extension of Kuusamo airport enhances the accessibility to the air transport services for all citizens. The capability of the airport to receive a higher number of passengers has been increased. Accordingly it is expected that additional passengers can access the airport, in particular both coming from the central Europe or Russia, as well as from the southern Finland. To this end, aircrafts have been also equipped in order to be able to transport 80-90 passengers during national flights and two hundred passengers for the international ones. The aim is to have an annual flow of 170 000 passengers by 2014.

Affordability

Affordability is not affected by this project. Price for the air transport services is fixed in a competition regime by the airline companies which offers flights from and to Kuusamo

airports. Currently the scheduled airlines are Finnair, Finncomm Airlines (summertime), Blue1 (seasonal) and AirBaltic; in addition to these there are several charters operators flying to Kuusamo seasonally.

8.7. Thematic focus

Geographical remoteness

Located in the east part of Finland in Oulu Province on the border with Russia, Kuusamo municipality is geographically one of the most peripheral areas of the European Union. With about 800 Km of distance from Helsinki, the area is characterised by several problem of connection with the southern part of Finland Region as well as with the Central Europe. An option would be to access by road or bus, but this is deemed to be less advantageous than travel by air, both for time and price reasons. Kuusamo is not accessible by train, since the nearest railway station is located 200 km from Kuusamo. In order to reach Kuusamo by train and bus twelve hours are needed from Helsinki: 8-9 hours by train from Helsinki to Oulu and 3 hours by bus from Oulu to Kuusamo for a price of around EUR 200 (railways tickets is EUR 134 seat/person and bus tickets is EUR 64.30). Given the remote location of Kussamo city, travel by air is considered the fastest and cheapest way to reach it. Travel time form Helsinki to Kuusamo is one hour and ten minutes for an average price of EUR 200 (EUR 100 in the case of offer prices) there and back.

With the enlargement and renovation of the Kuusamo airport, the connection between this area with the southern part of the Region, as well as with Central Europe, has been improved. Daily flights to Kuusamo from Helsinki, as well as from the UK and the Netherlands and back, have been increased. This means not only a better accessibility to Kuusamo city and neighbouring municipalities (Suomussalmi in the south, Taivalkoski and Posio in the west, Salla in the north) but also growth opportunities for the mobility of the living population. Considered the strategic position of Kuusamo city, a north-eastern gateway between the European Union and Russia, the enlargement of the airport becomes relevant also for improving the connection between Finland and Russia.

8.8. Contribution to cohesion policy objectives

The geographical distance of Finland with the main European market and within the country itself seriously hampers its competitiveness within the European Union. After the enlargement of the Union, the geographical handicaps of Finland has become more relevant than before, as the new Member States are located closer to the major European markets. As highlighted also by the NSRF, the overcoming of the geographical constraints is a priority for improving Finland's competitiveness and the provision of well-functioning transport connections is considered to be a key factor in this respect.

Finnish government transport policy¹⁵⁹ for the next years is focused on the improvement of the quality of transport connections, considered to be an important competitive factor for Finland. It has been assessed that the long distances to the most important market areas and the severe climate are responsible of the higher logistics costs of Finnish companies, if compared to those of companies in the core areas of the EU (costs are some 2-3 times higher). Given these geographical weaknesses, the strategy put in place by the government is to compensate them, by having a more efficient logistics system than other countries. The development of fast, reliable and affordable transport connections could enable to survive in the global economy.

High-quality transport connections and efficient logistics are considered to be vitally important especially in Northern Finland, a sparsely populated area which accounts for 44%

¹⁵⁹ The Ministry of Transport and Communications, Transport policy guidelines and transport network investment and financing programme until 2020, Government transport policy report to Parliament, Helsinki 2008.

of the total Finland's area and encompasses three Regions (NUTS3) Central Ostrobothnia, Lapland and North Ostrobothnia, whose distance with the southern part of the country is about 800 km. Moreover high transportation costs due to long distances are another cause of the weakening of the competitiveness of the area. Better accessibility could be a major competitiveness factor, since it increases viability and contributes to the well-being of people, by creating opportunities for growth and jobs.

As mentioned above (see Section 8.3), the project analysed is financed under Northern Finland Operational Programme, approved within the framework of the Regional Competitiveness and Employment objective, whose aim is to strengthen northernmost region's position in international and national competition and to respond to the restructuring of the economy. The project is then directly linked to Cohesion policy objectives, as well as to Lisbon strategy aimed to bolster the competitive position of EU regions in the world economy by placing growth, jobs and competitiveness at the top of their agenda. For the period 2007-2013 programming period, Finland has made a particularly strong commitment to target funding efforts on Lisbon-related activities. Due to its permanent handicap caused by sparse population and remoteness, the Northern Finland region benefits from a special allocation for sparsely populated areas of EUR 35 per inhabitant per year from the ERDF, totalling EUR 173 million during the current programming period.

The strategy adopted by the project analysed in this case study results to be in line with the broader national and EU strategy, since it improves the accessibility and attractiveness of the Kuusamo Municipality-one of the most remote area of Northeast Finland-with the aim to stimulate growth in tourism sector and to increase co-operation with the neighbouring municipalities in East Lapland and Northern Ostrobothnia, located in the sphere of influence of the Kuusamo Airport. With the expansion of the Kuusamo Airport, Northeast Finland is better equipped to promote international tourism and then to further strengthen its competitive advantage (tourism). The project is contributing to bridge the distances between the northern east and southern parts of Finland, but also to promote a balanced development between these.

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- Thomas Kingelin, Sales Manager, Finavia Corporation.

9. France.

Electrification of the Vosges lines

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9.0. Background information

a) Country	France
b) Region	Lorraine
c) Full Project Title	Electrification of the Vosges lines
d) Duration	2002-2006
e) Programme	Objective 2 Programme for the Lorraine Region (Priority Axis B - Sustainable management - Measure 1: Improve network infrastructure and transport services)
f) Total Cost	EUR 66 365 million initially planned (ERDF : EUR 16.6 million; Lorraine: EUR 26 million; Vosges: EUR 6.6 million; French state: EUR 6 million; Réseau Ferré de France: EUR 11.3 million)
g) EU Contribution	ERDF 25%
h) National Contribution	75% (Lorraine: 39%; Vosges: 10%; French state: 9%; Réseau Ferré de France: 17%)
i) Private Contribution	0%
j) Sector	Transport
k) Sub-Sector	Railway
l) Beneficiary	Ministry of Transport, Infrastructure, Tourism and Sea
m) Implementing body	Ministry of Transport and Equipment

9.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

During the 2000-2006 period, France benefited from financing from Structural Funds within the framework of Objectives 1, 2 and 3.

Objective 1 (promoting development and structural adjustment of regions whose development is lagging behind) concerns the French overseas departments, representing 3% of the population. On the metropolitan territory, Hainault (in the North of France) and Corsica remain eligible for period 2000-2006, but in the form of digressive assistance for "transitional support". Out of a global Community subsidy of EUR 136 thousand million France benefitted from total assistance in accordance with Objective 1, including transitional support in the amount of EUR 3.9 thousand million.

Objective 2 (supporting the economic and social conversion of areas experiencing structural difficulties) is the main programme from which France benefits, as it concerns 32% of its population, or some 19 million inhabitants. 14% of the French population remains eligible for "transitional support". France receives EUR 6.2 thousand million in accordance with this objective on a Community subsidy of EUR 22 thousand million.

Within the framework of Objective 3 (supporting the adaptation and modernisation of education, training and employment policies, not benefitting Objective 1), almost all of the zones of metropolitan France are eligible. France receives EUR 4.7 thousand million out of the EUR 24 thousand million of available Community assistance.

These national priorities led to the targeting of assistance on the opening up of rural and mountain areas, the development of high-level services (in particular information and communication technologies) and compatible infrastructures with sustainable development. Simultaneously, the French strategy tried to bridge the isolation (distance and insularity) and geographical handicaps of the French overseas departments. The development of basic infrastructures was a priority and the SG(E)I contributed in several sectors: the development of infrastructures for surface, air and maritime transport, mains energy supply, telecommunications, water and waste management, education and health.

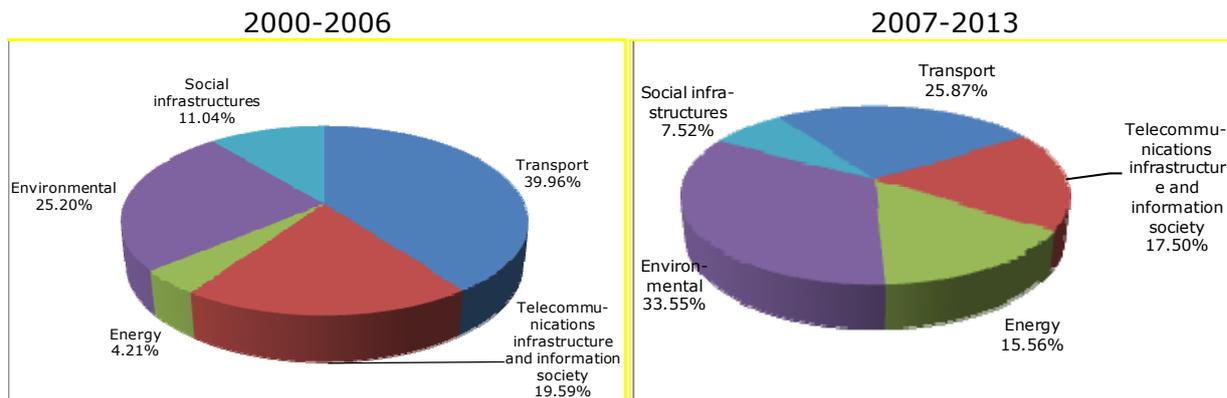
The national policy notes the necessity of making good the earlier lack of investment in the railroad sector. The State then began to invest in the financing of railroad infrastructures and in combined transportation. The Regions led with the release of skills in regions to a measure of autonomy in the railroad sector introduced in 1997, an important step forward in this sector. The Regions organised the "Regional express trains" network. The Regions currently have a measure of autonomy in the public financing of the projects. The financing of the railroad sector thus increased tenfold from 1993-1999 until 2000-2006 in the framework of Planning contracts between State and Region ("Contrats de Plan Etat-Région", CPER). Some EUR 5 thousand million are dedicated to the development of the railroad infrastructures there. The environmental concerns include noise abatement and atmospheric pollution and the development of freight to reduce the heavy goods traffic, now a priority in many regions. Despite all that little has been done in the way of development of interregional connections.

The European Union has identified some priority project infrastructures, in particular several railroad axes concerning France. These axes are bound to the transport of freight and High Speed Rail (HSR). EU policy has had various impacts on the operations of CPER. It first concerns all operations in connection with freight with European funds: for the CPER of Rhône-Alpes on the Dijon-Modane axis and on the Val du Rhône freight axis; for the CPER of Lorraine, the Eco-fret freight operations (North-South European railroad axis); for the CPER of Aquitaine, termination of the Bordeaux railroad hub. The European fund also had an impact on the railway station modernisation programmes. The CPERs finally finance operations to accompany the HSR, in particular besides the main lines of exchanges. In the Loire region Structural Funds are also mobilised for improving access to telecommunications, telephone, electronic administration and interconnection of transport. ERDF will thus finance the reopening of a railroad line in order to facilitate the development of remote municipalities and reduce pollution and road congestion.

For the 2007-2013 period, out of the EUR 347 thousand million that the EU earmarks for Cohesion policy, 14.3 are allocated to France, or a decline of about 12% on the previous period. The credits are divided up as follows: EUR 3.2 thousand million are dedicated to the objective "convergence" and concern exclusively the overseas departments. EUR 10.3 thousand million are reserved for the objective "regional competitiveness and employment". This objective currently concerns the whole of metropolitan France. Finally, EUR 860 million are reserved for the objective "European territorial cooperation".

The State adopted the national strategic reference framework for the period 2007-2013 in 2005. However, with the aim of being selective, it defines relatively wide national priorities. It is a question of allowing the regions to develop policies consistent with their needs. National priorities are directed towards the improvement of access to transport and telecommunications services, and in particular travellers' regional railroad transport, railroad freight and rail links connecting to the HSR. The regional contributions helped to define economic development, employment and territorial as priorities. However, tourism, pollution, waste management and railroad transport also appear as important themes.

Railroad transport as a national priority was asserted even more vigorously in the framework of the environmental policy adopted in France further to the "*Grenelle de l'Environnement*" (2007). The State had ambitious objectives: 25% increase before 2012 of the market for non-road freight, which supposes an increase of about 45% in rail traffic. Several regions also made a commitment in development policies for railroad transport by mobilising the European fund. The Midi-Pyrénées region decided to use directly EUR 64 million of the ERDF to improve the accessibility and attractiveness of the regional territory: it must involve waterways, information and communication technologies or railroad transport.

Figure 16: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I

Source: Authors processing of DG Regio data

9.2. National framework in the provision of SG(E)I

Since 1997, two institutional reforms have transformed the French railroad sector to prepare and accompany the opening to competition:

- February 1997: creation of the "Réseau Ferré de France" (RFF). RFF is a public institution, owner and manager of the French rail network. Its creation comes from a split of the public incumbent operator, " Société Nationale des Chemins de Fer français" (SNCF). The debt of SNCF has been transferred to RFF.
- March 1999: creation of the "Conseil Supérieur du Service Public Ferroviaire Français" (CSSPF). The CSSPF ensures balanced development of the railway sector, the uniqueness of the public rail service, consistency in the implementation of these guidelines by RFF and SNCF and the fulfilment of the public service missions of these two institutions.
- March 2003: a decree allowing French or foreign companies to transport freight in international traffic.
- April 2006: the opening up to competition of domestic freight traffic.
- May 2006: with the "Plan Perben de renouvellement du réseau ferroviaire", the Ministry of Transport launches a great effort for the development and improvement of the rail network.
- December 2009: creation of a regulatory authority "Autorité de Régulation des Activités Ferroviaires" (ARAF).
- December 2009: foreign companies can now compete with SNCF on French territory, through the opening up to competition of passenger transport on international routes between two French cities for a train to or from abroad ("*cabotage*"), under Directive D2007/58/CE.
- These reforms introduced effective competition in the French railroad sector:
- February 2004: a first railway licence in freight transportation is granted to Europorte 2, a private subsidiary of Eurotunnel.
- June 2005: the first private freight train runs. The operator is Connex, a private subsidiary of Veolia. This company also obtains a first licence for passenger transport.
- April 2006: seven new entrants obtain licences for railway undertakings and Security Certificate allowing them to use the French Network: B-Cargo (subsidiary of SNCB), CFL

Cargo (CFL/Arcelor), Euro Cargo Rail (EWS), Europorte 2 (Eurotunnel), Rail4Chem (BASF), Connex (Veolia), Seco-Rail (Bouygues).

- October 2007: the competitors of SNCF net only 5% of the market share. The main reasons for this situation are shortage of wagons and lack of traffic time slots.
- The first competitors of SNCF to carry passengers are expected in Summer 2010, in particular with the entry of Trenitalia.

However, the number of meaningful competitors is few. There are several explanations for this phenomenon. The crisis reduced the ambition of new competitors. In passenger transport there are technical obstacles to entry: Trenitalia and Deutsche Bahn (DB) are the only two companies to be technically able to compete with SNCF on the high speed trains. Furthermore, cooperation relations exist between incumbent public operators in high speed trains: like SNCF and DB with the InterCity Express (ICE), the German equivalent of the HSR in France which already runs between Paris and Forbach. But another major competitor to SNCF, Air France-allied to Veolia Transport-could create a European champion in High Speed Rail and operate trains in France.

Finally, the problem of the considerable debts of the public railroad sector compromises its development. Financial interests diverge between RFF and SNCF. The State has difficulty arbitrating between operators and compensating the debts transferred to RFF. Conflicts of interests between the operators also hinder the development of a sustainable development policy of town and country planning.

9.3. Project description

The "Document Unique de Programmation" (DOCUP) 2000/2006 from Lorraine recommends an improvement of the network of infrastructures and transport services during the 2000-2006 period. The action B-1-3 entitled "to finish the electrification of lines from Vosges" meets this objective. The Axis B is "to plan the region sustainably", while measure 1 within this axis aims to "improve the network infrastructure and transport services"¹⁶⁰. This action plans the continuation of electrification, supply and adaptation of the railroad lines from Vosges within the framework of the East European HSR project. These works are 25% supported and financed by the ERDF.

The East European HSR project provided services to cities in the Vosges (Epinal, Remiremont and Saint-Dié) with two HSR round trips per day Epinal-Remiremont and only one for Saint-Dié.

To ensure that service, electrification (25 000 V single-phase) and upgrading of signals (currently manual block) of the two lines concerned are required. This is a single track line to Luneville in Saint-Dié and a double track to Blainville-Epinal-Arches, which continues to Remiremont on a single track.

These arrangements mainly allow the region to introduce electrification for passenger rail transport. They also improve freight transport by removing a break traction. They finally also help to reduce of environmental nuisances (noise pollution).

In 2004 work began for a development operation in summer 2005. A building supply TER (*Transport Express Régional*) in the Vosges was made on that date.

This project was nonetheless only a step towards the next electrification of the Epinal-Belfort line, which will establish communication between the East European HSR and the Rhine-Rhône HSR, introduction of which is planned for late 2011 and beyond the Mediterranean.

¹⁶⁰ A total of EUR 153.92 million was planned for improvement of the transport infrastructure network in Lorraine under Measure B-1. 43% of the Measure was devoted to the 2nd tranche of Vosges lines electrification as against 56.4% for road projects.

The rail network diagram is approximately similar to the Lorraine Road, but is primarily focused on the North, since to reach almost any national or international destination one has to go through Nancy, only beyond this branch of the Epinal-Strasbourg line via St.-Dié des Vosges and Neufchâteau that connects directly to the South (Dijon, Lyons and the Rhône Valley). Electrification in the last 2 lines Remiremont Blainville (via Epinal) and St.-Dié des Vosges-Luneville multiplies effectiveness by connecting to the East HSR and direct services from these stations by the HSR.

For the Vosges, this connection is important because it provides an opportunity to open exchanges to the South and to Switzerland. And, to the North, this line is a natural extension of the Epinal-Nancy-Metz-Luxembourg line, which serves the Moselle.

The project is open to all citizens and not targeted. It increases mechanical (increased supply of TER) and national / international (High Speed Line). Regional mobility

This project includes the development of the template structures and upgrade paths. The work involves the electrification of 200 kilometres of track and cut into two lines: one focuses on the Blainville / Epinal / Remiremont line, and the Luneville / Saint-Dié line. The work of electrification and modernisation took place in three phases. Initially, they required the installation of 4 000 catenaries and electric cables (25 000 volt "single-phase") on the 200 kilometers of track. In a second phase electrification required the modification of the template of 21 structures (bridges or overpasses) overlooking the tracks and had to be adapted to the passage of electric trains. The third phase of work lay in the modernisation of safety facilities, that is to say, the adjustment signals, the automation of level crossings, telecommunications and informatics. Computerised switching stations were created, as in Epinal, replacing five old posts, or as in Luneville, where they control all facilities to Baccarat. The cables were drawn on the lines¹⁶¹.

The total cost of approved expenditure amounted to EUR 73 582 093.69 (as against the 66 365 million initially planned), it has also benefited from EU funding amounting to EUR 16 591 250.

Historical territory in transition between Southern and Northern Europe, Lorraine wants to find a core role in strengthening European accessibility. It competes with other areas further East to form a wide corridor linking North and South Europe. It positions itself in part through this project on the East-West HSR, in addition to roads and the A 4-RN 4, a Lorraine crossroads as it were.

The Vosges lines electrification project will bring many changes in the Lorraine region and will generate positive impacts directly related to electrification or, more indirectly, in connection with the East HSR; these are described in the next section.

9.4. Specific aspects of SG(E)I affected by the project

Generally speaking, the project aimed to improve the economic and social situation in the maintenance and enhancement activities through upgraded access. A recovery of the demographic situation is also expected in the medium term, particularly with the expected improvement in job opportunities and improved access conditions (reducing travel time to outside the territory), the improvement of living conditions (housing, road safety, environment). This effect could however be reversed in practice with stronger agglomeration effects for major cities including Paris.

This project was also an improvement in the living conditions related to the increased use of rail transport at the expense of private vehicle traffic congestion and, thus, fewer accidents.

Regarding the improvement of accessibility, three types of information should be considered: the number of HSR deliveries, the saving of time in the light of existing

¹⁶¹ Note also that France Telecom has had to adapt telecommunications networks related to electromagnetic interference generated by the electrification of these two Vosges lines.

conventional train journeys and passenger traffic. At the railroad level, the work does not include raising the speed of movement of trains. In fact, no improvement will be made as regards performance and speed of trains. The journey will even be comparable with the HSR.

By allowing the arrival of the East European HSR, travel times were significantly shortened by putting Epinal at 2:15 hours against 3:45 in Paris, at 2:40 Remiremont against 4:15 (2 round trips a day), at 1:50 Luneville against 3:05 and at 2:25 Saint-Die-des-Vosges against 4:00 (1 round trip per day). Note, however, that only 38 Vosges municipalities have a train station in the department. Finally, the improved accessibility planning should allow its recovery in terms of image, which should have a positive impact on the consolidation of economic activities and jobs.

The expected positive impact includes among other things increased freight and passenger transport.

Initially, based on 1988 data, assuming a 15% price increase, the total project (including the entire East HSR line) provided an increase in traffic of 83%, but only 18% for regional traffic (RFF data). In the case prior to the public inquiry, the new traffic was estimated at 7 million passengers. The department reviewed this number, offering 4.58 million additional passengers: 2 million by substitution with air travel (43.5% extra traffic), about 1 million from road transport (22% additional traffic) and 1.58 million travellers from new mobility (34.5%). The data is unfortunately available for regional traffic only. Since 2007, the Lorraine regional trains service increased 20% with an additional take-up of 15% observed in the region. Moreover the performance of work has generated an average 40 jobs per year enrolled full-time (railway, construction supervision, subcontracting), peaking at 200 officers.

From an environmental viewpoint, several positive impacts are anticipated, such as reduced air pollution by abandoning the locomotive thermal power of a diesel engine. The transition to electric propulsion is an undeniable environmental benefit of the railway, since air pollution comes mainly from diesel locomotives. On the other hand, thanks to the research programme on noise reduction initiated by the station between 1992 and 1997, technological advances have been made to mitigate the noise inherent to rail traffic. In the case of the Vosges' lines, the use of more efficient rolling stock should reduce noise, particularly that from starts and stops at stations.

The Vosges department has developed long-standing activities related to resources that complete an industry still very present and that, despite the successive crises, continues to engage a significant portion of the employees. However, like the textile industry, the Vosges barely registers in a globalised economy. The development of large structural elements such as electrification of railway lines which led to the arrival of the HSR and the substantial expansion of regional services has strengthened the capacity of mobility of passengers and goods. These works are new ways that balance economic development and preservation of natural capital. The implications are numerous. For example, since mid-2007, the Luxembourg-Perpignan railway highway (1 000 km) is on track. A train with 20 cars capable of carrying 40 trailers each day through the department in daily return journeys but with the ultimate goal of performing a fortnight and capturing the flow of 1 000 trucks that travel this road every day¹⁶².

European funds have financed 25% of the project. This significant funding comes with the commitment of opening up the Vosges. In this, the improvement of regional rail travel is the direct result of the electrification project lines of the Vosges. Regarding the financing of an investment in heavy infrastructure, the use of EU funds is legitimate *ex ante* as well as *ex post*.

¹⁶² The company in charge of these links is Lorry Ride (a joint venture with Vinci, the Deposit and Consignment Office, the SNCF, the Luxembourg Railways and Modalohr).

9.5. Governance aspects

The project funding partners are numerous. The participation of the region is the largest with 39% of the funding, representing almost EUR 26 million. Then comes the European Union through the ERDF (25% - EUR 16.6 million), Réseau Ferré de France (RFF) as a client with 17% (about EUR 11.3 million), the Vosges (10% - more than EUR 6.6 million) and the French State (9% or EUR 6 million). The share of the State is relatively low, the Regional Directorate of Equipment has little involvement on the subject.

The public partners, local and European, saw this project as an opportunity to support the economic restructuring of the Vosges department and also of Lorraine. The location of territory inside more active European regions had to become an asset. The prospect of reduced travel times with regular services between Paris and Frankfurt, Stuttgart or Munich is a significant element for the European Union. The electrification of the Vosges lines was a necessary step for these elements.

Regarding RFF, for the first time in French railway history, the functions of project ownership (provided by RFF), were distinguished from the function of control of work carried out by SNCF and maintenance of rail equipment in connection with its public service missions.

Regarding the management of EU funds, training and / or management measures and sub-measures is distributed among several levels of administration and services: Prefecture Region and the General Secretariat for Regional Affairs (SGAR); the departmental prefectures and the regional branch of Agriculture and Forestry (DRAF) very marginally involved. The Vosges lines electrification project, due to impacts far beyond the Vosges area, was tracked and followed by SGAR, so dependent on the Prefecture of the Lorraine region.

As such, they have assumed different functions. Firstly, they were instructor and manager in this project and acted as a functional implementing body. They also performed the more general functions of driver, coordinator, facilitator and controller of European funds (specifically with the departmental prefectures, managers of several measures and actions). The SGAR, especially its "Europe" unit, is responsible for the propelling and monitoring of programmes, and general best practices.

Compared to other French regions, the strong involvement of the regional level can sometimes imply the risk of "centralisation", but offers a positive guarantee of consistency and uniformity of the programme in terms of criteria eligibility and equity of implementation at regional level as requested, moreover, by the Interdepartmental Coordinating Committee of controls (CICC).

Local authorities have finally become involved in the wide participation of people concerned by this line electrification project and to inform of the progress of work including through joint residence.

This project has been discussed since the mid-1990s and owes much of its making to public / private assets. The European dimension of the project, involving a broad co-financing including RFF and the State, the European Union and local authorities, and the integration of companies such as *Electricité de France* (EDF) and France Telecom, makes a concerted original project. Finally, some cities have occasionally participated in this partnership, through remote operations. It has also been driven by an active partnership between RFF and the various co-financings, based on the broad consultation marking the organisation of technical panels and steering committees throughout the project. The participation of the European Union gave an additional dimension to the project, although the prospect of the East European LGV has been a main focus of the mobilisation of this project.

9.6. Universality of access and affordability

All citizens of the Vosges and Lorraine are involved in this project. Increasing regional trains on existing routes and reducing travel time to major national and European cities (Paris, Lille, Rennes, Bordeaux, Frankfurt, Munich, Zürich) can be noted. This new supply provides mobility for all, according to income, to move at sub-regional and intercity level. However, this supply primarily benefits citizens with high qualifications: they are in effect senior, intermediate and higher occupations that are more mobile and/or travel the longest distances.

These encouraging aspects about the universality does not yet come down to this single project. Thus, the effects of the proposed line HSR can be fully exploited only if the stations efficiently connect devices to central cities, neighbourhoods and historic train stations in all cities. Otherwise, the disparities in service access would be maintained between populations living in urban and rural areas devoid of terminals connected. Despite efforts by the project financed by EU funds, only 38 cities have a station in Vosges.

In fact, this project should be an integral part of building sustainable areas: around new mobility solutions, but especially around a delicate balance between structure of peri-urban and high-density city centres. In this strict framework, the benefits of this project can be obtained only by ensuring that the mix of social classes user of transport services remains a major challenge.

Price comparison is particularly difficult in the context of this project. Indeed, insofar as it is an investment as part of a larger project (East HSR), it is impossible to separate clearly the specific impacts of this project. In addition, notwithstanding the non-availability of price data over several periods, the comparison is complicated due to a variety of prices on one hand (depending on time of booking, additional services offered, age or social class passengers) and a change in service on the other (high-speed line, closure of direct routes to take a step in a train station). Some items may still be highlighted.

On the one hand, a double movement has occurred: the prices on domestic destinations have generally increased significantly. From the standpoint of providing service and, therefore, prices charged travellers, the eastern sector has seen many changes.

First, SNCF introduced in 2004 an offer price (*Téoz Corail*) on the Paris-Nancy-Strasbourg line. It was accompanied by the phasing out of the mileage prices and resulted in an average increase of full second-class tariff by 10% (10.1% for Paris-Nancy, for example).

From June 2006, in preparation for the commissioning of the East HSR, SNCF introduced infrastructure related to HSR to ensure the link Paris-Metz-Luxembourg. Prices were brought in line with the *Téoz Corail* prices. The remaining Corail coverage corresponded to a lower price level, until the commissioning of the HSR. Ultimately, after this commissioning, the tariff increase is well above the 10% or 15% announced on assumption. The Paris-Nancy run thus saw its price rise by 17.1% during normal and by 45.2% during peak season, giving-including the 2004 mentioned above-a global evolution of respectively 28.9% and 59.8%. A significant proportion of these increases naturally results from the need to finance the heavy investment thus made while including the cost of operation and maintenance of lines.

On the other hand, the pricing of regional travel (TER) follows a different logic. In fact, on December 12 2005, under the leadership of the new regional council, a "zonal" pricing came into force with levels depending on mileage. The subsidised pricing is valid only between two stations inside the region. It reduces the price by 40% compared to an average SNCF tariff. The offer is also accompanied by regional price concessions for passengers under 26 years of age and for persons with limited resources, such as HSR pricing.

It is ultimately very difficult to make objective judgments on the role of Structural Funds on the evolution of these rates. There is, however, every indication that the role is positive in having reduced the total cost of funding support for the sector.

9.7. Thematic focus

Ageing population and migrants

The SG(E)I provided was not specifically designed for senior citizens. However, improving the supply of mobility within the department is a significant advantage in their case.

The project may yet have an impact in limiting the aging of the population Vosges. Indeed, with 380 952 inhabitants (1999 census), the Vosges department has seen its population decline by 1.3% from 1990 to 1999 (an annual average of 0.15%) and 3.8% between 1982 and 1999. Although the natural balance is positive (+6 371), net migration is strongly negative (- 11 677). The population over 60 years of age is estimated at 88 400 or 23.2% of the population of the department¹⁶³. The rate is 21.2% for the whole of France.

All these figures thus reflect an aging population in the Vosges (high proportion of retired persons) which should be confirmed in the next two decades. Indeed, the forecasts assume a reduction of about 30 000 inhabitants over the next twenty years. These ageing employees could give cause for concerns in certain occupations, including healthcare and traditional crafts. In this context the opening of the territory may be an advantage in limiting the negative migration of the department.

Geographical remoteness of the service provided

South Gate of Lorraine, the Vosges department is split between a mountainous area to the East and a West Plain occupied by 48% of forest. The Vosges mountain occupies one third of its territory and separates Lorraine and Alsace as a natural boundary. It is bounded to the North of the Meurthe-et-Moselle and the Meuse, to the South by the Haute-Saône and Territoire de Belfort in Eastern Alsace, finally, it borders the Haute-Marne in the West. The relief is an essential element of the Vosges area and represents a real asset to the department.

The Vosges and Lorraine generally represent a territory with many faces with, on the one hand, central areas of economic activity, consisting mainly of areas dominated by urban settlement and more deprived areas which are mainly rural areas and urban centres. This explains why the project is fully consistent with the purpose of opening up the territory. It is also necessary that the opening up benefits the less advantaged regions instead of only enhancing the attractiveness of regional and national cities.

The diversity of natural resources is the source of economic activity that began very early and gave the department another strong feature: its industrial culture. The total workforce employed in industry represents 30% of total paid employment, and places the Vosges at the head of the French departments. However, the industrial sector, which occupied 46 000 people in 2000, has lost 10 000 jobs in seven years. Consequently, the attractiveness of the territory is currently disputed.

Meanwhile, sectors of business services and personal services are still below the national average. Logistics still keeps a strong growth potential, particularly in the perspective of development of multimodal transport. This is also true for the tourism sector, which may be based on exceptional natural resources, archaeological heritage and military and cultural monuments, but also technical and industrial factors. However, it is only potential to be developed to ensure the transition of the department and the region affected by deindustrialisation.

The arrival in June 2007 of the East HSR and the near prospect of the Rhine-Rhone high speed is a factor that could generate the structural reorganisation of the territory and enhance its attractiveness. It cannot remain isolated and must become part of a broader

¹⁶³ Specifically, 18.1% of the population is under 14 years, 18.8% is between 15 and 29 years, 21.3% between 30 and 44 years, 18.6% between 45 and 59, 14.9% between 60 and 74 years, 8% between 75 and 94 years and 0.2% more than 95 years.

development plan taking into account the many major developments that may affect the attractiveness of the area, such as the continuing exodus of rural youth in particular in the Western Vosges, the phenomenon of desertification in certain rural areas (The Vôte countries), the current trend towards rationalisation of territorial public service, equipment under constant supply of cultural businesses.

Cross-border cooperation

The cross-border dimension has gradually rooted in regional attitudes. Several examples can be developed:

Nearly 84 000 people (one in ten working in Lorraine), derive their income from cross-border operations.

The workflow border to Luxembourg has experienced exponential growth (15 000 in 1990, about 58 000 today) and seems set to continue. This contributes to the stability of residential geographic areas heavily affected by the crisis and is generating high income (EUR 1.5 billion *per annum*) and helps to reduce unemployment¹⁶⁴.

For Germany, around 23 000 people cross the border into Lorraine compared with just over 15 000 in the early 1990s; the increase over the past decade is largely due to phenomenon related to residential mobility that peaked between 1993 and 1996.

The density of nearby residential and industrial areas led local communities to organise themselves as border-straddling conurbations: Greater Saarbrücken / Mosel East, numbering one million people, should collectively address the issue of the sharp decline in coal mining; Belval on the Franco-Luxembourg border is a new opportunity to promote economic development and urban spaces even on marked imprints of steel and is a major priority of policy cooperation on the Lorraine border.

Thus, the concept of cross-border cooperation, once highly theoretical, is gaining importance. Also, actors from Lorraine enrol their cooperation in a broader context including Luxembourg, Saarland, Rhineland-Palatinate and Wallonia. Mechanisms for cooperation have been adjusted to take account of this new dimension to the image of this project within the development of the East HSR but also as enabling the future development of a Rhine-Rhone Axis. This new level of cooperation contributes to the development of networks in higher education and research which continues to assert itself. More broadly, beyond the electrification project of the Vosges lines seen on the territory, the Community Initiative Interreg has now reached its third generation in a true spirit of open cooperation. The support of these community projects made possible the emergence of DEP Longwy-Athus-Pétange, Eurozone Saarbrücken-Forbach-archaeological park Bliesbruck Reinheim.

9.8. Contribution to cohesion policy objectives

Adopting the definition of territorial cohesion from the final report of 'Territorial Impact Package for Transport and Agricultural Policies¹⁶⁵' Project (ESPON 2013 Programme). Territorial cohesion refers directly to three main components, "namely:

- Territorial efficiency: resource-efficiency with respect to energy, land and natural resources; competitiveness of the economic fabric and attractiveness of the local territory; internal and external accessibility;
- Territorial quality: the quality of the living and working environment; comparable living standards across territories; similar access to services of general interest and to knowledge;

¹⁶⁴ It is not without negative effects on traffic congestion and rising land prices and rents in the region; companies also see their skilled workers leaving for more profitable employment in the Grand-Duchy.

¹⁶⁵ http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/tiptap.html, scientific report, page 9.

- Territorial identity: presence of “social capital”; capability of developing shared visions of the future; local know-how and specificities, productive “vocations” and competitive advantage of each territory.”

Regarding territorial efficiency, positive effects on environmental considerations have been underlined in the last sections. On another aspect, an increase in the winter and summer tourist population is expected due to improved mobility, particularly from the Paris region, which could lead to the creation of new needs of this clientele. The potential is indeed important. In fact, with 11.5 million passengers in 2008, the East HSR has confirmed its leading role in the growth of the HSR in France, which alone accounts for half of the traffic, and was achieved in 2009, most targets originally set in 2010. However, the positive impact on tourism in the areas depends largely on the ability of areas to implement active policies for tourism and hotel.

Directly, the project has been very positive for the economy, including in terms of employment. Thus, the performance of the work was divided between local or regional companies under contract for civil engineering works that are dominant in numbers, and national companies that have made the bigger orders (installation of overhead lines - EUR 10 million, production of switching stations - EUR 5 to 6 million). In addition, with regard to tenders launched on the European territory, the entire market has been won by companies based in France.

Moreover, the new combination of HSR and TER will induce a strong increase in passenger traffic, often privileged at the expense of freight. The usefulness of developing a dedicated freight line to the west of the Lorraine path is reinforced. Indeed, it is essential for the development and for the territory to have platforms that are well connected to the road network, but also benefiting from the service on transport routes accessible by rail or inland waterways that connects the major European urban and industrial centres and its seaports. Regarding territorial quality, the Vosges has been experiencing a resurgence of the situation as of late 2001 with 10.7% of the workforce unemployed (31 December 2009). Women and young persons under 25 years are particularly affected by the worsening of the employment. We consider that the overall purchasing power of households is lower in the Vosges, with about 10 to 15% of the average French household, while 13.5% of the population of the county is below the poverty line, which weighs on current consumption patterns. In fact, the territory must be part of a new dynamic involving this project and the East European HSR more broadly.

Another impact of importance for the region and its attractiveness lies in providing higher education. However, it is concentrated in Nancy and Metz at regional level, leaving the Vosges far behind. In this sense, without special effort on the subject, it is likely that increased mobility will *prima facie* concern these cities. Again, the benefit of the project area will be optimum if parallel support policies are pursued to include this new potential in a context of territorial development.

Locally, some of these policies are already under way. For example, Nancy and Metz have just begun recovery strategies¹⁶⁶. More specifically, to take advantage of this new infrastructure, the development offers a modernised and timed public transport and the implementation of intermodal solutions are increasingly seen as essential. Indeed, public transport is an important factor in planning social and territorial cohesion. The arrival of the East HSR in Lorraine is an additional lever of modern, attractive and dynamic, but requires a considerable amount of intermodal coordination with other networks. The Regional Council has already initiated this under its TER powers, but these advances will find their

¹⁶⁶ These strategies involve any restructuring of neighbourhoods with the creation of office buildings and homes. The proposed convention centre in Nancy participates in this process. The cultural component is intended to develop in particular Metz, with the implementation of the Pompidou Centre. The real estate professionals already note renewed interest in the region.

full effectiveness with devices in the nearby intermodal station. The goal should be to achieve an integrated, structured, mesh-term supply and this throughout the whole Lorraine region for all users.

Regarding territorial identity, this project can improve the opening of the territory to its neighbours. Lorraine has a special place in the heart of transport flows to and from North Europe but needs to improve its facilities and infrastructure so as to promote this opening up to the Saarland and Luxembourg, and thus facilitating the movement of goods and people. The arrival of the TGV East is one of the highlights of this strategy. It will require first a set of preparatory actions, including the electrification of the Vosges lines, which may nonetheless be seen as a preliminary stage. This is all the more the case if the increased supply is significant regional rail, the East HSR finally offering a number of relatively small services, abandoning some towns. Nor does the region enjoy direct services to Germany and Luxembourg, which limits its links with Europe.

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- Jean Louis Rohou, General Director and Alain SAUVANT, Director of strategy, Réseau Ferré de France.
- Nathalie Dekioux, SGAR Lorraine, Préfecture de Lorraine.
- Olivier Jodion, Directeur general des services, Ville d'Epinal.

10. Germany. B 96n feeder road

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10.0. Background information

a) Country	Germany
b) Region	Mecklenburg-Western Pomerania
c) Full Project Title	Construction of the new „B 96n Stralsund/Ruegen feeder road“ from Autobahn junction Stralsund (A 20) to Bergen ¹⁶⁷
d) Duration	2001-2004 (mainland section), island section: planning approval procedure
e) Programme	Objective 1 for Mecklenburg - Western Pomerania Programme
f) Total Cost	EUR 158 million ¹⁶⁸
g) EU Contribution	ERDF 65.8%
h) National Contribution	34.2%
i) Private Contribution	0%
j) Sector	Transport
k) Sub-Sector	Road
l) Beneficiary	Federal Ministry of Transport, Building and Urban Development
m) Implementing body	German Reunification Highways Construction Authority DEGES (Deutsche Einheit Fernstraßenplanungs- und -bau GmbH)

10.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

Germany's National Strategic Reference Framework for the EU Structural Funds in Germany 2007-2013 (NSRF)¹⁶⁹ was elaborated by the federal government under the auspices of the Ministry of Economics and Technology. This process involved extensive dialogue with the various federal states (Bundeslaender) and with a broad range of economic and social partners. Goal of this process was to take into account the specific characteristics and problems faced by Germany's various regions. One key example of this is the fact that the Bundeslaender of the former West Germany have many years of experience with EU processes and structural change, whereas the former East German Bundeslaender have transformed their economies on the basis of a previously centralized planned economy. Germany still has to cope with the economic and social results of the German partition. Despite current fiscal constraints high expenditures are required to reduce the structural disparities.

Key element of the efforts on national and European level of the federal government is the Lisbon-Strategy. The national reform programme¹⁷⁰ addresses to the Lisbon goals, describes the challenges, which Germany and Europe has to face in the next few years and develops a strategy to facilitate growth and employment in a globalised world and in a

¹⁶⁷ The 2nd Strelasund crossing is not part of the ERDF funding as well as the island section of the project due to delays in realisation within the ERDF funding period of the latter.

¹⁶⁸ This includes only the costs of the mainland section of the project. The costs of the 2nd Strelasund crossing amounted to around 125 million EUR and the costs of the island section will be around 74 million EUR (estimation).

¹⁶⁹ Bundesministerium für Wirtschaft und Technologie, „Nationaler Strategischer Rahmenplan für den Einsatz der EU-Strukturfonds in der Bundesrepublik Deutschland 2007-2013“, issued Nov. 2007 (<http://www.bmwi.de/Dateien/BMWi/PDF/foerderdatenbank/nsrp-2007-2013,property=pdf,bereich=bmwi,sprache=de,rwb=true.pdf>)

¹⁷⁰ Nationales Reformprogramm Deutschland „Innovationen forcieren-Sicherheit im Wandel fördern-Deutsche Einheit vollenden“, issued Dec. 2005 (<http://www.bmwi.de/BMWi/Redaktion/PDF/M-O/nationales-reformprogramm,property=pdf,bereich=bmwi,sprache=de,rwb=true.pdf>)

different demographic structure of the society. EU Structural Funds therefore will contribute to the growth of structurally weak regions.

On the basis of a SWOT-Analysis (Strengths, Weaknesses, Opportunities, Threats) for Germany the federal state and the Bundeslaender have jointly defined the following four strategic objectives in the NSRF:

- promotion of innovation and expansion of the knowledge society; strengthening business competitiveness;
- enhancing the appeal of Germany's various regions for investors and inhabitants through sustainable regional development;
- facing new labour market challenges-creating new and better jobs;
- developing regions in regard to equal opportunity and balance.

In addition to the strategic objectives, the NSRF states also three horizontal objectives: sustainable urban development, equal opportunities and environment.

The provision of an efficient transport infrastructure is one of the top priorities to reach the second strategic goal to enhance the appeal of the regions. EU Structural Funds have contributed substantially to overcome deficits regarding the level of provision of transport infrastructure in the Convergence regions.¹⁷¹ Starting point for developing and safeguarding the infrastructure for a sustainable development are, among others, the improvement of regional transport infrastructures and accessibility and the increase of the use of more environmentally friendly modes of transportation. Measures with regard to safeguard and qualitative improvement of transport infrastructure include, beside the provision of an efficient transport infrastructure, the adaptation of the infrastructure to different patterns of demand. Intact, efficient and integrated transport routes guarantee mobility to facilitate a free exchange of goods and freedom of movement. This is especially important with respect to regional needs and the apparent population decrease in the parts of the Convergence regions to prevent a further rise in infrastructure and location-related costs.

The promotion of significant supra-regional transport is given "priority 4" with regard the objective "Convergence" in the NSRF. Starting points for the promotion of supra-regional transport investments as stated in the NSRF are the improvement of spacious accessibility by expanding Trans-European traffic networks and other supra-regional transportation routes, the improvement of transportation routes to major business centres and optimization of gateway functions and the increase of the use of more environmentally friendly modalities.

The priorities contained in the German NSRF are translated into 36 Operational Programmes. In Germany these programmes are mainly devised and managed by the individual federal states (Bundeslaender), each of which elaborates his own ERDF and ESF regional programme (16 Operational Programmes for each Bundesland and the district of Lueneburg for each fund). The federal government manages two additional EU Structural Fund programmes, one being a federal ERDF transport programme exclusively for Convergence regions, and the other a federal ESF programme. Additionally, there are Operational Programmes promoting projects under the objective of European Territorial Cooperation.

The federal ERDF Federal Transport Operational Programme for the 2007-2013 programming period provides funding exclusively for federal transport infrastructure and thus for transport infrastructure projects which improve interregional accessibility. In the

¹⁷¹ The German Convergence regions are situated (including phasing-out regions) in six Bundeslaender. With the exception of the West German NUTS2 region Lueneburg the Convergence regions are located all in East Germany.

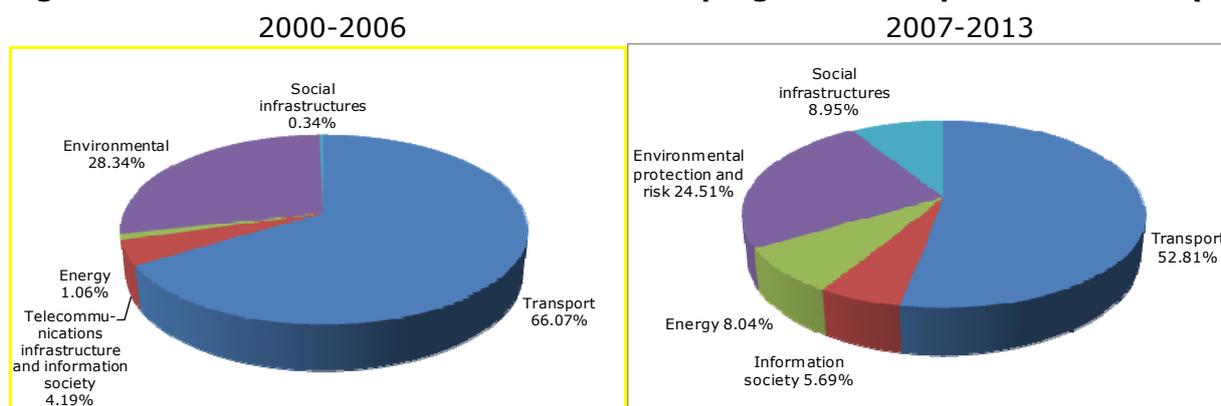
context of the provision of SG(E)I the federal government is responsible for the maintenance, modernization and new construction of supra-regional transport infrastructure. A federal transport programme co-financed by ERDF is an adequate concept for an accelerated promotion of supra-regionally important transport infrastructure.

Priority in federal infrastructure planning is given to the so-called German Unity Transport Projects (VDE) because they are of paramount importance for the development of Eastern Germany and the integration of the new and old federal states. Despite of high investment in transport infrastructure in the East part of Germany, there are still deficits with regard to accessibility of national and European agglomerations compared to other German regions. In light of the growing significance of international transport, regional differing demographic developments and the risen importance of accessibility concerning labour markets and SG(E)I, the spacious accessibility to transport links and economic centres is a key element to the improvement of the appeal of those regions.

Under the ERDF federal programme 2000-2006¹⁷², ERDF resources were, for the first time in Germany, being used to improve federal transport infrastructure. EUR 1 661 billion were available from the ERDF to provide assistance to federal transport infrastructure projects. This co-financing from the EU Structural Funds benefits solely the new federal states (excluding Berlin), with which the project proposals have been coordinated. The ERDF federal programme 2007-2013¹⁷³ ties in with the former operational programme.

The picture below illustrates that the transport sector in Germany benefits from the largest share of ERDF among the SG(E)I's in both funding periods (66.07% in 2000-2006 and 52.81% in 2007-2013).

Figure 17: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

10.2. National framework in the provision of SG(E)I

Under Articles 89 and 90 of the Basic Law, the Federal Government is the owner of the federal trunk roads (motorways and federal highways) and federal waterways. The federal railway infrastructure is owned by railway undertakings in which the Federal Government has a majority holding (federal railways), they are to be managed as business enterprises under private law (Art. 87e of the Basic Law). The Federal Government meets its constitutional responsibility by constructing and maintaining the federal transport infrastructure.

¹⁷² Operationelles Programm "Verkehrsinfrastruktur", Europäischer Fonds für Regionale Entwicklung (EFRE), Deutschland Ziel 1, 2000-2006.

¹⁷³ Operationelles Programm Verkehr EFRE Bund 2007-2013, Europäischer Fonds für Regionale Entwicklung (EFRE), Europäischer Fonds für Regionale Entwicklung (EFRE), 2007-2013.

The Federal Government has, since the 1970s, based its investment policy in the federal transport infrastructure sector on intermodal planning. This intermodal planning is conducted within the framework of overall transport concepts and is reflected in the Federal Transport Infrastructure Plan (FTIP), each of which is drawn up by the Federal Government for a manageable period (usually around 10 years) and adopted by the Federal Cabinet.¹⁷⁴ The Federal Transport Infrastructure Plans detail the total level of investment earmarked for the maintenance and upgrading of the existing infrastructure, geared to the funding that is likely to be available over the lifetime of the plans. The Federal Transport Infrastructure Plan is a framework investment plan, which does not contain any decisions regarding the funding and time of realization of a project. These decisions are taken on the basis of multi-annual plans.

The Federal Transport Infrastructure Plan provides the basis for further detailed infrastructure planning. Focusing on the road sector, which is the subject of this case study, detailed planning is provided by the 5th Federal Trunk Road Upgrading (Amendment) Act, which entered into force in 2004, and with it the new requirement plan for federal trunk roads (valid from 2001). It includes the construction of new motorways, the widening of existing motorways and the widening and new construction of federal highways.

The Federal Government as the legally and financially responsible body delegates the activities of construction, operation and maintenance of the federal trunk roads to the 16 federal states (Federal Order Administration).

The federal state governments develop their sectoral planning documents and updates and have the duty to construct and maintain state roads. The responsibility for the planning and construction of federal trunk roads and feeder roads within the scope of the "German Unity Transport Projects" (VDE) lies with the DEGES, Deutsche Einheit Fernstraßenplanungs- und -bau GmbH (German Reunification Highways Construction Authority). Until 1990, the transport systems of East and West Germany were primarily geared to north-south routes. For this reason, the development of the transport infrastructure had to focus on restoring the intra-German transport routes and upgrading them to a necessary level of efficiency. Considering private sector operator models for federal trunk roads, two different forms of private sector participation are applied:

- Operator model for widening motorways by adding lanes (so-called A model);
- Operator model under the Private Sector Funding of Trunk Road Construction Act¹⁷⁵ (so-called F model).

Both models leave the infrastructure responsibilities of the Federal Government and the federal states unaffected. Concessions are awarded for fixed terms, preceded by a competition for participation.

The A model is made possible by the introduction of the distance-related motorway user charge for heavy goods vehicles. This model provides for transferring responsibility for the construction of additional lanes, maintenance, operation and funding to a private sector investor. The toll revenues from heavy goods vehicles in the sections to be widened are passed on to the private investor. The infrastructure costs imposed by other vehicles can be paid in the form of a start-up financing which is subject to competition.

In the second operator model, the so-called F model, responsibility for construction, maintenance, operation and financing is transferred to private sector investors. To recoup their costs, they are given the right to collect tolls. The F model is restricted to projects involving bridges, tunnels and mountain passes along federal trunk roads and multi-lane

¹⁷⁴ The current Federal Transport Infrastructure Plan was issued in 2003.

¹⁷⁵ Act on the Construction and Funding of Federal Trunk Roads by the Private Sector (Private Sector Funding of Trunk Road Construction Act-FStrPrivFinG) in the version of 6. Januar 2006 (Federal Law Gazette I, p. 49).

federal highways with separate carriageways for the two directions of traffic. The level of the toll is determined by the responsible federal state government. Until now, two projects were realized on the basis of the F model. These are the Warnow tunnel near Rostock (2003) and the Herren tunnel in Lübeck (2005). The Strelasund crossing was originally planned as F model. Since the tender for the Strelasund crossing produced no appropriate bids, the crossing was realized by conventional procurement (see also 10.2).

10.3. Project description

The project "B 96n Stralsund/Ruegen feeder road" is part of the programme "German Unity Transport Projects (VDE)". German Unity Transport Projects (VDE) are given priority with regard to transport infrastructure investment because they are of paramount importance for the development of Eastern Germany and the integration of the new and old federal states. Totalling 17 German Unity transport projects with an investment volume of more than EUR 36 billion form the core of the investment in the new states. The programme consists of 9 railway and 7 motorway and one waterway project and was issued in 1991 to accelerate the integration of East and West. Furthermore, important feeder roads are included in the programme.

The construction of the new "B 96n Stralsund/Ruegen feeder road", the core of which is the new Stralsund crossing, is occurring in the functional context of the A 20 Luebeck-Stettin/German Unity (VDE) road traffic project no. 10 "Baltic Sea Autobahn", which was completed in 2005.

The goal of this measure is to create an efficient road link between the city of Stralsund and the Island of Ruegen and the German/European long distance network to strengthen the tourism- and port-based economy of the structurally weak and geographically isolated area.

Figure 18: Map of the concerned area



Source: DEGES (2007): The B 96n Stralsund/Rügen Feeder Road

Since German unification, the island of Rügen has developed into one of the touristic centres of the federal state of Mecklenburg-Western Pomerania. Every year, the largest German island attracts numerous visitors. Already at an early stage it became clear that the provision of transport links to the island is not sufficient to meet the needs of a steadily growing number of tourists because the only link to the mainland is the "Ruegendamm", a rail and road embankment opened to traffic in 1936. The old link was far from being sufficient to cope with the traffic volume between Rügen and the mainland.

The new B 96n federal highway was meant to remedy the situation. The so-called feeder road to Rügen island including the second Stralsund crossing leads from the A 20 motorway to the town of Bergen on the island thus providing a hinterland connection for the ports of Sassnitz/Mukran and Stralsund as well as for the island of Rügen. Tourism in the structurally lagging region, in particular from the metropolitan areas Hamburg/Lübeck and Berlin, will especially benefit from the clearly improved accessibility of this coastal region. The transport link to the mainland is also important for the further development of the local port-based economy.

The B 96n leads to a channelization of traffic from the Autobahn A 20 to Stralsund/Rügen and to a sustainable relief for the existing federal highways, especially the bottleneck Ruegendamm, and cross-town links.

The main final beneficiaries of the project are the tourism-based and port-based economy of the region. The significant improvement of the accessibility enhances the attractiveness of the holiday region for tourists, especially for tourists from the agglomeration areas Hamburg and Berlin. In addition, the transport link is very important for the further development of the port-based economy. With the completion of the Strelasund crossing, the port Sassnitz/Mukran will get an optimal road-link. In view of the increased amount of commercial traffic foreseeable on the roads, over medium term, the ferry port will be able to continue to increase its highly competitive position in the area of freight.

The B 96n will also lead to a sustainable relief for the existing road and railway network, including the old Ruegendamm bridge, as well as several local roads. Through the construction of several by-passes on the mainland and the island section to avoid transit traffic in towns and villages the new B 96n also leads to a local reduction of noise and emissions.

In order to be able to realise traffic-effective sections of the "B 96n Stralsund/Rügen feeder road" as quickly as possible, the approximately 54 km long road project was divided into three planning sections:

- mainland section (28.7 km): open to traffic since the end of 2004, construction period 2001-2004;
- 2nd Strelasund crossing (4.1 km): open to traffic since 2007, construction period 2004-2007;
- island section (20.5 km): ongoing planning approval procedure.

The island section of the project, except a small section from the Strelasund crossing to the interchange Altefähre, was taken out of the ERDF funding procedure due to the fact that the island section could not be realised within the funding period. The EU Commission has agreed to that adaptation. Also, the Strelasund crossing is not part of ERDF funding.

The integral part of the mainland section was the construction of a by-pass which avoids the city of Stralsund (9.6 km). The section also includes 6 junctions as well as 15 viaduct constructions, one motorway bridge and 15 constructions for the Stralsund by-pass.

Centrepiece of the 2nd Strelasund crossing is the high level bridge over the "Ziegelgraben" (583 m), it also includes the following constructions:

- Headland bridge, Stralsund (327 m);
- Headland bridge, Stralsund (317 m);
- Headland bridge, Dänholm (532 m);
- Headland bridge, Strelasund (532 m);
- Strelasund bridge (539 m);
- Dam construction (456 m).

Construction works on the Island section didn't start yet. The section comprises of 4 junctions, 12 viaduct constructions, one motorway bridge and a railway underpass. Special features are a sound protection wall (218 m) and a cycling path along the entire length of the road.

10.4. Specific aspects of SG(E)I affected by the project

Short description of the specific aspect/objectives of SG(E)I realised/enhanced with the project

The following specific aspect/objectives are enhanced by the project:

- universal and continuous accessibility;
- social accessibility and/or affordability;
- territorial accessibility;
- efficiency and/or effectiveness;
- improving territorial and social inclusion;
- weakening specific geographical constraints;
- enlargement to other transport modes.

Main results of the project with reference to the specific aspect/objectives of SG(E)I

- ***Universal and continuous accessibility***: As an infrastructure measure, the new construction of the B 96n provides access to all citizens or companies respectively and is therefore neutral considering the objective of universal and continuous accessibility. However, accessibility to the new feeder road implies the availability of a private vehicle (see also 10.1).
- ***Social accessibility and/or affordability***: originally the Strelasund crossing was planned as a toll-based F model (private-sector operator model). There had been an initial invitation to tender which first took the form of a Public Private Partnership (PPP). The tender process, however, had to be cancelled in 2003 because no adequate tenders had been submitted. Reasons for this were, among others, that profitability for the private partner was low, since the existing bridge should have been toll-free. The requirement to build a comparatively expensive pylon bridge further reduced the profitability of the project. In addition, the support of the federal state of Mecklenburg-Western Pomerania for a toll-based crossing was small due to structural weakness of the region. There was an incentive for the federal state of Mecklenburg-Western Pomerania to abort the PPP-project and to abandon the toll-scheme, hoping to receive full funding by the federal republic and the EU.

- ***Territorial accessibility***: the A 20 motorway, to which the new B 96n serves as feeder road, is of great significance as an instrument of structural policy to the federal state of Mecklenburg-Western Pomerania. As part of TEN the motorway provides important transport connections to northern Poland and Scandinavia. The new B 96n strengthens the hinterland connection of the port-based economy and the serves as feeder road to the Hanseatic City of Stralsund and the Island of Ruegen.
- ***Efficiency and/or effectiveness***: the previous bridge to the Island of Ruegen (Ruegendamm) proved no longer effective. Furthermore, the traffic-flow came to a halt several times a day due to the opening of the flap-bridge for shipping. During traffic peak hours, especially in holiday periods, the capacity limit of the two-line Ruegendamm is at around 18 000 vehicles per day. Hence, aim of the construction of the new Strelasund crossing was the reduction of frequent, especial seasonal traffic congestion. It also serves as an efficient transport link to German and European markets via the motorway A 20.
- ***Improving territorial and social inclusion / Weakening specific geographical constraints***: with a surface of around 926 km² the Island of Ruegen is the biggest island in Germany. Beside the territorial remoteness linked to the island situation, the region, like many East German regions, is affected by demographic change: Whereas around 70 000 people live on the island today, it is expected that the population decreases by 15% till 2020 to 60 000 people. On the other hand, the number of yearly tourists escalated to ca. 1.4 billion visitors in the last years (1995-2006). The numbers illustrate the strong dependency of the Island of Ruegen from tourism. In addition to tourism, the port-based economy is an essential economic factor. For the further development of this economic sector the accessibility of the ferry ports Stralsund and Sassnitz/Mukran are of existential importance. Overall, the new feeder road is a tool for safeguarding and improving employment in the structurally weak and geographically isolated region and to prevent further emigration to other regions.
- ***Enlargement to other transport modes***: the construction of the new "B 96n Stralsund/Ruegen feeder road" serves as important supra-regional feeder road to the A 20 motorway as part of TEN and provides for a significantly improved road-based hinterland connection for the ports of Sassnitz/Mukran and Stralsund. It facilitates within the TEN a more efficient intermodal link between the federal trunk road network and the international sea and ferry traffic.

Changes of public service approach, at regional and/or national level

The new Strelasund crossing in association with the completed motorway A 20 and the B 96n feeder road lead to an optimal road based transport link of the Island of Ruegen to the mainland. This, however, generates new tourism traffic as well as new transit traffic due to the further development of the port Sassnitz/Mukran. The realization of the island section is delayed since the designated layout of the road affects issues of Natura 2000. Environmental groups are strongly opposed to the new construction of the B 96n and favour the upgrade of existing roads, which is also less costly.¹⁷⁶ Concerning future road projects the experience with the problems faced on the island section of the B 96n might lead to a stronger consideration of alternatives such as the improvement of public transportation or the upgrade of existing roads, especially in ecological sensitive areas.

Expected changes in the use of Structural Funds in the SG(E)I, at regional and national level

The contribution of the Structural Funds helped to accelerate the new construction of the B 96n. Change in the use of Structural Funds can't be identified.

¹⁷⁶ <http://www.bund.net/index.php?id=3217>, 23.04.2010.

10.5. Governance aspects

The main stakeholders involved in the project are:

- German Federal Ministry of Economy and Technology¹⁷⁷: responsible ministry for coordination of EU structural policy, at the same time it acts as Federal administrative authority with regard to ERDF-funds;
- German Federal Ministry of Transport, Building and Urban Development¹⁷⁸: Preparation of ERDF Federal Transport Operational Program, responsible ministry for German Unity Transport projects of which the discussed project B 96n is part of;
- German Reunification Highways Construction Authority (DEGES)¹⁷⁹: responsible for the planning and construction of the B 96n (except by-pass around Stralsund) in behalf of the Federal State Mecklenburg-Western Pomerania;
- Federal state of Mecklenburg-Western Pomerania / Stralsund city council highways department: responsible for the planning and construction of the by-pass around the city of Stralsund.

The list shows that all the stakeholders are public institutions. As stated earlier the Federal Government as the legally and financially responsible body delegates the activities of construction, operation and maintenance of the federal trunk roads to the 16 federal states (Federal Order Administration). Although the B 96n is a federal trunk road, as an important feeder road it is also classified as a "German Unity Transport Projects" (VDE). Those measures are planned and constructed by the DEGES, Deutsche Einheit Fernstraßenplanungs- und -bau GmbH (German Reunification Highways Construction Authority). Only the by-pass section around the Hanseatic City of Stralsund was within the responsibility of the federal state of Mecklenburg Western-Pomerania, respectively the Stralsund city council highways department.

At the beginning of the planning and in the course of the planning approval process of the section of the Strelasund crossing the majority of the media, the nature conversation organisations and many citizens strongly disapproved the project. It was assumed, that the new bridge could interfere with the medieval structure of the City of Stralsund and jeopardize the city's status as a World Cultural Heritage. The suggestions of the critics were taken into account by the planning authority with regard to the further outline planning. Also, after the issue of planning approval it became clear, that ecological aspects (EC habitats and birds directive) had not been taken into account properly. With the new planning approval issued in March 2004 after EU treaty violation proceedings initiated by nature conversation organisations have been dismissed, building of the Strelasund crossing began in August 2004. In order to ensure that the birds are not affected by the planned bridge construction, an extensive examination on bird migration was carried out by the planning authority. The research concluded that collision risk for migratory birds was low and there would be no significant negative effects on the local bird populations.

As stated above the planned island section of the B 96n, which is still in the planning approval procedure, is also strongly opposed by nature conversation organisations and some residents. The pending planning approval is owed to the fact that the federal state Mecklenburg-Western Pomerania didn't manage to register the habitats of the ecologically sensitive Island of Ruegen according to the EC habitat directive in time. The environment groups developed a concept for a less invasive road construction to alleviate traffic problems on the island for the stakeholder consultations of the planning approval process.

¹⁷⁷ Bundesministerium für Wirtschaft und Technologie (<http://bmwi.de/>)

¹⁷⁸ Bundesministerium für Verkehr, Bau und Stadtentwicklung (<http://www.bmvbs.de/>)

¹⁷⁹ Deutsche Einheit Fernstraßenplanungs- und -bau GmbH (www.deges.de)

Their main points of criticism with regard to the current plans are, beside the destruction of habitats, the enormous costs of the planned construction, the unreasonably high predicted congestion figures, complete parallel routing of the new and old federal trunk road, exaggerated planning of constructions and the prevention of sustainable tourism. Although several stakeholder consultations have taken place in the course of the planning approval process, the environmental groups still strongly oppose the designated routing and want to take action against the planning approval, which will be most likely issued in 2010.

10.6. Universality of access and affordability

This chapter discusses two main issues related to SG(E)I's provision: the universality of access and the affordability.

Universality of access to SG(E)I

In general, as a transport infrastructure project, the new B 96n provides access for all citizens and companies. The described region has still backlog demand concerning road infrastructure compared to other German regions. Reasons for this, as described earlier, are the geographic remoteness and its history as part of the former German Democratic Republic. The feeder road improves the access to markets for the port-based industry and serves as a transport link for the regions' important tourism economy. Furthermore, it enhances the mobility chances of the local residents.

Access to the new road requires the availability of a private vehicle, though. The mobility of persons who don't have a private vehicle to their disposal, are excluded. This applies to a great extent to women and elderly people (although the level of motorization of older people is on the rise). Especially in light of the enormous demographic constraints-the population of Mecklenburg-Western Pomerania shrunk by -11.2% until 2006 and forecasts show a further decrease of -11.8% until 2025 due to a noticeable low birth rate and net migration losses¹⁸⁰-and the already sparsely population density, the protection of well-balanced mobility chances and the provision of appropriate accessibility for all social and demographic groups through transport infrastructure is able to contribute to social equal opportunity. Therefore, accompanying measures to expand public transportation in the region might be necessary in terms of universality of access.

Affordability of SG(E)I

The use of the B 96n including the Strelasund crossing is free of charge. Contrary to the early intention to design the section of the Strelasund crossing as toll-based private operator model (F model), the whole project was financed by public funds.

10.7. Thematic focus

The effects of geographical remoteness are a major challenge to large regions of the federal state of Mecklenburg-Western Pomerania. The federal state is a rural, peripheral region which is located at the north-eastern border of Germany, adjoining the Baltic Sea and, to some extent, Poland. The federal state has a surface of around 23 000 km² and covers 6.5% of the total surface of Germany.¹⁸¹ The Island of Rügen, which is linked to the Autobahn A20 by the feeder road B 96n, is Germany's biggest island. However, the territory addressed by the feeder function of the B 96n cannot be reduced to the federal state alone. The port- and tourism-based economy of the region has a far greater catchment area.

As described earlier, the whole region is sparsely populated and has undergone dramatic structural change during the transformation process. The unemployment rate is still the

¹⁸⁰ <http://www.demographiekonkret.aktion2050.de/Mecklenburg-Vorpommern.126.0.html>, 12.04.2010.

¹⁸¹ <http://www.m-vp.de/land/fakten-territorium-bevoelkerung.htm>

highest compared to other German federal states and the region is still the poorest in Germany and well below EU-average. Also, the region is facing severe demographic problems.

The coastline of the Baltic Sea, including islands such as Rügen, as well as the Mecklenburg Lake District are characterised by many holiday resorts and pristine nature, making Mecklenburg Western-Pomerania one of Germany's leading tourist destinations. Beyond that, maritime industry is an important economic sector. Both sectors are highly dependent on the endowment with transport infrastructure.

Therefore, the new feeder road B 96n in connection with the coastline motorways A 20 ensures an efficient transport connection of the Island of Rügen and the City of Stralsund to the German and European commercial centres. It also serves as hinterland connection of the ports Stralsund and Sassnitz/Mukran and improves the accessibility for tourism. The A20 is the major East-West connection in the North of Germany and improves the market access for the whole region and enhances location conditions.

10.8. Contribution to cohesion policy objectives

Even more than 20 years after the Fall of the Wall, considerable deficits regarding cohesion policy objectives can be observed in the new member states of Germany, especially in the structurally weak Mecklenburg-Western Pomerania. This is also true for the still fragmentary endowment with regional and supra-regional transport infrastructure. Unemployment rates are consolidated on a high level and there is still a large productivity gap compared to the old member states. The endowment deficit considering the potential factor transport infrastructure harms the regional development and the generation of income in those regions.

The construction of the B 96n contributes to the economic, social and territorial cohesion by improving the attractiveness of the affected regions through enhancing accessibility. Due to the above described peripheral location of the federal state Mecklenburg-Western Pomerania the project serves as a way to reduce territorial disparities and imbalances in terms of location of economic activity. The socio-economic assessment of the project prepared for the ex-ante project dossier estimated a benefit cost ratio of 6.5 according to the assessment methodology of the Federal Transport Infrastructure Plan 1992. This ratio is based mainly on the complementary benefit components "reduction of transportation costs" and "improvements of territorial accessibility". The environmental effects, especially higher greenhouse gas emissions of the projects lead to negative results.

The strategic relevance of the new B 96n is to enhance the appeal of the region for investors and for existing businesses, especially in the port and tourism sector by improving transportation routes and accessibility to German and European markets.

The Sassnitz/Mukran ferry port is the largest reloading point for rail-ferry traffic and the third largest Baltic Sea port in Germany. Through its ideal geographical location, the port on the Island of Rügen is able to provide the shortest sea connections from Germany to Sweden, Denmark, Finland, Russia and the Baltic States. With the completion of the Strelasund crossing, Sassnitz/Mukran will, beside the rail link to the mainland, also get an efficient road link. In view of the increased amount of commercial traffic foreseeable on the roads, over the medium term, the ferry port will be able to continue to increase its highly competitive position in the area of freight.

The main advantages arising from the Structural Funds' contribution is the acceleration of the completion of the project. Without ERDF-contribution the realisation would have taken much longer due to the scarcity of budget funds.

11. Greece.

Broadband over the mountains

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11.0 Background information

a) Country	Greece
b) Region	Western Macedonia - Kozani Prefecture
c) Full Project Title	Bridge Me (Broadband over the mountains)
d) Duration	21 months (January 2005 – September 2006)
e) Programme	Objective 1 ROP Western Macedonia
f) Total Cost	EUR 355 000
g) EU Contribution	ERDF 75%
h) National Contribution	25%
i) Private Contribution	0%
j) Sector	Telecommunications
k) Sub-Sector	ICT
l) Beneficiary	Municipalities of the Region
m) Implementing body	Association of Local Governments

11.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

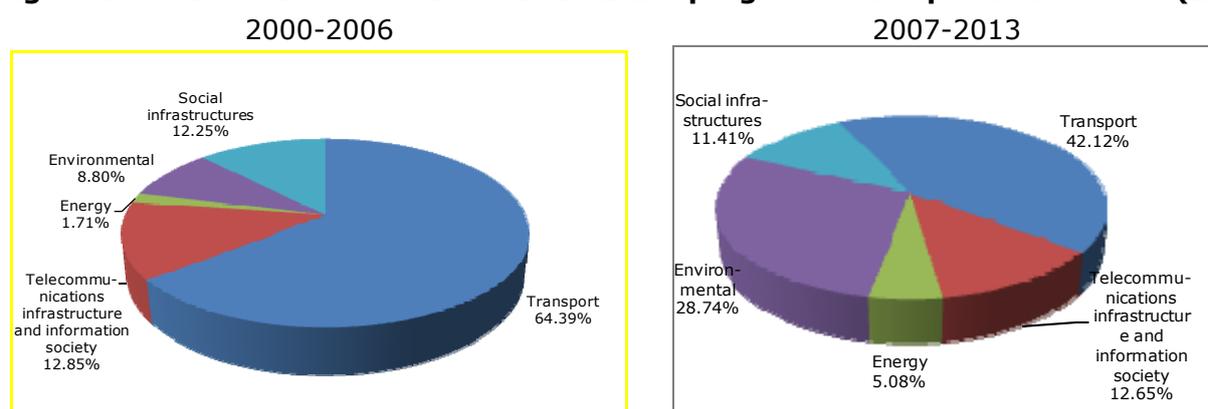
The last two decades Greece's development efforts have mainly been associated with European Structural Funds, which have played a central role in financing large scale projects in the sectors of transport, telecommunications, urban development, etc. Today, the Greek NSRF 2007-2013 reflects the national development strategy for the next years and is being implemented through 14 Operational Programmes, of which nine are Sectoral (SOP) and five are Regional (ROP). These are designed to achieve 14 General Objectives. As figure 19 shows, in the 2000-2006 programming period 64.39% of the ERDF expenditure was allocated to transport and 12.8% to telecommunications, while in the 2007-2013 period there has been a shift towards environmental protection (28.74%) but the information society (including telecommunications) is still at 12.65%. This can be explained by observing the evolution of the national objectives within the policy documents. It has been noticed that the Integrated Mediterranean Programmes of the 1980s and the first CSFs of the 1990s gave emphasis to infrastructure, while the NSRF has set new priorities. More particularly, transport funds have been reduced to 42% (still the largest share) because the big transportation projects such as the Rio-Antirrio Bridge, great part of the Egnatia Roadway, Athens' Metro Network, Athens' new Airport, etc. were completed in the previous period. At the same time the environmental sector and the investment in "soft" development factors is prioritised.

These new priorities affect the regional development objectives. Demographic trends make the need for these new priorities even stronger: the ageing population (especially in rural, mountainous and insular areas) and immigration are the two main challenges that are being addressed within the relevant planning texts. The improvement in the sectors of Health and Welfare (e.g. the improvement of the services provided and the citizens' access to them, and the restructuring of the healthcare system) is also included in these new priorities. Apart from the above, ICT development is also expected to have a wider positive effect. Still it has to be noted that Greece's current financial crisis and the agreement to use funds from both Europe and the International Monetary Fund to overcome this situation has led to a new unpredicted situation with many difficulties. Obviously, this will strongly affect many of the aspects of the planning procedures for SG(E)I as well. According to official sources 15% of the resources of NSRF 2007-2013 will be allocated to various OPs until the end of the year 2010. Also, the government is planning to take some legal measures in order to eliminate the bureaucratic procedures regarding the implementation of the NSRF projects. In order to facilitate the covering of the national contribution for the

implementation of the projects the European Investment Bank will give to Greece a loan of two billion Euros with very favourable terms.

For the 2007-2013 a very important change that affects every aspect of the NSRF is that many Greek regions have moved from Objective 1 to the Competitiveness Objective since the last programming period 2000–2006. Hence, a transitional support scheme is being implemented where there are still many references to SG(E)I. Within the NSRF strategy there are mainly two OPs which are enforcing actions concerning SG(E)I and especially telecommunications issues, the “Digital Convergence” and “Public Administration Reform” and particularly through the priority axes “Improvement of Productivity with the use of ICT”, and “Upgrading of Public Policies”. Important actions are also enforced within the “Education and Lifelong Learning” OP, where the development of the use of ICT within the educational procedures and training of the teaching staff are of major importance. The five ROPs all have prioritised the ICT sector within the Priority Axis “Digital Convergence and Entrepreneurship” with the exception of Attica where the relevant axes are “Sustainable Development and Improvement of the Quality of Life” and “Improvement of the Competitiveness and Innovation”. According to the NSRF strategic report that was presented in December 2009 by the Ministry of Economy, Competitiveness and Shipping the progress of the implementation of the NSRF has witnessed delays which have especially affected the above mentioned programs. Still some successful programs from the period 2000-2006 have been continued, as e.g. the Corallia Clusters Initiative.

Figure 19: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

Regarding spatial planning of SG(E)I, Greece faces particular difficulties because of its territorial diversity (mountainous areas and islands with special demographic characteristics). Each of the country’s islands is in need of different types of infrastructure: harbours, airports, water and waste management systems, environmental protection of the coastline and the sea, health care, education, etc. The isolated mountainous areas face similar problems such as sparse population, ageing and high costs of social infrastructure. Therefore the strategy for the information society is vital, as it is connected with the confrontation of the problems faced by the less favoured areas. According to the latest figures on broadband services published by the Greek Observatory for the Information Society (2008) the lagging of the rural regions behind the urban areas is still quite important. Generally, the Internet penetration percentage¹⁸² in large cities such as Athens (49.6%) and Thessaloniki (46.8%) is quite high as opposed to the low percentage of rural areas (21.2%). While the Greek government has ambitious plans for making Greece a fibre

¹⁸² This concerns the percentage of persons making use of the Internet at least once per week.

nation, the strategy announced in 2009 mainly concerns urban areas: the intention is to connect over 2 million homes with fibre network during the next seven years in Athens, Thessaloniki, and 50 other cities and towns across Greece. Apart from that, the project depends on the support from the private sector as the state plans to cover only EUR 700 million of the EUR 2.1 billion total cost. The ICT lagging problem of rural, mountainous and insular regions is still to be addressed.

11.2. National framework in the provision of SG(E)I

In Greece the investment and provision of SG(E)I services has traditionally been associated with state intervention. The geographical coverage of these services is the main issue: the sparsely populated areas, the extended border areas (which is connected with the problem of illegal immigration) and the large number of sparsely populated areas often make this provision very expensive, while the private sector cannot cover in a cost benefit situation. Local Governments are in many cases the providers of such services, while PPPs are not so common yet. Partnerships among different state authorities are starting to become a common practice with very promising results.

The Telecommunications Sector in Greece differs from other SG(E)I sectors, as the private companies hold a very important role. The main stakeholder is the Hellenic Telecommunications and Post Commission (EETT) which supervises and regulates the telecommunications as well as the postal services market in all kinds of electronic communication activities pertaining to the provision of electronic communication networks or/and services, conforming to Law No. 3431/2006 and the "Regulation on General Authorizations" (EETT Decision no 390/3/31-6-06). One of the main tasks of the EETT is to monitor and – if necessary - interfere in the liberalized telecommunications market. The state monopoly of the National Telecommunications Organisation was lifted in the 1990s and has brought a number of private providers in the market, a fact that resulted in improved services to the customer and better prices. The operation of the national provider OTE within the liberalized market created some problems at first, but, after 2006, these were dealt with and the national regulator set Greece's broadband market on the path to fair network access and more competition. The two key events in 2006 were the transposition of the EU framework for Electronic Communications into Greek law and the new regulations on Local Loop Unbundling (LLU). Since 2006 there has been considerable progress in the development of the Greek broadband market. At the end of 2008, Greece rose to the third highest position by annual broadband penetration growth among the 27 EU Member States. However, despite the progress, the country still ranks fifth from the bottom by broadband penetration and falls significantly below the European average. During the first half of 2009, broadband penetration in Greece increased by 2.19% from 13.44% to 15.63%. The rapid increase in LLU lines has contributed to broadband growth. At the end of 2008 they constituted 36% of all broadband lines (compared to 20% in 2007), and their share further increased to 40.5% by June 2009.

Especially regarding the provision of Internet access and the Information Society the Structural Funds and the state intervention hold a very important role. The main policy document is the "Greek Digital Strategy", which will utilise more than EUR2 billion in ICT related initiatives, until 2013 within the OP 'Digital Convergence' in the context of the NSRF 2007-2013. The Digital Strategy to 2013 has now presented a series of 9 "threads" of initiatives to be supported by ICT, all related to everyday activities of citizens and businesses alike. The threads of activities which are eligible for funding include: Digital Support of Knowledge; Digital Consumer and Business; Digital Protection of the Environment; Digital Security; Digital Support of Work; Improved Quality of Life; eInclusion and eParticipation; Digital Support of Outward looking businesses; and "Digital Regions". The aforementioned dimensions constitute the policy dimensions, while the technology-

related targets are still governed by the provisions of the Operational program 'Digital Convergence' as defined in the Greek Digital Strategy.

11.3. Project description

The main features of the "Bridge Me" project and the particularities of the region are the following:

Kozani and ICT lagging

The Kozani Prefecture (one of the 52 prefectures of Greece at NUTS3 level) is part of the Region of Western Macedonia, a mountainous, rather isolated region in the northwestern part of Greece, with 82% of the territory covered by mountainous and semi-mountainous areas. The city of Kozani is the capital of the Region of Western Macedonia. The capital city holds a population of 60 000 inhabitants, while the overall Kozani Prefecture has a population of 155 324 inhabitants with 44.17/km² population density. The GDP per capita amounts to EUR 14 178 (119% in relation to the national average). The Kozani Prefecture has a large industrial sector which accounts for 41.3% of its GDP. Agriculture accounts for 9.8% and services for 48.9%. The geographical morphology is mainly mountainous, flat areas being restricted largely to upland basins, two of which (those of Ptolemaida-Kozani and Siatista-Grevena) are amongst the largest in the country. Both Kozani and Western Macedonia are characterised by their important natural resources and forests. The isolation of most of its territory and low accessibility has led to poor performance in many different sectors (entrepreneurship, new technologies, research, etc.). The lagging of the area of Kozani regarding the ICT sector in comparison with the national and European scale made the situation even worse and action was taken from the Association of Local Governments in order to solve this problematic situation with a new innovative project.

Main elements of the project

The "Bridge Me" project concerns the development of a wireless broadband network which connects the municipal authorities of the area with the Prefectural and the Regional Authorities. A high-speed information platform was created which can allow the use and exchange of data, sound and image. "Bridge Me" is considered one of the largest wireless LAN networks as it covers a geographical area of 3 515 km², most of which is mountainous. The network consists of 72 wireless connections at a max of up to 108Mbps (2.4GHz&5.4GHz unlicensed Band) and covers a total distance of 472 km of Wireless networking connectivity. The links successfully transfer Voice over IP/video and data in high altitude areas regardless of weather conditions (snow, rain, fog, wind), where temperatures can drop to -28°C. The "Bridge Me" network allows connections at any place and any time in the Kozani Prefecture where the services are offered. The network's management system includes innovative functions, such as the use of integrated layer 2-3 routers for forwarding data and has been proven to be fast and robust.

The Bridge Me project was funded by the European Regional Development Fund (75%) and National Funds (25%) under the Regional Operational Programme of Western Macedonia through Measure 4.6 referring to the "Information Society" aiming to incorporate new information technologies in public administration and self local government. The total budget was EUR 355 500 and it was implemented from January 2005 to September 2006.¹⁸³ The first section of the project had focused on the broadband wireless network construction whilst the second section concerned citizen's services provisions such as paying municipal taxes, submission of requests and complaints, official document requirements etc.

¹⁸³ According to the Project Manager Mr. Topaloglou the project will be in full operation within the next months.

Objectives of the project

The "Bridge Me" project has a wide objective while it aims to introduce the following services:

- support municipalities broadband services within the procedures that support e-government and e-democracy, through new applications such as e-voting at local elections, requests for official documents;
- provide public services to citizens living in rural areas;
- provide environmental protection with services such as forest fire prevention. More particularly, to enhance local governance by supplying advanced technology for forest fire prevention using an advanced smoke detection system, air pollution surveillance and water management;
- support automated projects based on Internet Protocol (IP) or serial communication;
- develop e-learning in training and education initiated by local actors;
- establish a local network among universities, local governments, firms and local agencies stipulating innovation and create employment opportunities;
- enhance entrepreneurship by creating new firms based on wireless technology such as building security services, vehicle-fleet management, via the network;
- familiarize people in rural areas with ITs;
- develop IP-Phone network among public bodies to reduce communication costs;
- internet share;
- provide the platform e-business services (e.g. e-payments, wireless fleet management).

The "Bridge Me" project has contributed to the goals of the regional strategy which include: improving the effectiveness of the public sector; balanced and sustainable territorial development; improvement of entrepreneurship; improving citizens' access to ICT; human resources development and innovation. Today, citizens can make use of various innovative services regarding the municipal services such as on line polls, payment of fines with the help of Web banking applications, payment of municipal taxes, etc. One of the applications that were developed within the "Bridge me" Network, the employment database "ergasiakozani.gr", has been particularly successful. Finally the "Bridge Me" responds to the European Union's Lisbon Strategy regarding a) More growth, b) More and better jobs, c) Better governance, and d) information-knowledge society.

Main steps of the project

After the initial implementation and development of the basic infrastructure of the Bridge Me project, the next steps considered the determination of its future prospects and the full operation of the services. More particularly:

- a Business Plan was conducted for the Wireless Services of Kozani. The plan, which was financed by the Local Government Fund "Thiseas", describes possible ways of further development and exploitation of the infrastructure by highlighting best practices from the international experience on this subject;
- based on the Business Plan, the next steps of the project concern the further development of the Network by including other services and organisations of Kozani such as Neighbourhood Committees, Public Bodies, Health Centres, etc.;

- one of the major applications that has followed the development of the Bridge Me project is the operation of 92 WiFi Hot Spots –funded by call 192 of the Information Society Programme of Greece - in central spots of the Kozani Prefecture. These spots include the central squares of all the municipalities, the bus stations, schools, sport halls, the regional bus network, etc. The access to this service is free both for the citizens and the visitors of the area;
- other important applications, such as those connected with environmental protection, have been set as planning priorities for the future.

11.4. Specific aspects of SG(E)I affected by the project

One of the main applications of the Bridge Me project is the connection of all the municipal offices of the Prefecture, in the context of the development of an e-government and e-democracy field. The software has been installed and the only step left for its operation is the training of the staff of the municipalities. This has been delayed due to the new context set by the Kallikratis Law (3852/2010) for the Local Government Restructuring which is about to change drastically the organization of the municipalities. Therefore the full operation of this service is estimated to start within 2011. The provision of free access to WiFi is in full service. The notion of wireless connectivity reaches almost every aspect of economic and social life. It is the most effective way of connecting to the Internet as it provides connection at high speed and without interruptions. The operation of the 92 hotspots ensures the access to all citizens and visitors of the prefecture. The only step one has to make is to search for the "LGA Wifi Bridge me" connection, use the accept button in the welcoming page and automatically he connects to the Internet.

Since "Bridge Me" is a project with wider scopes and objectives, it aims to influence different sectors of the local SG(E)I. Many new applications are being implemented but at this moment it is difficult to fully evaluate the results of the project. A very good example of a specific application within the network which has already been implemented is a new service called "ergasiakozani.gr" which is part of a Local Employment Action of the Prefecture of Kozani entitled "Multiplying Support for Employment and Entrepreneurship". The Association of Local Governments, while implementing the "Bridge Me" project, saw the necessity of creating and operating an on-line employment data base which aims to link the demand and supply for labour in the area. The most important principles of the operation of this new service is that it is not run by a single body but it works on the basis of mutual inputs by different bodies, its easy functioning (as it has to be appealing to all kind of users) and the protection of personal data. It aims especially at less favoured groups of the local population. The "ergasiakozani" project has an annual budget of 60 000EUR (2010) which covers the salary of the administrator, technical support, the cost of SMS, travelling expenses, the expanding of the services and publicity expenses. The latter is considered as very important since publicity has increased the use of the application.

According to the latest data, "ergasiakozani.gr" contains 1 600 enlisted companies and 4,600 enlisted job seekers, whose names are known only by the administrator of the application. The protection of personal information has been set as a priority. The real-time information of the participants for any news or change in the applications is sent both by e-mail and short message service (SMS). Until today 477 SMS messages have been sent and 15,000 matches have been made between job seekers and enterprises as 121 job openings have been posted. From this job openings 108 were covered by the database, which gives a high percentage of success (84.2%). The enterprises haven't got direct access to the job seekers database, but the latter get the enterprise's contact information and they are the ones who make contact.

Another subproject that has been introduced in 2009 for a specific part of the city of Kozani and is also connected to the objectives of the "Bridge Me" Project is the "Smart

Neighbourhood” application. The application allows the citizens to have access to a range of electronic services with the use of telephones with a video function; they can hereby cover needs that are connected to daily life, the special needs of their work, entertainment, communication, etc. Furthermore this application is also connected to safety issues.

11.5. Governance aspects

The implementation of the project has been executed by the Association of Local Governments which is formed by the municipalities of the prefecture that are also the main stakeholders of the project. Apart from them, the Prefecture (Nomarchia) of Kozani and the Region of Western Macedonia were also important stakeholders. This partnership has been very successful and its future prospects are very promising. Despite that, it has to be noted that the already mentioned “Kallikratis Law” will affect the “Bridge Me” project and its various applications.

The government aspects of the “ergasiakozani.gr” subproject in particular are considered as very successful. To some extent it is based on a Private Public Partnership as the private companies are directly involved. Apart from the Association of Local Governments and the municipalities there is an important number of bodies that are members of this partnership: the Chamber of Commerce, the Technical Chamber, the Geotechnical Chamber, the Labour Union, the Development Agency of Kozani, the Employment Organisation Office, the Regional Committee for Gender Equality and three public lifelong training centres. In the next steps of the program the public bodies will also be enforced to make use of this tool – this will increase the credibility of the project to both job seekers and enterprises. The objective of this partnership was to create a permanent local forum for employment issues that will eventually lead to the full operation of an Employment Observatory. The project was also followed by publicity actions such as information days and extended publicity in the local media.

11.6. Universality of access and affordability

Universality of access

The provision of public services and information to citizens residing in rural or mountainous areas and their familiarization with ICT is one of the main accomplishments of the project. In the case of the employment portal (ergasiakozani.gr) this application proved to be extremely useful and the way it is managed is very effective, as there is no interference of any kind. The connections made between enterprises and employment seekers work automatically without actual human interference and this proves to be one of the main advantages of the technological solutions that have been chosen.

Apart from the above, some particular applications that will be implemented within the next months are expected to improve the provided services of the program. For example one of the applications that aims to prevent forest fires, detect smoke or air pollution and control water management provides a vital tool for the local government. Furthermore, “Bridge Me” reduces the communication costs among public bodies with the use of net-phones and generally allows the support of any kind of business or social networking activity. It also enhances entrepreneurship by creating new firms based on wireless technology such as building security services, vehicle-fleet management, etc.

Affordability of SG(E)I

The project provides the citizens with the opportunity to make use of broadband services without any costs attached. Especially the “ergasiakozani.gr” application covers a need that cannot be fulfilled by a private office. The range of social groups covered and the fact that

the use of this service does not have a cost is made possible due to the ERDF contribution to the "Bridge Me" project and forms one of the main advantages of this program.

11.7. Thematic focus

Bridge Me is a project that helps in overcoming the disadvantages created by the geographical characteristics of the area, as it is a platform that can support services which are of particular interest to specific groups of the population. This doesn't only concern the e-government applications that are already in operation, but also the applications that are planned to start operating the next months.

The expected results of the project have been partly met, as some parts of the "Bridge Me" project are still being delivered or improved. Particularly successful can be considered the operation of the 92 hotspots that ensure free access to Wi-Fi for all citizens and visitors of the prefecture.

Another successful application is the "ergasiakozani.gr" which primarily targets the following groups: Women long-term unemployed, young people without skills, ICT illiterate persons, young farmers, and immigrants and refugees. Within the next months the service will be extended in order to cover the needs of the students of the local University Departments who want to work as interns in local businesses. The ergasiakozani project apart from being an e-job portal, also addresses the particular needs of specific less favoured groups. The organization of Greek language seminars for immigrants and the ICT lessons for unemployed persons over 40 are some characteristic examples. At first the planning was for 167 persons but the high demand has raised this number to 299.

The "ergasiakozani.gr" is going to be translated in English and there are plans for extending the service in the whole region of Western Macedonia. Cross border cooperation is an issue that has to be further examined as the project could be extended towards the neighbouring regions. This has been already planned and will be discussed during a conference on cross-border cooperation which will be held in Veroia in September 2010.

11.8. Contribution to cohesion policy objectives

Mountainous and disadvantaged areas (e.g., islands) have particularities that refer to social, economic and cultural characteristics, which do not allow provision of SG(E)I. In economic terms, the existence of a limited local market, scattered in a lot of small communities and settlements, is a barrier to develop competitive enterprises and establish an economic advantage. Therefore ICT and, especially, broadband access has proved to be very useful. This is the case for the prefecture of Kozani, where the SG(E)I provision regarding ICT through the "Bridge Me" project has proved to be an essential development tool. Taking into consideration that the prefecture has an ageing population especially in its rural areas, their ability to enjoy services of high quality is made possible through this service.

The ability to distribute data at high speed and through multiple platforms comprises a key factor for the development of new services, the creation of employment opportunities, the promotion of innovative activities, and the attraction of investments. Of course, the primary objective which was the support of the Local Government's services, is also of great importance, as e-government becomes a priority for the improvement of the shortcomings of the public management issues in Greece. Apart from that the opportunities that the use of ICT offers for the employment market, the familiarisation of citizens with new technologies, the provision of health care, the protection of the environment (through the operation of a Forest Surveillance and Protection System), and, generally, with the establishment of a networking platform without cost are very important.

Especially, the job seeking application of "ergasiakozani.gr" proves the importance for the achievement of the cohesion policy objectives. Not only is the network used as a platform

for job seekers and enterprises, but most importantly the exchange of information and data is done automatically. The willingness of the beneficiaries to pay for such a service is difficult to estimate, still a very large proportion of users – especially the ones that belong to less favoured social groups - would have been excluded from access to vital information and applications, if they had to pay for them.

The Cohesion Policy and the provision of SG(E)I in the case of Greece remain a critical policy issue – especially during the current financial crisis- and must therefore be addressed more carefully. For the reasons explained above the provision of broadband services within the Digital Convergence strategy is a commodity that cannot be easily left to the market or to the large telecommunication companies to provide, as, obviously, they are not interested in covering local needs in less privileged areas. Handling information as well as providing cheap, constant and unhindered access to all electronic services is therefore an example of SG(E)I that has to be further supported through the Cohesion Policy.

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The content of this case study derives partly from interviews with the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Dimitris Mavromatidis, Project Manager Portal ergasiakozani.gr LGA (8.6.2010)
- Dimitris Valtadoros, Administrator, Portal ergasiakozani.gr LGA (15.6.2010)
- Ioannis Tziotis, General Director, Marac Electronics. S.A. (14.6.2010).
- Konstantinos Vlachos, Ministry of Economy, Competitiveness and Shipping (14.6.2010)
- Lefteris Topaloglou, Director LGA and Project Manager Bridge Me (7.and 18.6.2010)

12. Hungary. European day care centre for the children of Csemő

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PPMI, Public Policy and Management Institute

12.0. Background information

a) Country	Hungary
b) Region	Csemő (Central Hungary)
c) Full Project Title	European day care centre for the children of Csemő
d) Duration	14.10.2005-30.11.2006
e) Programme	Regional Development Operational Programme (2004-2006)- Measure 2.3 "Infrastructure investment in pre-school institutions and primary schools"
f) Total Cost	EUR 898 904
g) EU Contribution	ERDF 94.8%
h) National Contribution	5.2%
i) Private Contribution	0%
j) Sector	Social Infrastructure
k) Sub-Sector	Childcare infrastructure
l) Beneficiary	Csemő Local Government
m) Implementing body	Csemő Local Government

12.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

In both Hungarian National Strategic Reference Frameworks (2004-2006 and 2007-2013) the term "Services for General (Economic) Interest" cannot be found and is not used. The logic of these documents is not following this kind of terminology and categories. Although it is often argued in both National Development Plans that regional disparities are caused (amongst others) by differences (in quality and accessibility) of public services.

The present case study belongs to the field of human infrastructure that consists of the following sub-sectors: health, social services and educational infrastructure. In the first Hungarian NDP (2004-2006) under the central regulations, Operational Programmes have not been mono-funded (including European Social Fund financed, human resource development type of programmes and European Regional Development Fund financed, and infrastructure development type of investments). It means that the Operational Programmes have been thematically divided and in this period Hungary had one Regional Development Plan for all seven regions.

Educational infrastructure was a part of the Regional Development Operational Programme concentrating on the following topics:

- more capacity and better quality of day care services (kindergartens, age 3-7);
- 21st century public education: IT developments, environment friendly infrastructure development;
- Educational integration: equal accessibility to high level public education for all. The elimination of existing segregation. (Segregation means the separation of children coming from a disadvantaged social situation, typically of Roma origin).

In the second Hungarian NSRF (2007-2013) a separate and mono-funded (European Regional Development Fund financed) Operational Programme has been introduced for human infrastructure investments. The specific objectives are the following:

Table 2: Specific objectives and indicators of the Operational Programme

Specific Objectives	Indicators
1. Reducing the territorial disparities of the infrastructure of public social services and improving access to them	e.g. Reducing the differences (spread) as measured at small regional level of the number per 1000 pupils of classrooms equipped with Internet and ICT-devices
2. Improving the efficiency of public social services, enhancing their comprehensive reform	e.g. The average length of time need to satisfy the labour demands of companies

Source: Operational programme

Concerning the relevant sub-sector the following priority axes are set:

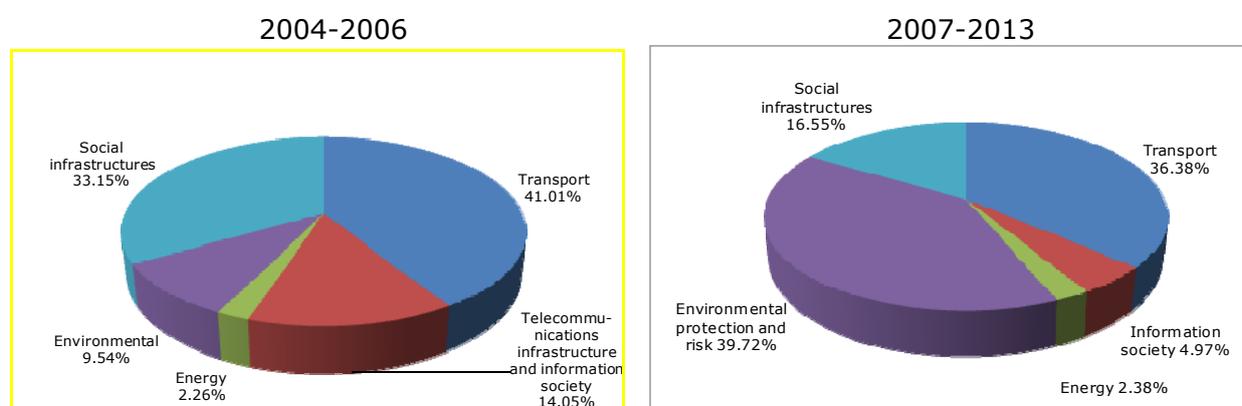
- development of an education infrastructure;
- development of an infrastructure of school-based education-the "Intelligent School";
- development of an infrastructure supporting co-operation between education and cultural institutions;
- development of an infrastructure for services and research activities in higher education.

The two main points in public social services infrastructure and especially educational infrastructure development are the following:

1. *equal accessibility* of public social services-geographically and also social: elimination of segregation: when social groups from disadvantaged backgrounds (most often Roma) have lesser opportunities to access the same quality of public social services;
2. *better quality* of public social services in general.

Concerning education, one of the main priorities is de-segregation which is also crucial in the case of kindergartens. Inequalities start to develop at a very early age and are subsequently significant in the later phases of the child's future. Because of this, equal opportunities for all social groups was one of the main aspects concerning the planning and the implementation of the educational development programmes financed by the Structural Funds.

Figure 20: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I
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¹⁸⁴ The structure of the 2004-2006 and the 2007-2013 NSRF are basically different. In the second one we have Regional Ops that include all the SGEI sectors.

Source: Authors processing of DG Regio data

12.2. National framework in the provision of SG(E)I

Social services (health care services, education, social care services infrastructure).

Health care services are basically state tasks provided through central hospitals and the network of family doctors. Besides this, a low number of privately owned clinics are operating in the field. The sector is regulated by the Health Act (1997). The nursery homes (day care for children 0-3 age) belong to this field, too.

Social care services are regulated under the Social Act (1993). Most of these services are the obligatory tasks of the municipal governments, which provide them either through their own institutions or contract it out to charitable or other civil organisations.

Educational services are regulated under the Education Act (1993)-concerning pre-schools, primary schools and secondary schools- which is called public education. Higher education is regulated by the Higher Education Act (2005). Public education is liberalised to a very low extent, in Hungary there are a relatively low number of private schools. Most schools are operated by municipal governments, a small number by churches or civil organisations. Based on sector freedom, all of them receive the same state normative support, depending on the number of students.

Thus there are two parts to childcare infrastructure in the regulations. First, the nursery-homes (0-3 years) are regulated by the Health Act¹⁸⁵ and Childcare Act¹⁸⁶ (both 1997), and controlled by the Child-welfare Authorities (Ministry of Healthcare, State Ministration of Healthcare and Medical offices, etc.). The number of nursery-homes has decreased in the last two decades, because of decreasing sources (in Hungary the industrial sector almost disappeared in the '90s, and most of the nursery-homes belonged to factories). Secondly, preschools (3-7 years) are regulated by the Education Act¹⁸⁷ (as are primary and secondary schools). All of the acts have changed each year since their application, occasionally more than once a year.

Most of the childcare institutions belong to local government; just a few preschools (non-profit or private) are self-supporting. It is important to know for the understanding of this sector that in Hungary the owners of the structures and the service providers are the same: the local municipalities. They have the primary monitoring and controlling function over the financial and professional needs of the institutions; the national authorities have fewer roles and licenses in the controlling process.

Kindergartens and nurseries receive normative state finance and may receive complementary financing from other sources depending on their special programmes and services. All local governments separate financial sources from their budget to support public education institutions. The decentralisation of the public education system leads to a lack of financial sources in many cases (especially in the case of "poor" settlements); many institutions' daily operation is endangered.

One of the most negative effects of the regulation changes after the 1990's is the process of so-called spontaneous segregation. During state socialism all children-based on their official address-were entitled to a prescribed public school. The level and quality of services differed but were much more homogeneous than nowadays. The liberalisation and decentralisation of public education has led to a high range of differentiation. As the free choice of schools is a basic right of parents, wealthy families have spontaneously started to

¹⁸⁵ 1997. Act CLIV. on healthcare.

¹⁸⁶ 1997. Act XXXI. on childcare.

¹⁸⁷ 1993. Act LXXIX. on education.

move to better schools (often to private ones or those where pupil expectation is high). Many public schools have become less attractive to the middle class and to teachers also. Because of this lower class, or often Roma (segregated) schools have been spontaneously formed in just one decade.

12.3. Project description

Csemő is located in the Middle-Hungarian Region, about 70 km from the capital city, Budapest. The settlement and the surrounding farms have connection with the smaller cities in the neighbourhood, Cegléd, Nagykőrös, Lajosmizse. In contempt of the closeness of the capital city, the infrastructure is quiet defective, and the surrounding farms have bad access to the village. Most of the Roma people live here, so transportation of the children had to be solved within the confines of the project. Generally one could say that throughout the whole country the ratio of Roma people is very high in the poorer layers of society. In Csemő the situation is the same, so the biggest problem is poverty, discrimination and the bad accessibility to public services.

In this Programme the 2.3 measure was the "Infrastructure investment in pre-school institutions and primary schools". The objective of the measure was to reduce inequalities in the access to proper quality education through infrastructure development of elementary and pre-school educational institutions in disadvantaged areas and particularly in settlements with a large proportion of disadvantaged population and of Roma origin. Infrastructure developments must have contributed to the following specific objectives:

- improve the quality and efficiency of education and promote the use of information technology in elementary schools;
- ensure equal opportunities and promote integrated education;
- increase the capacities of pre-school educational institutions.

The primary objectives of the project were the improvement of the educational conditions of the children who use day care centres, and the expansion of day care centre spaces. An important factor in the project was to keep the underprivileged and Roma families in the village of Csemő and the countryside. The objective was to help children with special educational needs to integrate, and lower the segregation in the area.

The needs addressed by the project were the following:

- more and better day care services for all children in Csemő and the neighbouring countryside;
- healthy environment for the children;
- sustainable services from the municipal government;
- children with special needs and in disadvantaged social situation had little chance for integrated education.

The take-off in the definition of the beneficiary group was that all citizens, who have day care-aged child (0-7 years), or will have in the future in the village and the countryside are affected. Within the affected inhabitants the breakdown is the following.

- age-group:
 - 3-5 year old children: the total headcount in this age-group is 173, ca. 68% of the children receive day-care services in the settlement;

- 5-7 year old children: the total headcount in this age-group is 187, ca. 36% of the children receive day-care services in the settlement;
- those in unprivileged situations:
 - Roma children (28);
 - Children with special educational needs (36).

At the end of the project (2006) 176 children were enrolled, today 199 children are using the preschool services. This number changes daily, because of migration. The enrolment figure by age group changes as well, because of the regulation-preschool-aged (3-7) children must be enrolled in the institute by the time they have completed their fifth year, and the children must spend at least one year in the pre-school in order to be able to start elementary education.

Under the project the following investments materialised:

- classroom units-4 existing classrooms were renovated and 3 new classrooms were added;
- administration unit-new offices for the management and the board;
- medical and social unit-new medical room and isolation room, staff cloakroom and toilets;
- sport unit-new gymnastic room with storage room and professional renovation of the yard and playground;
- community place-by expanding the building the corridors and stairs were turned into useful rooms and these rooms are handicapped accessible. Operational unit-a new maintenance yard and storage room was built;
- kitchen unit-a whole new dining room, with kitchen;
- operation-new building engineering and electricity network.

The project's activities:

- the reconstruction of the building and the garden-considering environmental friendliness and sustainability;
- public forum for the inhabitants and affected groups about equal opportunities and the future of the institution;
- general project management.

12.4. Specific aspects of SG(E)I affected by the project

The following specific aspects/ objectives are enhanced with the project:

- *Universal and continuous accessibility*
 - Pre-school services of the local municipality (Csemő) are equally and universally accessible to all, free of charge. Before the investment they could serve 75 children, after SF support they have doubled their capacity. This also means that at the moment they can serve all families with children between 3-7 ages who request day care locally.
 - One of the main goals of this educational infrastructure development project was to increase the number of children from Roma origin (and typically from multiply

disadvantaged social situation) and those who have special educational needs in the pre-school. This project targets de-segregation and equal opportunities for all children, to prepare for their future successful school integration. Approximately 1/3 of all children in the preschool come from disadvantaged social situations, or has special educational needs.

- *Equal opportunities*
 - The project serves as an example for other applicants for Structural Funds from the region, especially regarding equal opportunity practice. Segregation in public education is a typical problem; the project serves as a best practice to insure equal opportunity for children from disadvantaged social backgrounds or special educational needs.
 - The project obviously serves the equal opportunity of women as the increase in child day care capacity allows more women to reintegrate into the labour market and they have better help in harmonising their family related duties and working life.
- *Efficiency and effectiveness*
 - Higher quality services at a higher volume. After the development, the institution is able to serve more children (double capacity) in a much nicer and more suitable environment.
 - Better and tailor-made services for children with special educational needs and those from disadvantaged social situations, thanks to special tools (i.e. toys for special development, equipment of the special room for loco motor therapy) purchased from SF.
- *Reliability, safety and security of supply*
 - The services of the institution are regulated by protocols; the kindergarten has its own quality insurance system. Like all public education institutions, it is governed by strict control from the local government and from the Ministry of Education-checking the quality of services at every level.
- *Environmental friendliness*
 - The formation of a modern, energy saving and less air polluting heating system.
 - The use of environmental friendly technologies was an obligatory condition for all architects and implementers participating in the project.
- *Environmental sustainability*
 - The use of efficient insulation techniques for lower energy consumption.
 - The elements of an environment conscious pedagogy were built into the institution's pedagogy programme.

While defining the project cycles, the beneficiaries have analysed the sustainability aspects at each step.

12.5. Governance aspects

The beneficiary and the project implementer was the municipal government of Csemő. Besides the representatives of the local government, the management of the preschool concerned, the management of the local primary school and two local Foundations have been involved. These charitable organisations aim to help local children living in poverty

and deprivation. Local forums have been organised regularly to inform the local community and to conciliate the interests of all concerned.

The setting-up of partnerships was a condition in the tendering period. The consortium was to contain the local pre-school, the primary school, and the two aforementioned civil organisations. However financial support was only received by the municipal government, the other partners have participated in the professional conciliations and have followed the implementation of the project.

Each inhabitant of the village had an interest in renewing and enlarging the pre-school building. A better day care services for children motivates young families to stay in the current village and not to move to another one. It is in the common interest of the local people to maintain the population. This interest and will of the people of Csemő were clearly articulated through the local representatives and the participating institutions and organisations. This strong and wide, trust based situation was one of the key factors of the project's success (interview).

In this project only local authorities played a role (there was no involvement of national or regional authorities). They were responsible for all the licenses related to the building procedure. Besides keeping all professional protocols they were most helpful and cooperative to the municipal government.

There was no public-private partnership set up during this project.

Public education (including pre-school services) is an obligatory service to be provided by municipal governments, partially financed by the central state on normative bases. This means, that in this case Structural Funds investment did not influence the provision of the services. The service (day care for children between 3-7 ages) was and still is provided by local government through its own institution. But because of the investments the services are now of much higher quality and are accessible for more families. This has also had a long-term effect on the entire local community, which has been clearly recognised by the inhabitants.

It seems-based on the interviews-that there was already well functioning local cooperation among the stakeholders (school and pre-school management, civil organisations, local government, etc.). The project did not cause fundamental changes concerning the governance aspects or on local cooperation as they had been preconditions of the project.

12.6. Universality of access and affordability

Universality of access

The number of children at the settlement between 3-7 years of age is around 360. Approximately half of them go to the renewed local pre-school. In the case of the rest: some of them already go to school at the age of 7, some of them stay at home at age three by voluntary decision of the parents. In Hungary maternity leave lasts until the age of 3. Mothers who are staying home with a younger child prefer to "keep at home" the 3 year old older child, too.) A significant proportion of the settlement's children aged 3-7 years go to other pre-schools-parents commuting to Budapest is very common. At the moment there is no need to have limitations concerning the services as the *local needs are fully satisfied*, which also means that services are universally accessible.

After the regime change (1990) in Hungary, a lot of nurseries and preschools were closed. Newly formed and democratically elected local (municipal) governments became responsible for providing child day care services. In Hungary, in general, the volume of these services is not enough to satisfy the needs, and the quality is also often not satisfactory (partly because of human resources, and partly for infrastructure reasons). The access to services, in general, is better in urban regions than in rural ones. But it is very important to underline that it depends on the settlement, the local government, on its opportunities, financial sources and will. Although day care services for children between

3-7 ages is an obligatory responsibility of municipal governments, many of them are negligent in not providing these services (e.g. not securing the necessary number of available places in the institutions).

In the case of Csemő, inhabitants from the village and the surrounding farms have equal access to services. The Structural Funds have definitely assisted easier access to children's day care services as capacities have grown. Those children who have special educational needs or come from disadvantaged backgrounds have the opportunity for integrated education, because of the development of the project. (See data under 3.4).

Affordability

The issue of affordability is not applicable as child day care services are provided by the municipal government free of charge. The families have only to pay for meals. Based on central regulations families with 3 or more children pay half price and children from disadvantaged backgrounds receive the meal for free. These fees are complemented or paid for by the local governments.

12.7. Thematic focus

Geographical remoteness of the service provided

Although Csemő is in the Central-Hungarian Region (the only region in Hungary that belongs to Objective 2 based on the GDP/head, all other 6 regions are under Objective 1), the settlement is disadvantaged.

The high-level of unemployment and the strong attraction of the geographically close capital are serious challenges. Csemő is fighting to keep its young and well-educated citizens, the young families to secure the future development and human resources of the settlement.

Csemő is also surrounded by some farms where public services do not exist. It means that high level public services are crucial to making Csemő more attractive for the younger generation and it is also an important responsibility for those living on nearby farms.

High quality public services are key elements in retaining a population. In Csemő they have succeeded in establishing better quality day care services for children and also at the same time involving higher numbers of children from disadvantaged backgrounds. Integrated education of children from disadvantaged social circumstances and with special needs can halt the circle of poverty, deprivation and social exclusion over generations. It also means that the entire social structure of the settlement could change and make Csemő an even more attractive place to live for young families.

12.8. Contribution to cohesion policy objectives

The analysed social infrastructure development project has long-term effects on the Roma minority's situation in the micro-region. The children of Roma origin are under-represented in day care and pre-school. At the same time they are over-represented in the socially disadvantaged groups. Their integration, at the earliest possible age, to the educational system is crucial for their better social integration later, but it is impossible without appropriate infrastructural endowment. The enlargement of the building has led to an increase in the number of spaces and the introduction of special rooms (sporting and special development facilities) as well as special services for disadvantaged (poor or handicapped) children. The modernisation of the heating system and the changing of the doors and windows have led to financial savings. As an outcome of the project equal opportunities and equal access to high quality, integrative and environmentally sustainable educational services are insured in the settlement and the surrounding farms.

Although the settlement concerned is in the Central-Hungarian Region, which is the most developed one, the micro-region of Csemő is a rather disadvantaged area. High level, equally accessible SGEI (like the one analysed in this case study) increase population retention power, and also strengthen social cohesion. Children from disadvantaged social situations have a much better chance in the longer-run if they participate in integrated education and day-care services.

The second objective of the Hungarian NSRF is to increase employment and to develop human potential. The choice of this objective is justified by the low participation rate in the labour market; the high share of long-term unemployment; social exclusion (disadvantaged and the Roma), the discrimination of women in the labour market, the low flexibility and ability of education and vocational training in meeting labour market needs and its weak infrastructure, and the weakness of services that promote employability.

Actions that ease the social and employment discrimination against disadvantaged groups of society such as the Roma increase social cohesion. These groups of society are concentrated in micro regions that are lagging behind. Ensuring equal opportunities in the schooling system and the support of social inclusion has large benefits for future labour market performance. Direct measures to improve the current labour market position of the disadvantaged enhance their employability, and lead to an improvement in their social status.

The Structural Funds' contribution in Csemő has led to a doubling in the capacity of child day care services in the settlement (and the surrounding farms) which secure universal and equal accessibility, as they now satisfy the existing local needs. Environmentally friendly solutions during the investment led (besides sustainability) to savings for the municipal government which also allows reallocation of resources for other public services. Special targeting of children in disadvantaged social situation (mostly Roma) and with special needs has led to better social integration and cohesion at the local community level. Implementing the project in a wide partnership and with continuous conciliation with the inhabitants has strengthened local democracy and the community itself.

This project has relevance on the regional, the national, but even on the EU-level. After the 2004 and 2006 enlargement of the European Union, the Roma issue has become a European one. Segregation, discrimination, poverty, unemployment and the low-level of education are inter-related phenomena concerning the Roma minority. Their social inclusion is possible only through high quality and accessible SGEI that ensure their integration at the earliest possible age. In Hungary service providers have several "techniques for excluding or segregating Roma children. For example, Roma children are highly over-represented among those classified as "mentally handicapped" and segregated in special schools or classes. It is clear that they are often so classified because of behavioural or cultural differences, not because of real mental problems. These procedures are extremely ruinous. The Csemő example shows that setting-up high-quality day care services with targeting the most disadvantaged families and children bring a lot of benefit to the entire local community, breaking the circle of exclusion and segregation.

Acknowledgements

First of all, thanks to the local government of Csemő for all of the useful information about the day-care centre, and the project. Special thanks to Alajosne Bartha mayor, Dr. Roland Lakos notary and Jozsef Olah project-manager for the interviews and the documentation. The National Development Agency, the Regional Development Agency, and the VÁTI Kft (contributor organisation) has helped our exploration, and guaranteed access to the data and public information, thanks for it too.

13. Ireland.

N15 Bundoran/Ballyshannon by-pass

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13.0. Background information

a) Country	Ireland
b) Region	Border, Midland and Western region (BMW)
c) Full Project Title	N15 Bundoran/ Ballyshannon by-pass
d) Duration	2004-2006
e) Programme	National Road Authority Programme
f) Total Cost	EUR 74.1 million
g) EU Contribution	ERDF 75%
h) National Contribution	25%
i) Private Contribution	0%
j) Sector	Transport
k) Sub-Sector	Road
l) Beneficiary	Local community/ Donegal County Council
m) Implementing body	SIAC Wills JV

13.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

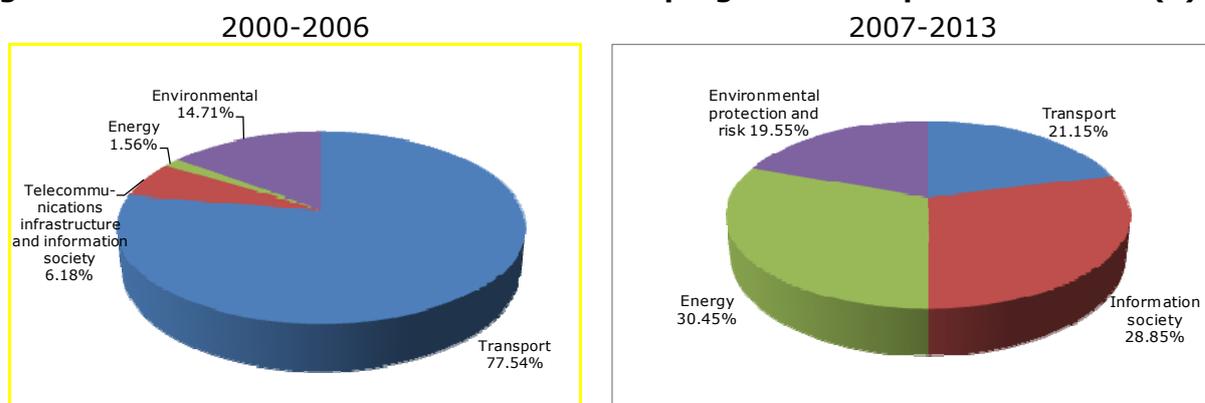
In the Republic of Ireland, transport was addressed through the National Strategic Reference Framework, which was set out in the National Development Plan (NDP) 2000-2006. The NDP was an investment plan to address economic and social needs and aimed to address Ireland's infrastructural deficit. Transport infrastructure was the largest area of investment. The Economic and Social Infrastructure programme aimed to increase the capacity of Ireland's economic infrastructure, which would support continued growth and competitiveness, enhance the potential of all parts of the country to participate in continuing economic and social development, contribute to the protection and improvement of the environment and to improve the overall quality of life. The National Roads investment programme was one of six sub-programmes and invested in major national roads projects.

In the period 2000-2006, Ireland was eligible for Objective 1 funds and the Border, Midland and Northwest (BMW) region was allocated as an Objective 1 region. The NDP 2000-2006 proposed Structural Funds and Cohesion Funds assistance towards the provision of National Roads in the Economic and Social Infrastructure Operational Programme. A provision of EUR21 million was made for roads as part of the Regional Operational Programmes. Operational Programmes in the two regions funded local infrastructure improvements including non-national road improvements. Road improvements were also covered in the Economic and Social Infrastructure Operational Programme-National Roads Programme and National Public Transport Services.

In the period 2007-2013, the National Strategic Reference Framework informs the National Development Plan, which is entitled 'Transforming Ireland-A Better Quality of Life for All' and builds on the achievements of the 2000-2006 National Development Plan. The goals of the national transport plan 'Transport 21' inform the National Development Plan (2007-2015). These include a comprehensive development plan for a national network of roads to be developed by 2015. The targets for this plan cover improvements to national primary roads, including the Atlantic Road Corridor in the northwest of Ireland (Border, Midland and Western region). This also supports the National Spatial Strategy 2002-2020 Gateway Cities strategy. Secondary roads within the Border, Midland and Western region will also be improved as part of the National Development Plan 2007-2015.

Over the period 2000-2015, roads have remained the first priority for transport investment. The Republic of Ireland is investing in infrastructure as part of a regional development strategy to stimulate social and economic development. The improvement of transport links, particularly roads, is an integral part of this development plan.

Figure 21: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

In the period 2000-2006, over three quarters (77.54%) of the ERDF were allocated for transport development, which included road improvements. The following period, 2007-2013, saw a decrease from 77.54% to 21.15% in the use of ERDF for transport. This shows the important role that ERDF played in transport development in the 2000-2006 period. Although the allocation of ERDF to transport development has decreased, transport infrastructure remains a priority within the National Development Plan. This shows the importance of ERDF in providing initial support to national and regional goals.

13.2. National framework in the provision of SG(E)I

In the Republic of Ireland, the Department of Transport has overall responsibility for the national roads system and the development of transport policy. The implementation of national roads policy is the responsibility of the National Roads Authority (NRA), which is a national government agency. Established as an independent statutory body under the Roads Act, 1993, with effect from 1 January, 1994, the primary function of the National Roads Authority (NRA), is 'to secure the provision of a safe and efficient network of national roads'. For this purpose, it has overall responsibility for the planning and supervision of construction and maintenance works on national roads.

The NRA works in partnership with local road authorities as well as managing operations directly. The NRA may give instructions to local road authorities, which relate to all aspects of roads development and management. These may be applications for bridge orders, acquiring land through a compulsory purchase order, preparing Environmental Impact Statements or entering into contracts for construction or maintenance works. Road improvements are subject to public procurement rules and procedures. Improvement projects are contracted out directly to private sector contractors.

The majority of the roads infrastructure in Ireland is still owned by the public authority. However in 1999, the government announced three national roads projects based on public-private partnerships. The role of public-private partnerships was further emphasized in the 2000-2006 National Development Plan (NDP), which presented them as a way of delivering new infrastructure in the national road network. Private finance was considered an important part of the new investment programme for road infrastructure. A target of

EUR 1.27 billion or 23% of the planned total road investment programme was set under the National Development Plan (NDP).

The National Roads Authority (NRA) was given an additional set of responsibilities for the development of toll roads in 2000, through the Planning and Development Act (2000). As a result, the NRA started to prepare schemes for the development of toll roads. An amendment of Section 57 of the Roads Act 1993, enabled the NRA to enter into public-private partnerships with a private companies to build new roads. Tolls would be used to repay the funding involved.

The National Roads Authority (NRA) outlined a set of principles to determine public-private partnerships (PPPs). Alternative non-toll routes had to be made available for road users. PPP projects should not result in a delay to road improvement schemes. They should be spread across national routes to improve the rate of delivery. Public subsidies would be considered for high cost schemes that could not be financed through tolls alone. The NRA also has power to revoke toll schemes

The role of the NRA is integrally bound up with planning but although the Planning and Development Act (2000) give the NRA new responsibilities in relation to toll roads, it also removed some of the NRA responsibilities for the approval of motorway, bus or protected road schemes and the determination of compulsory purchase orders. These have been taken over by the Irish Planning Board. These legislative changes in the nature of NRA responsibilities show that the position of a national agency in the implementation of national roads policy has been adjusted over the last 15 years, partly as a result of the introduction of public-private partnerships in road building.

13.3. Project description

The overall objective of the project, the Bundoran/ Ballyshannon by-pass, was to improve part of a national primary route, the N15 Sligo to Lifford Road, in the Atlantic corridor in the Border, Midland and Western (BMW) region. This is part of the National Roads Authority's programme for upgrading the N15 Sligo to Lifford Road, which will contribute to improving infrastructure in the BMW region, which will support a more balanced regional development, an important part of the Republic of Ireland government policy. It will increase access to the BMW region for commercial and tourist activities.

The need for a by-pass of Bundoran/ Ballyshannon had been identified at several levels of the planning process. At county council level, Donegal County Council had identified the need for a by-pass of both Bundoran and Ballyshannon and this was reflected in the Donegal County Council Development Plan. At local district level, the Ballyshannon and Bundoran Development Plans also included a by-pass for the two towns. At national level, the '*National Roads Needs Study*' (1998), which was prepared by the National Roads Authority, included a by-pass for Bundoran and Ballyshannon. It was also included in the National Development Plan 2000-2006.

There were several reasons why a by-pass was needed around Bundoran and Ballyshannon. The section of the N15 that passed through Bundoran and Ballyshannon was of poor quality because many local roads accessed the main N15 at this point. It acted as a bottleneck on the N15 route, which resulted in slow moving, congested traffic.

Although the combined population of Bundoran and Ballyshannon is only 6 500, in the summer season the population of Bundoran expands to 30 000-40 000 people as a result of tourists and holidaymakers. This is reflected in the automatic traffic counts which showed that the route carried about 12 000 vehicles per day at the peak of the tourist season. This contributed to a high level of congestion on the route. A number of accidents had taken place in Bundoran and Ballyshannon, on this section of the road. These were caused by

several junctions and access roads being close together, traffic congestion, a large number of pedestrians, and mixed use of roads by local and long distance traffic. The by-pass scheme was submitted to the Irish Planning Board for approval and was this was given in September 2002.

The section of the N15 starts at Bundrowes Bridge, approximately 2 km south of Bundoran and ends at Cotton Hill, 1 km north of Ballyshannon town. One of the problems, with this stretch of road, was the many local, smaller roads that entered the N15 over a relatively short distance. The simplification of these many different flows of traffic required a complex construction of bridges and under bridges for both traffic and pedestrians as well as link roads.

To facilitate the construction of the by-pass, the most spectacular part of the project was the construction of the Cathaleens Falls Bridge over the Erne River, as a two tier reinforced concrete structure, with the lower level for pedestrians and the higher level for vehicles, thus meeting the needs of both pedestrians and vehicles. The whole project consists of a 11 km wide single carriageway national primary road and associated side roads, which starts at Bundrowes Bridge and ends at Cotton Hill, 1 km north of Ballyshannon. It includes fourteen structures, of which five are over-bridges, three are river bridges, two are underpasses, three are under bridges and a retaining wall. In addition, a new link road from the N15 roundabout at Cotton Hill, west to Rossnowlagh is also completed. The Department of the Environment provided funding for this link road.

The beneficiaries to the project are the local population of the two towns, who now have an improved environment, with less traffic. This will contribute to the improvement of health and well being of the population through a reduction of traffic noise, traffic accidents and pollutants. External visitors benefit from the faster moving traffic as well as the environmental improvements. Local roads are no longer used by long distance traffic, making them safer and cleaner. There has been an improvement in journey times in the region and improved access to the south of Donegal, which will bring benefits to the local economy. The improved flow of traffic will also bring improvements to local tourist and commercial activities.

13.4. Specific aspects of SG(E)I affected by the project

In the Republic of Ireland, public authorities commission work on the roads system. In the case of the Bundoran and Ballyshannon by-pass, private contractors were used to construct the by-pass. The process of choosing the contractor was subject to public procurement rules. Although there have been attempts to introduce public-private partnerships into the road sector, these have been concentrated on larger road developments. Smaller projects, such as this by-pass project, have not been subject to public private partnerships arrangements but contract out the design and construction to the private sector.

The road by-pass project has contributed to the objectives of universal and continuous accessibility by improving access within the area for local people. Tourists and commercial vehicle users have improved access to other part of the Donegal region and more widely to the Border, Midland and Western region. This makes journey times more reliable, an important factor in economic and social development. Improved access to the wider region, as well as to Northern Ireland, contributes to improved territorial accessibility.

The Bundoran/ Ballyshannon by-pass is located on the Atlantic Road Corridor. The improvement of the whole of this route from Sligo to Derry is still a goal of the 2007-2015 National Development Plan. The by-pass has contributed to the improvement of part of this route. This route is also presented as a key interurban route under the national transport strategy "Transport 21".

The by-pass has contributed to improving territorial and social inclusion in a region which has experienced civil conflict over several decades. It has made the two towns and part of the sub-region more accessible by road and linked them to the development of other transport improvements in the N15, which is part of the Atlantic corridor route.

The benefits to the population can be measured in terms of improved access and faster journey times for local journeys. The total population of Bundoran, is about 2 000 people in the town and 1 000 people in the surrounding rural area. Ballyshannon is a similar size, with 2 232 people in town and 1 272 in the nearby rural area. However, in the summer season, as a tourist centre, the population of Bundoran expands to 30 000-40 000 people.

For tourists, the by-pass has improved access to the region of Donegal. There has been a reduction of 9 000 vehicles travelling through the two towns but these vehicles will be travelling on the by-pass at increased speed. It can be estimated that the average number of people in one vehicle could be three in the tourist season, making a total of 27 000 people experiencing faster journey times and enabling them to travel further to tourist centres in the region. There is expected to be a decrease in accidents, although the actual decrease is difficult to quantify. Both of these effects will improve public health and well-being of the local population through lower noise levels and reduced air pollution.

13.5. Governance aspects

The stakeholders involved in the project were:

- National Roads Authority;
- Donegal County Council;
- SIAC Wills JV-made up of two companies-SIAC Construction Ltd and Will Brothers Ltd;
- Irish Government;
- Border, Midland and Western Region-operational responsibility for ERDF funding as part of the Economic and Social Infrastructure objective.

The interests of the partners were:

- National Roads Authority-part of national policy is to improve quality of roads in Ireland, especially the Atlantic Corridor route;
- Donegal County Council-long term interest in building a by-pass to improve transport links and improve quality of life through reduction in traffic, as seen in Donegal County Council Development Plan.

The roles of the partners were:

- National Roads Authority-funding provider;
- Donegal County Council-funding provider and commissioning agency;
- Jacobs Babtie, Consulting Engineer, designed the project and SIAC Wills JV, was the construction company that built the by-pass, bridge and related structures.

Jacobs Babtie, was the Consulting Engineer who designed the project. This was put out to tender and five tenderers were short listed. SIAC Wills JV was awarded the contract in July 2004.

13.6. Universality of access and affordability

The by-pass project involves two small towns in a rural region on the border of the Republic of Ireland and Northern Ireland. It will benefit the rural hinterland by improving access, reducing congestion and supporting commercial and tourist activities.

Although the concept of toll roads has been introduced to Ireland, through the adoption of public-private partnerships for the construction of new roads, the upgrading of existing roads is still done through the use of public funds with no direct cost to the road user. In this sense, roads are still considered a public good in Ireland. A national roads assessment in 1998 informed the strategy of road infrastructure development that has been implemented through the National Development Plan 2000-2006. This is part of a wider strategy to improve infrastructure in the Republic of Ireland, as a response to under-investment over several decades. The Ballyshannon-Bundoran by-pass was identified as a priority within the 1998 Road Needs Assessment.

Although Ireland has built one or two toll roads within a public-private partnership, this by-pass was not financed through this arrangement. It was funded by Irish Government and EU Structural Funds. The technical design and construction work was contracted out to the private sector. The improvement was delivered by a private sector company but the project was managed by a public authority. The private sector did not have to secure funding for the project. Consequently, there is no direct payment required to use the by-pass and no toll system has been introduced.

The benefits that the population will experience are difficult to quantify in terms of prices. Instead they relate to quality of life, reduction of accident risks, improvements in journey time, and an improved environment for tourist and commercial activities.

13.7. Thematic focus

The by-pass project is located near to the border of the Republic of Ireland and Northern Ireland but it was funded and implemented within the Republic of Ireland and not within the context of a cross-border initiative. However, the by-pass will contribute to opening up the Western Atlantic Road network, which will help to increase access between Ireland and Northern Ireland. The by-pass is already improving part of the Western Atlantic Road network and this can be seen as part of the improvement of the route.

Bundoran and Ballyshannon are only a few miles from the Northern Ireland border. The Northern Ireland Regional Development Strategy (RDS) and the Republic of Ireland National Spatial Strategy have both developed regional frameworks, characterised by Transport Corridors, which will integrate the road systems of the Republic of Ireland and Northern Ireland.

One National Transport Corridor runs from Sligo to Derry, through Bundoran/ Ballyshannon, and it continues south to link Sligo and Dublin. Another National Transport Corridor runs from north east of Sligo and links to a key transport corridor in Northern Ireland (Enniskillen to Belfast). A trunk road runs from Enniskillen to Ballyshannon across the border. The impact of an improved road by-pass from Bundoran/ Ballyshannon will impact on nearby roads. The Ballyshannon-Bundoran by-pass will contribute to improving the N15 route in Donegal. It is a short distance away from the N3 road which runs from Dublin to Northern Ireland. The plan for 2007-2012 highlights the improvement of the Western Atlantic Road network. The Ballyshannon-Bundoran by-pass was an early stage in the development of this network. The development of the by-pass on the N15 road will promote economic, social and territorial cohesion in the region through the improvement of transport links. In the medium term, it will contribute the convergence of interests in the Republic of Ireland and Northern Ireland through improved commercial and tourist links.

The improvement of the Western Atlantic corridor will impact on the development of social and economic cross-border activities.

13.8. Contribution to cohesion policy objectives

Regional policy helps to place SG(E)I in the context of national, regional and local priorities. In this case study, the Irish National Development Plan (NDP) 2000-2006, highlighted the need for improvements in road infrastructure, which had experienced significant under-funding for several decades. The use of Structural Funds contributed to the development of infrastructure which, in the case of Ireland, had been neglected and so has not received adequate investment funds to provide improvements necessary for long term economic and social development.

The reasons for the increased awareness of the need for investment followed the entry of Ireland into the European Union but the Multi-Party Agreement of 10 April 1998 also contributed to a feeling of political stability. This has helped the government at national, regional and local levels to focus on creating conditions for social and economic development.

In public policy terms, there are several national strategies that support the development of primary and secondary road networks as well as potential cross-border transport developments. The national transport plan, *Transport 21*, was published in 2005 and sets out transport goals until 2016. It is the largest investment in the transport system and covers Metro and rail lines, roads, buses and regional airports. The National Spatial Strategy of the Republic of Ireland and the Regional Development Strategy for Northern Ireland both include road developments. They both acknowledge that improved roads will enhance the creation of new jobs and stimulate local businesses.

The improvement of the N15/N17/N18/N20/N25 Atlantic Corridor in the Border, Midland and Western region is one of the main goals of improved national road infrastructure. The Ballyshannon/ Bundoran by-pass is part of this improvement in the Northwest of the Republic of Ireland, a region, which has been isolated from the larger economic centres in Ireland, such as Dublin and Cork. Although the building of a by-pass is a relatively small event in the creation of a nationally integrated road network, there are several multiplier effects which will benefit the tourist industry and local economic development. In the case of the Ballyshannon-Bundoran by-pass, this improved road infrastructure will impact on both local people and on tourists visiting Bundoran and the surrounding area. This will have a multiplier effect on the tourist industry and local economic development. It will also contribute to the slow process of social and economic integration of Ireland and Northern Ireland, which is necessary if the region is to avoid any conflict in the future.

The by-pass has made contributions to economic cohesion by improving conditions for traffic travelling into the region, which will enhance the opportunities for the tourist industry and local economic activities. In a social and environmental sense, the by-pass will help to improve the quality of life for local people through a reduction in traffic noise and improvement in air quality. There will also be reduced accidents. From a territorial perspective, the improvement of the Atlantic corridor is significant in improving the links between the Border, Midland and Western region with the rest of the Republic of Ireland as well as improving links between the region and the border with Northern Ireland, which is only a few miles away. The National Spatial Strategy and the National Transport strategy will also support this increased territorial integration.

14. Italy.

Extension of the metro section of the Circumetnea Railroad

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14.0. Background information

a) Country	Italy
b) Region	Sicily
c) Full Project Title	Extension of the metro section of the Circumetnea Railroad in the territorial ambit of the Metropolitan Area of Catania town-Four stretches: Galatea-Giovanni XXIII-Stesicoro and Borgo-Nesima-Misterbianco Centro
d) Duration	2000-2013
e) Programme	Objective 1 Programmes: i) ROP Sicilia 2000-2006 and ii) OP ERDF Sicilia 2007-2013
f) Total Cost	EUR 333 395 941.13 (ROP Sicilia 2000-2006: EUR 57 009 823.80 (17.1%); OP ERDF Sicilia 2007-2013: EUR 276 386 117.33 (82.9%))
g) EU Contribution	ERDF 42.1% (ROP Sicilia 2000-2006: 45.0%; OP ERDF Sicilia 2007-2013: 41.5%)
h) National Contribution	57.9% (ROP Sicilia 2000-2006: 55.0%; OP ERDF Sicilia 2007-2013: 58.5%)
i) Private Contribution	0.0%
j) Sector	Transport
k) Sub-Sector	Railway (public rapid mass transport in urban and extra-urban areas)
l) Beneficiary	Ministry of Infrastructure and Transport - Governmental Administration of the Circumetnea Railway (FCE)
m) Implementing body	Ministry of Infrastructure and Transport - Governmental Administration of the Circumetnea Railway (FCE)

14.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The European Structural Funds (SF) have been in past years and are still of great importance for financing the infrastructure projects in all the sections of the transport sector in Italy. Attached Figure 22 shows that, both in the programming period 2000-2006, and in that-now in implementing-2007-2013, the transport sector benefits, among the SG(E)I's, from the largest share of ERDF with, respectively, about 50% and about 36%. In absolute terms, the ERDF resources in the programming period 2000-2006 were about EUR 3 782 million, while in the period 2007-2013 the financial budget has increased to about EUR 3 847 million, confirming the highly strategic value of the use of the Structural Funds in the transport sector.

Such a great use of Structural Funds corresponds, precisely, to the high levels of investment that are still needed in the Italian transport systems-such as roads and highways, railways, undergrounds and other mass rapid transport systems, ports, airports, inter-modal hubs, etc.-in the Italian context of this SG(E)I. In Northern Italy and, to a large extent, in Central Italy, the transport infrastructures need modernization and expansion of their capabilities (e.g. new lanes for the busiest highways) mainly due to a steady increase in economic activities, only recently heavily slowed down by the current global economic crisis; in these areas the need for cross-border connection of the transport national networks of transport with the European networks (e.g. high speed railways) is strongly

felt¹⁸⁸. In southern Italy, although a rather large amount of investment -also co-financed by the SF- has been made in recent years, a considerable number of transport systems are still, at various levels, weak, in some sub-regional areas efficient transport infrastructures don't exist and low quality level services are in many cases provided in favour of the SG(E)I's final beneficiaries; the southern transport systems need, in some cases, the completion of infrastructure and, to a large extent, they are to be amended or rebuilt.

Condition and needs of the transport systems, above mentioned, are the basis of national policy of the sector, which the objectives outlined in the national programming, i.e. the National Strategic Reference Framework for the transport sector, are derived from.

Moreover, the document of the Ministry of Economic Development "National Strategic Framework for Regional Policy Development 2007-2013"¹⁸⁹ the framework document in governing the use of EU funds-indicates, among the main limiting factors, which impact negatively on context conditions, in which the regional economic progress may be fulfilled, the inadequacy of public services (SG(E)I), which is particularly serious in the Italian Convergence regions (CONV regions).

This strategic planning document includes an analysis of the national economic strengths and weaknesses and specifies the strategy chosen for the Convergence Objective (CONV) and the Competitiveness and Employment Objective. In particular, the strategy and objectives of the networks and connections for mobility are specifically stated as "Priority 6". The document explicitly highlights the consistency and the complementarity of regional policy with national and Community policies, and, specifically, with the Lisbon Strategy, the Community Strategic Guidelines, the National Reform Plan in implementation of the Lisbon Strategy and National Plan for Social Inclusion, the rural development policy and the fisheries policy.

The framework document also lists the operational programmes (OP), which are of three kinds: National Operational Programmes (NOP), Regional Operational Programmes (ROP) and Interregional Operational Programmes (IOP). Investment in the transport sector are planned both in the proper National Operational Programme ("Networks and mobility" NOP), and in several regional programmes. The NOP is reserved for investments at national level, that have the specific objective of contributing to the creation of a national logistics system, supporting the construction of a national network of transport terminals and logistics, integrated, safe, interconnected and homogeneous. The ROP's fund both, investments related to a sustainable urban mobility and urban logistics, and investments who have the specific objective of improving regional or sub-regional transport services, to facilitate the connection of productive areas with the major urban network systems and to improve the inter-modal hubs and the accessibility of peripheral areas.

To achieve the ambitious aims of the national programmes, consistent with the Community Strategic Guidelines, the Structural Funds have largely been supplemented by various national funds, even recently refinanced, in addition to ordinary ones and to national-EU SF related-co-financing funds. The funds that follow are the most important:

- The Underused Areas Fund¹⁹⁰ is the main tool for financing-by means of national additional financial resources-development projects in all sectors of the overall territory of the following eight southern Italian regions: Abruzzo, Basilicata, Calabria, Campania,

¹⁸⁸ It should be noted however that some actions of local, political and social, opposition against certain projects (e.g. high-speed trains, highway and railway links) have been and are still active.

¹⁸⁹ *Ministero per lo Sviluppo Economico, Dipartimento per le Politiche di Sviluppo e di Coesione, "QSN 2007-2013- Quadro Strategico Nazionale per la politica regionale di sviluppo 2007-2013"*, issued in June 2007 and approved by the European Commission on July 13, 2007 (http://www.dps.tesoro.it/documentazione/QSN/docs/QSN2007-2013_giu_07.pdf).

¹⁹⁰ *Fondo Aree Sottoutilizzate (FAS)*, has been established by Law of 27 December 2002, n.289 (Budget Law for 2003) and amended by Law 27 December 2006, n, 296 (Budget Law for 2007); the fund was recently financed by the Budget Law of 2007 for the period 2007-2013; the Budget Law for 2008 has regulated the Fund for the years after 2010 and until 2015.

Molise, Puglia, Sicily and Sardinia and of some sub-regional areas of north-central Italian regions (as a whole, the so-called "under-utilized areas" of the Country). The financial resources allocated in favour of the transport sector are more than EUR 8 500 million¹⁹¹;

- Law 211/92¹⁹²: this law funds investment projects promoted by the municipalities-beneficiaries of this fund-in the field of mass rapid transport systems in the overall Country; the fund has been refinanced for the current year, too;
- Law 910/86¹⁹³: this law, refinanced several times, funds' investments in the rail transport sub-sector in the overall Country.

The sectorial Framework Program Agreements (FPA)¹⁹⁴ are the most general tools and they provide the rules for the use of the SF and the other national financial resources. State, Regions and public agencies promote the FPA. Agreement indicates, at least: i) the list of activities and interventions to be implemented, with the timing and modalities of implementation, the responsible body(ies) and the related commitments; ii) financial resources coming from public or private funds; iii) procedures and responsible bodies for monitoring and controlling the overall results and those of the various listed projects. FPA incorporate and integrate all the funds, national and community, which finance interventions in the transport sector and they refer to all existing programmes, at any level: Networks and Mobility NOP and ROP.

As an example, in Sicily are being issued the following sub-sectorial FPA¹⁹⁵:

- Framework Program Agreement of the air transport systems;
- Framework Program Agreement of the road infrastructures;
- Framework Program Agreement of the rail transport¹⁹⁶, which includes the project discussed in this case study;
- Framework Program Agreement of the maritime transport.

In the past experience of implementing FPA's, some planned investments have failed, because, for various reasons, or project designs were not drafted at all, or project promoters have not been able to obtain regulatory approvals. Financial resources of the unrealized projects were subsequently used for other investments. To avoid similar failures still occurring, a new interesting approaches to the provision of transport sector has been introduced in the new programming period (2007-2013): projects to be listed in the ERDF OP 2007-2013 must already have, at least, a final design¹⁹⁷, technically and administratively approved, and, in advance, must have been included in the FPA of the sector, having checked that the candidates projects have the required standards and they meet all the related rules.

Another measure, adopted by some regions, deals with the involvement of the service utility bodies, already in charge or appointed, in stipulating the new FPA (or in revising the

¹⁹¹ CIPE Deliberation n. 166, December 21, 2007 (http://valutazioneinvestimenti.formez.it/files/Delibera%20CIPE%20166_2007.pdf).

¹⁹² Law 26 February 1992, n. 211, "Interventions in the field of mass rapid transport systems".

¹⁹³ Law 22 December 1986, n. 910, "Provisions for the formation of the annual and multi-annual budget of the State".

¹⁹⁴ In Italian: *Accordi di Programma Quadro (APQ) di settore*. The FPA's specific, at sector or sub-sector level, the contents of the Institutional Agreements for the Programme (in Italian: *Intesa Istituzionale di Programma*) stipulated between Central Government and each Region, established by Law 662/1996.

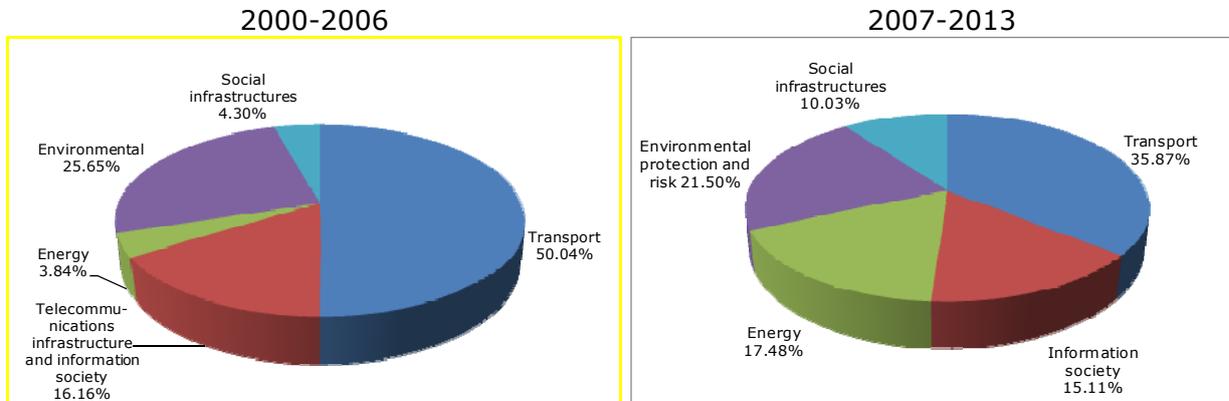
¹⁹⁵ The total funding of four Sicilian FPA's is EUR 8 510 million (see the website: <http://www.euroinfosicilia.it/Default.aspx?tabid=203>).

¹⁹⁶ This FPA has been drawn up by the Ministry of Economy and Finance, the Ministry of Infrastructures and Transport, the Sicilian Region, Ferrovie dello Stato S.p.A. and the Governmental Administration of the Circumetnea Railway (FCE); the total funding is EUR 1 856 million.

¹⁹⁷ In Italian: *progetto definitivo*.

existing ones), with the aim of avoiding that, such as has sometimes happened, the infrastructure, even if fully implemented, will remain unused for lack of the service provider—due to several reasons, including bureaucratic ones. The adoption of such measures in all regional programs should be therefore strongly recommended.

Figure 22: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

14.2. National framework in the provision of SG(E)I

The government framework document on the Italian policy in transport and logistics is the General Plan of Mobility¹⁹⁸, whose guidelines were issued by the Ministry of Transport¹⁹⁹ in October 2008. National Integrated Transportation System (SNIT) is the scenario for the analysis and the planning. SNIT is a part of the European Transport Network (TEN), which SNIT connects across the Alpine passes. SNIT includes: railways, roads, airports, ports and waterway system, modal interchange hubs.

As part of such national programming, the regional Governments have developed their sectorial planning documents. E.g., the Sicilian Regional Transport Plan is composed, among others, by two main documents: the Directive Plan, which concerns all sub-sectors, issued in 2002 and currently under revision, and the more recent Implementing Plan of the rail transport, which covers the project of this case study.

Among the national laws concerning the transport sector, one of the most important is the DPR 753/80²⁰⁰, which concerns the safe operation of all mass transport (railways, subways, cable cars, etc). The role of safety authority of the mass transport systems, previously exercised by an Office of the Ministry of Transport, is now assigned to the Italian Agency for Railway Safety²⁰¹, which approves the projects and monitors the infrastructure safety during the service operation.

While not forgetting the national framework and the residual tasks that the State reserves to itself, the governance of the sector is mainly borne by Regions, both with reference to programming, and to financing and implementing investment and service operation (see below). As stated in the previous section, the use of SF and other national funds is still

¹⁹⁸ The General Plan Mobility upgrades and integrates the former General Plan of Transports, issued in the latest version in 2001.

¹⁹⁹ Now the Ministry of Infrastructure and Transport (<http://www.mit.gov.it/mit/site.php>).

²⁰⁰ Decree of the President of the Republic No. 753 of 11 July 1980, "New rules for police, security and regularity of the operation of railways and other transport services" (<http://site.rfi.it/quadronormativo/Legislazione%20Nazionale/leggi/Legislaz/753.pdf>). This decree was followed over the years by several subsequent related laws and regulations.

²⁰¹ The Italian Agency for Railway Safety is established, with headquarters in Florence, on the basis of Article 4 of Legislative Decree 10 August 2007, No 162, which implements the Directive 2004/49/EC of the European Parliament and the Council of 29 April 2004. The Agency is operational since June 16, 2008 (<http://www.cesifer.it/index.shtml>).

regulated by the regional FPA's. These agreements provide project titles, financing, rules about not only the local transport systems (regional or sub-regional), but also they governs the integration into the local territories and networks of all the investments, also those related to the national transport networks, although, e.g., included in the NOP (see Section 14.1).

The transport infrastructures are owned by the State or Municipal Property.

Generally speaking, to meet the EU directives on separation between the system operator and the provider of transportation service (diversification), infrastructure maintenance and investments are entrusted to public bodies or public companies, while service and other functions (e.g. design, licensing) are provided by different public organisations or by companies, at present, mainly public (see below). Service contract governs the relationship between the above mentioned bodies.

Focusing on the Italian rail sector, which is related to the present case study, there are two categories of railways: the national railway network and a group of local regional railways in the past operated under concession by public bodies or private companies.

The national rail network is entrusted to the "Ferrovie dello Stato S.p.A."²⁰² Group, a holding limited company, which is wholly State owned. The separation between the network operator and the service provider is achieved by assigning these roles to two different companies, although both 100% owned by the Group:

- Rete Ferroviaria Italiana S.p.A. (RFI)²⁰³ is starting on 1th July 2001-the national rail infrastructure operator, who maintains the efficiency of the railway network. Contractual relationships between RFI and the State (mutual obligations and rights concerning investments) are regulated by the Program Agreement, equivalent to a service contract;
- Trenitalia S.p.A. is the company that provides the freight transport and, both, the passenger's service on the high-speed trains and the general rail service. Very recently, the service has been opened to competition, allowing the transport service can be performed by other operators, Italian or otherwise.

Regional railways (former government concessions) are generally owned or participated by the Regions: examples of these are: North Milan Railways, Apulo Lucane Railways, Railways of Calabria, Roma-Civitacastellana-Viterbo Railway, Railways of Southeast in Apulia, Central Railway in Umbria, MetroCampania Northeast, etc. Circumetnea railway, subject of this case study, is the only government administration still existing, but, in the beginning of this year, the institutional procedure for establishing a regional society, which will take charge of this railway, has started. Separation between network operators and provider of rail services in many regional railways has been made, in general, in a quite similar way of the national network.

Although, in order to promote the liberalization of this SG(E)I, Regions have set up operating companies, regulated by service contracts, the expected tenders of transportation service, such as stated in the reform law with the aim of promoting the privatization of these local railways, don't have been called for and only in a few cases private investors have bought shares of these companies²⁰⁴.

Difficulties encountered in privatization process have different causes: it must be noted that the income from ticket sales, passes and other railway service are not sufficient to balance

²⁰² "State Railways, Ltd". The group has approximately 100 000 employees (<http://www.ferroviellostato.it/homepage.html>).

²⁰³ Italian Rail Network, Ltd, is totally owned by Ferrovie dello Stato S.p.A.

²⁰⁴ E.g., Ferrovie Nord Milano SpA is listed on the Milan Stock Exchange. The share capital is owned as to 57.6% from the Lombardy Region, to 14.5% by the State Railways, for the 3.1% from Aurelia SpA, the remaining free float (24.8%) is in private hands.

the costs, with the exception, almost solely, of high speed trains; in the local rail transport service of the most of the Community Countries, virtuous companies achieve, as a best result, a coverage of about 35% of their costs from ticket sales. So, even if the service was privatized, financial subsidies²⁰⁵ should be given to the new companies to support the operation of the service; this finding has discouraged many public decision makers.

In the liberalization process, another key obstacle results from the technical constraints of many, though not all, regional railways, due to narrow or special gauge, value of supply voltage, etc. The service in these railways is provided by means, e.g., special rolling stock and traction units, not suitable to any other railway.

The monopoly thus occurs in many regional railways, but does not occur in the State owned rail network, where the service can be (and is) provided by any owner of trains with usual and standard features, without requiring large investments in purchasing special rolling stock. In this latter case, a risk of oligopoly still exists: only a few companies, even at European level, could have the necessary funds to support major investments still needed to provide competing services, even if investments in infrastructure will still be funded by the SF and other national resources. It is therefore necessary to strengthen measures to promote competition in the transport service market, as large extent as possible.

The structures of the underground railway are typically owned by municipalities, except in a few cases where they are state-owned (e.g., Palermo, Catania²⁰⁶). The mass rapid transport services are entrusted, by means of service contracts, to companies often wholly owned by municipalities²⁰⁷, but in some cases partially privatized²⁰⁸.

Partnerships among different government agencies dealing with public transport have been established in Italy in recent years; some of that partnerships have been promoted by regions²⁰⁹, others, in urban ambits, have been promoted by municipalities. Nevertheless, a national authority does not exist, nor regional authorities, entrusted with governing and regulating, with adequate powers, the integrated transport systems-structures and services-have been established, nor, as far as we know, have been planned by the regional decision-makers. This seems to be a significant weakness of the overall governance system of transport in Italy.

14.3. Project description

The following short paragraphs provide a full description of the project, organised according to the topics of greatest importance for the understanding of what the project properly is.

The project is a part of the programme of modernization and extension of the historic narrow-gauge railway "Ferrovie Circumetnea" (length: ~114 kilometres), located around the foothills of Etna volcano and whose first section was opened in 1895 and was completed in 1898.

The programme's overall objective is to achieve an urban-suburban integrated transportation system, connecting all major urban traffic attractors and, simultaneously,

²⁰⁵ Currently, financial contributions are given by the Regions for the regional owned railways and by the State for the other ones.

²⁰⁶ The infrastructure of the underground railway in Catania, which is discussed in this case study, is owned by the State, as a part of the Circumetnea railroad (see the point 3); the service is currently provided by the Government Administration of the Circumetnea railway.

²⁰⁷ E.g., Azienda di Trasporti Milanese SpA, which operates the underground of Milan, is wholly owned by that municipality.

²⁰⁸ E.g., the property of Azienda Mobilità e Trasporti SpA, a limited company which provides, along with other public transport services, the underground service in the town of Genoa, is shared between the Municipality (59%) and the French company TAG (41%).

²⁰⁹ The Umbrian Region, e.g., has signed a memorandum of understanding with the Provinces on restructuring regional and local public services.

the towns of the Catania belt (i.e.: cities included in the Metropolitan Area of Catania²¹⁰), that are generating a strong commuting. An early intervention, in 1999, was the rebuilding, in tunnel, of a section of 3.8 km of the previous narrow gauge monorail line, which has provided the opportunity to give to the Catania town the first underground railway line at high frequency and capacity. Previously, under the 2000-2006 programme, the ERDF has co-funded the project of modernization of an extra-urban section of the railroad, from the station of the town of Paternò to that of Adrano (length: ~15 km, total cost: EUR ~103 million). Currently, the project for a further extension of the urban section of the Circumetnea railway in the south of the city of Catania, including connection of the international airport Fontarossa, is under development. Moreover, a preliminary feasibility study to extend the electrification and the standard gauge to the remaining sections of the Circumetnea railway has been also carried out. The intervention will enable the closure of the Circumetnea Railroad ring around the Etna volcano by interconnecting with the Messina-Catania rail line of RFI. The frequency of trains is expected to be one every 15 minutes, in line with the anticipated traffic flow.

Looking at the proper project, that is an extension of the underground railway line in operation within the urban centre of Catania, the overall objective is to contribute at developing the metro network of the city and surrounding.

The project aims to divert the demand of mobility in the urban area of Catania and in the northwest belt of the city in the Etna foothills, currently satisfied by public buses and-primarily-by private cars, towards the services of public rail transport.

More in details, the project aims to address the following specific needs:

- to fulfil transport demand of workers and pupils commuters;
- to fulfil transport demand for business, administrative activities and for social, cultural and health services;
- to relieve the congestion of the urban and sub-urban traffic and to balance the modes of transport in favour of environmental friendly technologies;
- to increase the safety levels of the whole urban transportation system.

The final beneficiaries of the project are all the citizens of Catania and of the towns connected by the underground. The inhabitants of Catania are 296 469 and those of Misterbianco are 48 549 (data: ISTAT²¹¹ 1st January 2009). The expected transport demand on the new underground section has been estimated to be about 38.3 million passengers per year.

The investment concerns the construction of four sections of the double track underground railroad, standard gauge and 3 kV d.c. electric traction:

- 1st stretch: from Borgo to Nesima: length 3 174 m, 4 stations;
- 2nd stretch: from Nesima to Misterbianco: length 3 939 m, 4 stations;
- 3rd stretch: from Galatea to Giovanni XXIII: length 898 m, 1 station;
- 4th stretch: from Giovanni XXIII to Stesicoro: length 1 027 m, 1 station.

²¹⁰ The local territorial institution Metropolitan Area of Catania, one of the fifteen set up in Italy and one of three in Sicily, is an urban conurbation due to continuity and the strong social and economic integration of several municipalities (27) in the Province of Catania, in particular the provincial capital itself and the municipalities placed in the south of Etna.

²¹¹ ISTAT is the Italian national institute of statistics (<http://www.istat.it/>).

Project activities mainly consist of: i) the construction of the tunnels and of the civil structures, ii) the installation of the rail superstructure and of the electrical power overhead line, and iii) the erection of the train control systems and of the plants of the railroad and of the stations. The overall construction of the underground, including feasibility study, design, licensing and erection, is lasting 15 years, having started in 1999 and ending in 2014.

14.4. Specific aspects of SG(E)I affected by the project

Specific aspect/objectives of SG(E)I realised/enhanced with the project

The following specific aspect/ objectives are enhanced with the project:

- universal and continuous accessibility;
- territorial accessibility;
- social affordability;
- efficiency and effectiveness;
- reliability, safety and security of supply;
- environmental friendliness.

Main expected results of the project with reference to the specific aspect/objectives of SG(E)I

- ***Universal and continuous accessibility:*** the extension of the metro line, including the inter-modal access and interconnections (e.g. parks and bus stops near the new metro stations) needed in order to allow a continuous mobility, enhances the accessibility to the public transport service for all citizen. It is expected that the new underground section will attract additional passengers for those already served by other transport systems, public or private, amounting to 6 055 843 passengers per year²¹². In addition, the demand diverted from other transport systems is expected (all figures are passengers per year) to be 32 250 925, due to the following contributions: i) urban public transport: 2 351 850; ii) suburban public transport: 5 093 850; iii) suburban private vehicles with inter-modal interchange: 16 289 313, iv) urban private vehicles with inter-modal interchange: 3 302 779, v) urban private vehicles without inter-modal interchange: 5 213 126. Taking into account the above data, the expected total number of passengers per year of the new section of the underground is 38 306 768.
- ***Territorial accessibility:*** The project will help improving the connection between the suburbs and the central urban areas, that play the pivotal role cities for numerous economic and social activities, but also for regional development and convergence; access to the city centre will be improved for all citizens, also those not living in the central city but accessing it every day or only for special purposes (administrative, economic or social ones, but also health-related ones or for further travel connections). Taking into account the data presented in the previous point, the share of suburban traffic served by the new underground is expected to be 66%.
- ***Social affordability:*** With improving underground service, is expected to strengthen the pricing policy already adopted by the operator of public transport in Catania, based primarily on offering monthly passes at discounted rates for a very large number of special categories of users, such as: retirees, seniors, housewives married, veterans,

²¹² All the data shown in this point are derived from the demand analysis of the project.

disabled persons, employees, non-EU immigrants, resident and not resident in Catania students, university students, unemployed people (<http://www.amt.ct.it/>).

- **Efficiency and effectiveness:** the under construction project radically improves the efficiency of the metro service, since, by the part concerned, the current in surface, single track, narrow gauge railway, is replaced by the new one, double track, standard gauge, in tunnel. The route of the line and the location of the stations have been designed to achieve a high effectiveness of the service. The direct benefits to the community due to the increase of effectiveness and efficiency (time savings and lower operating costs) are estimated in the cost benefits analysis of the project to be approximately EUR 900 million (present value) in a time horizon of 30 years, i.e. about EUR 86 per year and per inhabitant, taking into account the overall population of the cities of Catania and Misterbianco.
- **Reliability, safety and security of supply:** The modern infrastructural technology of the new metro line ensures high service reliability; the traffic control systems increase the safety level both for passenger and for professional workers; the surveillance systems of the stations and of the access ensure high security standards. In addition, a very relevant indirect effect of the new underground line is the reduction of road accidents.
- **Environmental friendliness:** The project, due to the diversion of traffic from the existing-heavy impacting the environment-transport systems, reduces the emissions of greenhouse gases and other air pollutants; in addition greatly reduces noise pollution.

Improvement of public service approach, at regional and / or national level, as a consequence of the expected results of the project

The expected success of the project will increase-both in Sicily but also at national level-the choice of giving priority to railroad, with adopting efficient design solutions and with low environmental impact, for urban and sub-urban connections, especially to link up, at sub-regional level, the main attractors of traffic and to meet the demand for commuting.

Expected changes in the use of the Structural Funds in the SG(E)I, at regional and / or national level, as a consequence of the experience of the project co-financing by such funds

The contribution of the Structural Funds has made possible the financing and the implementation of the project. For the future, the use of Structural Funds in the transport sector, both at regional and national level, should be more concentrated with the aim to co-finance efficient and environmental friendly design solutions of urban and suburban transport, i.e. mainly railroad projects.

14.5. Governance aspects

The main stakeholders involved in the project are:

- Italian Ministry of Economy and Finance²¹³: role of co-financing subject with the national funds cleared through the CIPE²¹⁴ decisions;
- Ministry of Infrastructures and Transport²¹⁵: this institution monitors the consistency of the Regional Program and the project with the principles of the General Mobility Plan (efficiency, safety, sustainability);

²¹³ Ministero dell'Economia e delle Finanze (<http://www.tesoro.it/>).

²¹⁴ CIPE = Comitato Interministeriale per la Programmazione Economica (Interministerial Committee for Economic Planning) (<http://www.cipecomitato.it/>).

²¹⁵ Ministero delle Infrastrutture e dei Trasporti (<http://www.mit.gov.it/mit/site.php>).

- Sicilian Region²¹⁶: The Planning Department²¹⁷ prepares the general programmes of Structural Funds and coordinates their use for financing the project and controls the overall expenditure of the national and Structural Funds. The Department of Transportation²¹⁸ prepares and implements the area programme (Director Plan of Transports), which the project is included in, and controls the project funds expenditure. The Regional Environmental Authority (Department of Land and Environment²¹⁹) expressed favourable pronouncement about the environmental compatibility of the project;
- Circumetnea Rail-Governmental Administration (FCE)²²⁰, public body directed by a Government Commissioner: project design and construction; provides the service of the Circumetnea railway, including the underground;
- Municipalities of Catania and of Misterbianco²²¹: The municipalities decide about the plans for local mobility and they support the design of the underground about the interfaces among the metro service and the other public transport systems. In particular, Catania Municipality has contributed to individuate the better sites, in the project design phase, for the inter-modal interchange nodes (tram and bus stops, interchange car parks);
- Municipal Transport Company of Catania²²², a public in house provider of Catania Municipality: support in the design phase with regard of the coordination of local public transport services. In the future will be assessed the option of entrusting the management of the metro service to this municipal company;
- Rete Ferroviaria Italiana S.p.A. (RFI): inter-modal integration.

Users were not involved in the project partnership.

Although all the above mentioned stakeholders have roles in the project, a formal partnership was established only among four of them (Ministry of Economy and Finance, Ministry of Infrastructures and Transport, Sicilian Region and FCE) through the signing of the Framework Program Agreement on Rail Transport, on October 5th, 2001. In addition, Government management of Circumetnea Rail (FCE) and Sicilian Region signed an agreement dealing with the realization of the intervention on January 29th, 2001. In 2005, FCE, Ministry of Transport, RFI and Municipality of Catania signed a Memorandum of Understanding with the aim of developing the integration in the territory among different modes of transport.

As can be seen from reading the above list of project partners, all bodies involved in the project are public. The Circumetnea railway is operated by a Government Commissioner, representative of the State. It is therefore a public management exercised directly by the State through the organisation of the Circumetnea Rail (FCE).

14.6. Universality of access and affordability

This section discusses two main issues related to SG(E)I's provision: the universality of access and the affordability.

²¹⁶ Regione Siciliana (<http://www.regione.sicilia.it/>).

²¹⁷ Dipartimento della Programmazione (<http://www.regione.sicilia.it/Presidenza/programmazione/>).

²¹⁸ Dipartimento delle Infrastrutture, della Mobilità e dei Trasporti (<http://www.regione.sicilia.it/turismo/trasporti/>).

²¹⁹ Dipartimento Territorio e Ambiente (<http://www.artasicilia.it/>).

²²⁰ Ferrovia Circumetnea-Gestione governativa (<http://www.circumetnea.it/>).

²²¹ Comune di Catania (<http://www.comune.catania.it/>), Comune di Misterbianco (<http://www.comune.misterbianco.ct.it/>).

²²² Azienda Municipale Trasporti di Catania (<http://www.amt.ct.it/Home.php>).

Universality of access

The project promotes access of all citizens, without any forms of limitations, to the new metro service. The catchment's area is mainly composed by the people resident in the centre and in the north-west of the city of Catania and in Misterbianco town and in neighbouring countries. We can estimate that about 35%÷40% of the overall population of the two cities will use the new service, on average in each year.

Metro stations are equipped with the devices required to provide access to disabled, people with reduced mobility, elderly, etc.

As mentioned above, the new underground connects and is a part of the Circumetnea railroad; in this way, the project facilitates access to the transport service to the city centre, among other people, also for all citizens residing in rural zones in the areas of influence of the non-urban railroad stations.

Affordability

The price of a metro ticket is currently fixed at EUR 0.90 per a 90 minute trip, a little lower than the ticket of the service of urban buses (EUR 1.00). A monthly pass costs EUR 10, but is expected to be increased at least to EUR 18 to align it to the minimum current price of the pass of the urban public service. Ticket prices of the non-urban section of the Circumetnea railroad are related to the length of the journey²²³. The price of the service is therefore proportional to the "quantity" of the service, but no mechanism correlates the tariffs with the service quality.

As mentioned above, at present a single rate of service is set up, but the expected alignment with the pricing policy of the operator of urban public transport services in Catania will encourage the adoption of differential tariff depending on the category of users supplied. E.g., the urban monthly pass price is EUR 40, while the special categories already mentioned in Section 14.4 benefit from discounted prices between EUR 18 and EUR 27.

The project was entirely financed by public funds (EU Structural Funds and national funds), without recourse to the contribution of the expected revenues. Financial analysis of the project shows that the expected service revenues will be sufficient to offset the running costs (Operation & Maintenance), with no other financial aid.

Service may be supplied on an affordable level, because the Structural Funds (and the national funds) fully fund the investment costs of the project²²⁴. Additional remarks about subsidy control mechanism in order to ensure an affordable level of the tariffs are set out in Section 14.8.

14.7. Contribution to cohesion policy objectives

The project geographical area is one of the most important territories in Sicily, both in terms of number of residents, both for the importance of the business. It is reasonably connected to the rest of Sicily, to Italy and to Europe by roads, railroads, port and airport, although the existing transport services are in general suffering, in various degrees, of typical problems arising from the insularity and from the socio-economic delay, well known in the South of Italy. Taking into account the cities of Catania and Misterbianco as those directly affected by the project, their surface represents 6.13% of that of the whole Province of Catania, 0.85% of that of Sicily and only 0.07% of the whole Italian territory. In terms of resident population, the above percentages become respectively 31.8%, 6.85%, 0.57%. The Circumetnea railroad as a whole, however, serves a significant part of the Metropolitan Area of Catania²²⁵, whose surface (939.56 square kilometres) is 26.44% of

²²³ See <http://www.circumetnea.it/main.asp?1>.

²²⁴ Circumetnea Railway (FCE) gets, from the State, a financial contribution to partially balance the running cost of the of the whole railroad system, in favour of the service users. The FCE service contract regulates this subsidy.

²²⁵ See a previous footnote.

that of the Province of Catania, 3.65% of that of Sicily and 0.31% of Italian territory; in terms of resident population, the above percentages are respectively 69.7%, 15.0%, 1.26%. As the above reported figures show, the railroad, object of the improvement plan described above (see Section 14.3), provides transport service in a large portion of the whole Catania province and in a significant and relevant part of the Sicilian territory. The territory of the rail catchment's area is largely urbanized (population density in the Metropolitan Area: 805.15 inhabitants per km²) and mainly devoted to housing and other residential purposes, but in which economic activities, industrial and agricultural, are fairly developed too.

The construction of the new section of the underground contributes to improve the quality of life in the City of Catania. The diversion of mobility offered to the people from the road transport systems to the railway not only meets the growing demand that cannot be covered, without significant social and environmental costs, by increasing the traffic of public buses and private cars, but also relieves the urban congestion, reduces the pollutant and greenhouse gas emissions and lowers the urban noise levels. All these ones are well-known benefits of this kind of projects, treated extensively in the literature²²⁶.

But the project, which, as above mentioned (see Section 14.3), is a part of a wider project to improve the whole Circumetnea railroad, contributes to the economic, social and territorial cohesion in a much broader way and affects a territory larger than the only Catania town.

The city of Catania, with predominant activities in the advanced tertiary sector, directly affects the dynamics of the other smaller towns, which have a predominant development in the productive primary or secondary sectors and support a primarily residential function. Moreover, in recent decades, the population living in the conurbation with Catania city has increased, while simultaneously the resident population in the capital of the province has decreased²²⁷, resulting in high commuting and congestion on the roads. The demand of mobility that is expressed within the basin of influence of the intervention, that is the object of this case study, is more than 600 000 daily trips, of which more than 70% are gone on by private means. The network of the road infrastructure is still inadequate and the latest major interventions (such as completing the western ring road), were intended more to allow the "overtaking" of the city of Catania than to facilitate the internal relationships between the urban centres. Although the Municipal Transport Company of Catania carries approximately 48 million passengers per year, the volume of the mobility demand in Catania town cannot be satisfied only by the system of public transport by road. On the other hand, public transport service in the extra-urban areas is still supplied by a set of bus lines operated by public and private companies under regional concession. The lack of coordination of planning and operating of all the service in the metropolitan area of Catania gives a level of service rather poor, characterized by an inadequate frequency of service and by overlapping on different bus routes, lack of integration between the companies operating in the urban zones with those in non-urban areas.

To cope with the problems of a sustainable mobility in the metropolitan area of Catania, the solution is not building new roads, due to the high environmental costs of land consumption, energy consumption and pollution. Furthermore-such as the outcomes of similar projects, already completed from several years, have shown-improved roads lead, over the medium-long term, to an increase in mobility on individual means, which quickly brings back the system in crisis.

²²⁶ Quoting a single reference, in which the methodology of quantifying economic effects is provided, see: Handbook on estimation of external costs in the transport sector, produced within the study Internalisation, Measures and Policies for All External Cost of Transport (IMPACT), commissioned by DG TREN.

²²⁷ The decentralization of population from the major urban centres toward the surrounding towns is a trend, that has almost universally occurred in Italy in recent decades.

As a result of the above, the mass rapid transport system at high frequency, high capacity, which will be realized with the completion of the project, seems to be, in the medium and long term, a good tool to reduce the urgent problems of territorial imbalance existing in the metropolitan area of Catania, reducing the current level of dependence on the central city, promoting conditions of accessibility and while producing a general increase in the level of service of transport infrastructure. The project seems to have the potential to improve the connection between suburban and urban centres, to reduce territorial disparities and imbalances in terms of location of economic and social activities, to improve the local competitiveness and attractiveness, to facilitate relations between individuals and groups, to work towards the convergence of the area and within the region.

But, the project's promises will fully come true, only if all project's partners, including those involved in the stage of operating the service, will strongly contribute to integrate not only the different transport structures and infrastructures (bus, underground, railways, parks, inter-modal interchange nodes, etc) existing in the territory, but also-and this is of utmost importance-the policies and the practices of the service management, under several aspects, even if the transport services are provided by diversified bodies. Another key factor of the expected success of the project is the integration of transport systems in the other policies of the territory (e.g., measures to stop the traffic in the historic centres, re-locating of administrative or commercial services, etc).

Cooperation in the partnership and involvement of stakeholders at local level (including users) are the right way to take into account the key factors so that the project contributes to improve the social convergence during its life time.

It is recommended to consider the possible adoption of policy guidelines so that the local governments (Member States and/or regional Governments) promote, where partnership does not have been established, and in all cases reinforce, support and guide appropriate local partnerships, also and especially during performing the transport services. E.g., in a certain area, the price of public transport could be standardized, regardless of the transportation system the user uses; the policy of the "one ticket" could be adopted; the bus timetables can be synchronized with those of other systems (train, underground) and vice versa in view of the traffic flows in the main interchange nodes, etc.

In this context, Transport Authority, to be set up at regional and/or national level, could optimally play the role of promoting local partnerships. In addition, the Authority may disseminate best practices to improve the effectiveness of partnerships and the quality of service. In Sicily, e.g., the experience gained in Catania could be spent on planning better transport services in metropolitan areas of Palermo and Messina.

Moreover, only such an Authority (of regional and/or national level) would have the powers to take charge of integrating the governance of funds for financing investment and the governance of financial subsidies to the running costs of the service operators²²⁸.

Such a coordination of all transport policies and funds could deliver the full potential of current and future projects fund by SF and, at the same time, could extend the use of a high quality public service for all categories of users, even giving new impulse to policy of liberalization and competition in the sector, now somewhat jammed.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

²²⁸ These two governance actions are in fact currently held by two different groups of public bodies.

- Giacomo Monteleone, Architect, Responsible Manager of the former Coordination, Planning, Business Area of the Department of Infrastructure, Mobility and Transport of the Sicilian Region.
- Giacomo Rotondo, Architect, interim Responsible Manager of the former XI Service of the Department of Infrastructure, Mobility and Transport of the Sicilian Region.
- Gioacchino Perricone, Engineer, Responsible Manager of the Infrastructural Interventions Service of the Department of Planning of the Sicilian Region.
- Giuseppe Fiore, Engineer, Technical Director of FCE, Project Manager of the project.

15. Latvia.

Electronic services to citizens and business at Jekabpils town information centre

Author: Iveta Reinholde
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15.0. Background information

a) Country	Latvia
b) Region	Zemgale
c) Full Project Title	Electronic services for citizens and businesses at Jekabpils town information centre
d) Duration	2004-2006
e) Programme	Objective 1 Programme 2004-2006
f) Total Cost	EUR 166 974
g) EU Contribution	ERDF 75%
h) National Contribution	25% (10% is contributed by the central/national government; 15% is contributed by local government)
i) Private Contribution	0%
j) Sector	Telecommunications
k) Sub-Sector	Services and applications for citizens
l) Beneficiary	Jekabpils Town Municipality
m) Implementing body	Jekabpils Town Municipality

15.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

European Structural Funding was and still is an issue of great importance for the national economy in Latvia. The use of Structural Funds (ERDF and ESF) corresponds to needs for investment in sectors such as transport, environment, social infrastructure and the information society. Figure 23 clearly shows that in both programming periods 2000-2006²²⁹ and 2007-2013 the transport sector benefited the most. At the same, in the programming period 2007-2013 many more resources were allocated to environmental protection and risks (28.22%) in comparison to the previous period (14.71%). Finally, the available amount of funding has considerably decreased for telecommunications and the information society (10.14% in 2004-2006 and 6.74% in 2007-2013). In absolute terms, the total available amount of ERDF in the programming period 2000-2006 were EUR 382 million, but in the programming period 2007-2013 EUR 3 979 million are available.

The Single Programming Document 2004-2006²³⁰ (hereinafter SPD) the framework document on the use of EU structural funding set out three mid-term objectives, development of infrastructure, including ICT solutions for business, provision of ICT skills and ICT equipment²³¹. Such mid-term objectives were defined taking into account the limited lifetime of both the Single programming document and the short programming period.

The SPD clearly stated that the unbalanced development of social infrastructure and limited access to public services (SG(E)I) makes rural areas and small towns (e.g. Jekabpils) less attractive as much for people as for business. Thus, investments in social infrastructure and ICT infrastructure should increase both the accessibility and the quality of those services. The SPD foresaw the development of ICT skills for the general public as well as the provision of necessary equipment and infrastructure to ensure access to ICT. In this context, digitalisation of public services and development of information networks would pave the way to an information society and would address the digital divide in Latvia. The

²²⁹ It should be noted that in Latvia this programming period covers only two years 2004-2006, since Latvia joined EU in 2004.

²³⁰ Vienotais Programmdokuments jeb Latvijas Attīstības plāns, Single programming Document, approved by European Commission in 18.12.2003. http://www.esfondi.lv/upload/05-saistosie_dokumenti/spd_en_09112006.pdf (last accessed March 29, 2010).

²³¹ Single programming Document , pp.178.

SPD concluded that investments in telecommunications by national and local authorities would ensure access to telecommunications and ICT in a non-discriminatory and technologically neutral manner²³². It was concluded by the SPD that there is a low level of ICT usage by business (in 2003, 39% of the companies uses computers) due to a weak understanding of ICT opportunities²³³.

The SPD was based on national development priorities, strengths and weaknesses, socio-economic analysis and lessons learned while working with pre-structural funding. The SPD highlights the consistency with EU guidance and policy directions as well taking into account the designed national programme in the sector-the national programme "Informatics". There were 4 priorities defined based on the mid-term objectives, where SG(E)I's were cross-cutting issues inherited in each priority and measured by the indicators at the priority level, the measure level as well as at the horizontal policy level. For administrative management of structural funding, quite a complicated scheme was created consisting of the managing authority, the paying authority, the 1st level intermediate body and the 2nd level intermediate body.

The National Strategic Reference Framework 2007-2013,²³⁴ in its structure, is quite close to the programming document of the previous period. The Framework document of this programming period is much more detailed regarding SG(E)I. There are three operational programmes introduced ("Human Resources and Employment", "Entrepreneurship and Innovations", "Infrastructure and Services"). At the same time, the Framework document introduced three thematic axes (Development and efficient utilisation of human resources, Strengthening competitiveness and progress towards a knowledge-based economy, Improvements in public services and infrastructure as a precondition for balanced national and territorial development). In respect to this case study, both-the thematic axis on improvements in public services and the operational programme on infrastructure and services provides the outline for the development of ICT and electronic services. The Framework document states that the improving quality and accessibility of ICT will reduce disparities between regions and it puts special emphasis on the development of ICT as an opportunity for the competitiveness of regions.

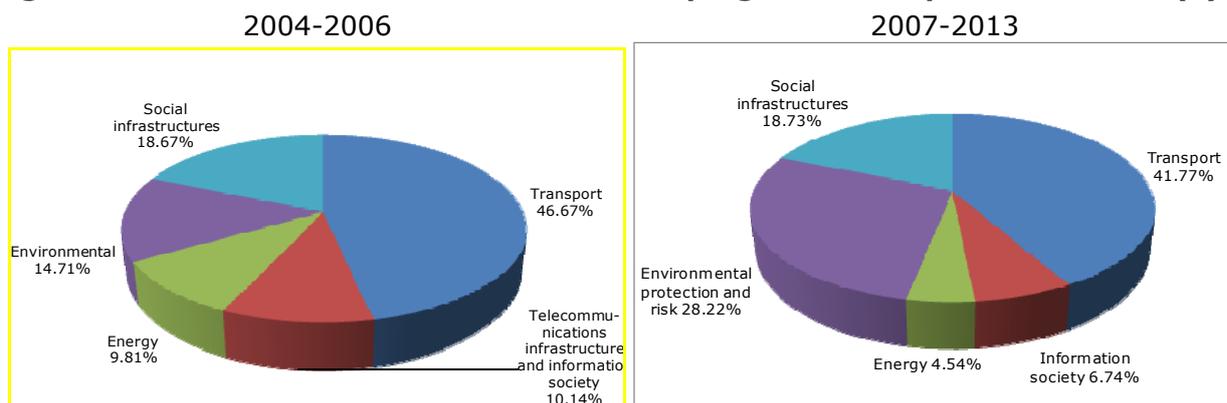
It is relevant to note that the operational programme should contribute to achievement of the objectives of more than one thematic axis. In this context, the thematic axis on improvement of public services states clearly that the insufficiently developed ICT infrastructure and electronic public services (SG(E)I) is an obstacle for economic growth. At the same time, it is recognised that this lack of ICT skills, remoteness of places of residence affects access to informational resources and electronic services²³⁵.

²³² Single programming Document , pp.183.

²³³ Single programming Document , pp.46.

²³⁴ Valsts stratēģiskais ietvardokuments 2007.-2013.gada periodam. National Strategic Reference Framework 2007-2013 http://www.esfondi.lv/upload/04-kohezijas_politikas_nakotne/VSID_2009.pdf (last accessed March 29, 2010).

²³⁵ National Strategic Reference Framework 2007-2013. pp.60.

Figure 23: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I

Source: Authors processing of DG Regio data

15.2. National framework in the provision of SG(E)I

There is no strict definition or common agreement on the definition of SG(E)I in Latvia either in practice or legally. In some cases, SG(E)I and SGEI are perceived as a synonym for the terms “public services” and “public functions”. The Law on Public Administration Structure states clearly, every service provided by or delivered by public authorities (national or local) should be considered as a service of general interest. Therefore, sectoral ministries at the national level are the main responsible bodies for the respective sectors as is envisaged in the national legal framework and supported by the national framework for structural funding.

Based on the above, the relationship between public authorities and providers of SG(E)I depends very much on the sector where SG(E)I is located, on the regulative framework for the respective sector and on the level of government (national or local). Since, there is no clear understanding on SG(E)I, some of the SG(E)I's are provided by public administration institutions themselves.

Regarding the SG(E)I discussed in this case study, it should be pointed out that general ICT services are assigned to economic operators, and these services are to be delivered under a competition regime, since there are a large number of ICT providers (~400 electronic communication service providers²³⁶). At the same time, if some ICT services are provided by public administration institutions or local municipalities (such as Jekabpils), these services are not provided under the classic understanding of “competition”, but they are measured by their impact on the living and business environment, the quality of life, client satisfaction and are regulated by administrative procedures. However, there is no data available on the impact of those services, since each public administration institution collects information according to their own methodology, if at all.

For economic operators delivering electronic communication services with relevant impact in the market, the Public Utilities Commission defines the tariff calculation methodology according to the Electronic communications law and the law on Regulators of public utilities. Economic operators are free to set their tariffs and quality standards. Thus, the degree of market liberalisation is very high in this sector and in most cases the owners of the infrastructure are the service providers. Such a situation allows for end-users to have a wide range of choice. The service users regularly evaluate the service quality and tariffs, and in the case of insufficient quality, the contract can be terminated. The service contracts signed are the main instruments for governance of the relationship. In common with the liberalised sectors (such as electricity, railway transport), and contractually delegated

²³⁶ Public Utilities Commission, <http://www.sprk.gov.lv/index.php?id=3499&sadala=301> (last accessed March 29, 2010).

services, several measures are set to guarantee SG(E)I principles. For the liberalised sector, the Public Utilities Commission evaluates tariffs, quality and access before approval of the tariffs. For contractual services, the contractor regularly evaluates service quality, and in the case of insufficient quality, the contract can be terminated.

The situation is quite different with regard to electronic services delivered by public authorities. First of all, the current electronic services in the public administration have been digitalised due to the pressure of globalisation. E-solutions provide opportunities to bring traditional bureaucratic services up to the level of modern technologies and challenges. Secondly, the Law on Public Administration Structure and the Law on Local Municipalities regulates services delivered by public authorities' on the national and local levels. Thirdly, in 2009 the government launched a public debate and evaluation of public functions²³⁷ in order to define the public functions to be contracted out. It is expected that some tasks related to the maintenance of ICT systems of public authorities will be contracted out to private companies in the near future. At the moment, public authorities are owners of the ICT infrastructure located in their jurisdiction as well as being service providers. We can conclude by stating that, the current approach to electronic services delivered by public authorities is fragmented, since each public administration institution decided on the design and development of those services itself.

15.3. Project description

The priority of the Single Programming document was: promotion of balanced development; the measure of SPD was: Development of ICT; the activity of the SPD was: Development of public information and e-government system. The project is part of the national programme "Development of public information and e-government systems" designed under the activity mentioned above.

The overall objective of the national programme was to improve the existing, and to develop new public information systems, integrating them into the unified government system, thus ensuring access and public services, promoting e-government and improvement of operations in public authorities. The national programme was designed to address long-term economic goals such as the creation of possibilities for development of all regions equally; development of the business environment and the creation of new jobs. At the same time, the national programme foresaw development of electronic documents, e-commerce and e-government.

The objectives were:

- to promote the use of electronic public services among citizens and business;
- to improve access to, and the quality of these services;
- to promote the IT skills of the population.

The project aims to address the following needs:

- demand for coordination of the IT system in Jekabpils town municipality thus ensuring electronic document circulation among public and private organisations;
- to improve the technological infrastructure of Jekabpils town council;
- to fulfil the demand for e-services;
- to ensure the safety of all electronic data;

²³⁷ There is no clear legal distinction between the terms "public functions" and "public services" in Latvia. However, the common understanding is based upon the assumption that each public function should result in public service for citizens.

- to fulfil the demand for a "One-Stop-Agency" in the town. The "One-Stop-Agency" was intended as an administrative agency where citizens could have access to information and consultations as well as resolving all administrative and municipal questions where a decision or response of the local municipality is required.

The final and direct beneficiaries of the project are all inhabitants of Jekabpils town (26 494²³⁸ inhabitants), ~1.17% of the population in Latvia. The indirect beneficiaries will be inhabitants of the rural area around Jekabpils (~ 27 000). In total, ~ 53 000 inhabitants benefited from the project. The impact of the project was identified on two levels:

- for the local municipality, the project improved internal processes and communication;
- for the public and business, the project improved access to the local municipality at the level of 24x7 (24 hours and 7 days per week). In addition, new e-services were developed during the project.

Investments concern development of the infrastructure for electronic services: instalment of local IT networks in Jekabpils town municipality, instalment of an IT network at the One-Stop-Agency located in the building of the town council and procurement of all necessary IT equipment (20 sets) for the One-Stop-Agency.

Project activities consisted of: 1) development of a unified information system; 2) provision of operational information systems; 3) improvement of the information portal-www.jekabpils.lv ; 4) training; 5) informative activities and dissemination.

Development of the unified information system included development of a records management system, guaranteed access to the national system of legal acts as well as the development of an internal information network in Jekabpils town council. All the equipment necessary was procured and an audit of the data security system was conducted.

Activity no.2 (provision of operational information systems) consisted of sub-activities such as the procurement of equipment for the One-Stop-Agency and the development of Internet connections in the premises of the town council. This activity also included digitalisation of 10 local government services. During the project, the Internet portal of Jekabpils town council was improved ensuring access to services via the web page. Improvements in the Internet portal included a functional upgrade of the web page and the introduction of multi-level navigation tools.

The training activity was tailored to train 60 municipal employees to improve their skills. No training activities were foreseen for the general public. Finally, information activities (2 seminars) were conducted to inform the general public on the possibilities of receiving electronic services. 2000 booklets, which were the main marketing material, were printed and distributed to citizens. The booklets gave information on the functions of and services provided by the One-Stop-Agency.

15.4. Specific aspects of SG(E)I affected by the project

Specific aspects/objectives of SG(E)I realised/enhanced with the project

The following specific aspects were enhanced with the project:

- universal and continuous accessibility;
- bridging the broadband gap or "digital divide";

²³⁸ Data as of January 1, 2009 from Central Statistical Bureau of Latvia www.csb.gov.lv (last accessed March 29, 2010).

- development of e-government.

Main actual/expected results of the project with reference to the specific aspect/objective of SG(E)I

- ***Universal and continuous accessibility***: development of a unified information system includes introduction of the e-documents system and e-services. Using the e-documents system, residents can follow documents submitted to the city council. The e-services system-standardised local government services for citizens and business are available online. By improving access to Internet services, it is expected the public will become aware of and know about these services. In 2006, ~15 000 incoming and ~9 000 outgoing documents were already processed electronically. The most popular e-services are- electronic appointments with the town council officials (e.g., 160 appointments in 2006 and 450 appointments in 2008), questions to the town council experts (14 questions in 2006 and 192 questions in 2008)²³⁹, standard residential applications and standard business applications. In addition, electronic services created during the project as well as all the results of the project already show improved access to the services for all groups of the population. Data shows continuous accessibility of services created during the project (e.g. 3 193 incoming documents from business in 2006 and 4 503 in 2008; 3 174 incoming documents from residents in 2006 and 3 028 in 2008).²⁴⁰
- ***Bridging the broadband gap or "digital divide"***: the One-Stop-Agency developed during the project provides access to the internet free of charge as well as advising citizens on municipal services and providing help in completing all the necessary documents, queries and applications.
- ***Development of e-government***: the project improved the administrative capability of Jekabpils town council in processing all its data and documents as well as substantially improving data exchange and electronic communication between the central level public administration (in Riga) and the municipal level (Jekabpils town council).

Improvement of public service approach, at regional and/or national level, as a consequence of the expected results of the project

The experience of Jekabpils town municipality contributed to the development and/or improvement of electronic services for citizens. There is a tendency for town municipalities in Latvia to create one-stop-shops as a tool for communication and information to citizens and business as well as reducing the administrative burden for all.

Expected changes in the use of the Structural Funds in the SG(E)I, at regional and/or national level, as a consequence of the experience of the project co-financing by such funds.

Contribution of the Structural Funds has made possible the implementation of the project. It is expected that the future contribution of Structural Funds in ICT will ensure the development of an information society. However, it should concentrate more on the availability and integrity of public networks and public databases. In this context, proper attention should be devoted to increasing the ICT skills of the population in general as is recognised by the Framework document 2007-2013. Since, the structural funding of the previous period (2004-2006) did not benefit regional development as was expected, it is

²³⁹ Data from Jekabpils Town Municipality [http://pakalpojumi.jekabpils.lv/template/statistika2009\(1\).doc](http://pakalpojumi.jekabpils.lv/template/statistika2009(1).doc) (last accessed March 29, 2010).

²⁴⁰ Data from Jekabpils Town Municipality [http://pakalpojumi.jekabpils.lv/template/statistika2009\(1\).doc](http://pakalpojumi.jekabpils.lv/template/statistika2009(1).doc) (last accessed March 29, 2010).

quite realistic to expect that the development of an information society, ICT skills and regional attractiveness might not be achieved.²⁴¹

15.5. Governance aspects

The main stakeholders involved in the project are:

- Latvian Ministry of Finance²⁴² is the managing authority; develops EU funding related programming documents at the national level. It ensures financial control of Structural Funding. It was indirectly related to the project, since the Ministry of Finance coordinates the management system of the Structural Funds.
- Latvian Secretariat to Special Assignments Minister for Electronic Government Affairs²⁴³ (abolished from June 1, 2009, when the functions were transferred to the Latvian Ministry of Regional Development and Local Government²⁴⁴) developed the national programme "Development of public information and e-government systems" and is the 1st level intermediate body. This institution should develop all the planning documents related to regional development, develop national programmes, develop project evaluation criteria and evaluate projects submitted. It evaluated the project of Jekabpils town council according to the criteria defined.
- Central Finance and Contract Agency²⁴⁵: 2nd level intermediate body ensures supervision and creates the administrative management system for ERDF, provides administrative, financial management and implementation of ERDF financed projects. In respect to this project, it signed the agreement with Jekabpils town council on the implementation of the project. It also ensured financial control and audit during the project as well as after the project implementation.
- Coordination Council of National Programme. The main task of the Council was to ensure that projects and activities implemented under the national programme "Development of public information and e-government systems" are complementary. The Coordination Council coordinated the implementation of all 19 projects in the frameworks of the national programme. The Council checked whether activities foreseen in the project were duplicated with activities in the other projects financed under this national programme or financed from the Structural funds.
- Zemgale Planning Region²⁴⁶, the public body ensures planning of regional development in Zemgale region and promotes cooperation of the central government and local municipalities in the region, as well as facilitating cooperation among municipalities in promoting economic and social development of the region. The planning region was informed of project activities only.
- Jekabpils town municipality was the project beneficiary and the implementing body. Jekabpils town municipality was responsible for the timely implementation of all activities and achievement of all the planned results.

All the above mentioned bodies above are public. Since the project was financed by ERDF funding the institutional framework established for management of structural funding at the national level was followed.

²⁴¹ *Impact evaluation of EU SF on the regional development in Latvia. A report prepared by Municipal Consultation Centre Ltd. Riga, 2008.* <http://www.esfondi.lv/upload/01-strukturfondi/petijumi/PKC-Zinojums-2008augusts.pdf> (last accessed March 29, 2010).

²⁴² Latvijas Republikas Finanšu ministrija (www.fm.gov.lv).

²⁴³ Īpašu uzdevumu ministra elektroniskās pārvaldes lietās sekretariāts (www.eps.gov.lv).

²⁴⁴ Reģionālās attīstības un pašvaldību lietu ministrija (www.rapl.m.gov.lv).

²⁴⁵ Centrālā finanšu un līgumu aģentūra (www.cfla.gov.lv).

²⁴⁶ Zemgales plānošanas reģions (www.zemgale.lv).

Even if all above-mentioned stakeholders had roles in the project a formal partnership agreement was not established. Jekabpils town municipality as a local authority implemented all the project activities alone and was the final beneficiary of the project. During the implementation stage, Jekabpils town municipality subcontracted several private IT companies to develop the IT infrastructure and information systems according to the national procurement scheme.

Users were not involved in the project partnership.

No public-private partnership was used in this project.

15.6. Universality of access and affordability

Universality of access

The project promotes access to the e-government services of all citizens, with no limitations. The percentage of Internet users from residential homes in Latvia is increasing substantially (11% in 2004; 31% in 2006, 56% in 2009²⁴⁷). The number of enterprises using the Internet for communication with public authorities is also increasing—40% of enterprises in 2004, 40% in 2006 and 64% in 2009²⁴⁸. Internet communication with public authorities is becoming more and more popular for private individuals as well. In 2004, 13% of all individuals used the internet to communicate with public authorities, in 2006- 25% and in 2009 -23%²⁴⁹. Thus, the increasing number of Internet users explains the demands for e-government solutions and e-services. In the case of the project analysed, structural funding allowed the development of e-services to such an extent that these services facilitate Jekabpils citizens use of the internet not only for communication with the municipality, but for other communication channels as well such as phone, e-mail; Skype, the Town Council portal or a visit to the One-Stop-Agency. At the same time, there were improvements regarding accessibility to basic online public services. In 2004, only 5% of 20 basic public services were fully available online, in 2006- 10% and in 2009-65%²⁵⁰. Therefore, in particular SG(E)I is becoming more and more accessible to citizens and business. However, disparities between rural and urban areas still exist, because there is weak coverage of internet service and underdeveloped ICT infrastructure in rural areas.

Affordability

No price or tariff for services provided by Jekabpils town municipality has been fixed or set up. Services are available to any resident of Jekabpils. All costs related to the maintenance and operation of the e-services, the One-Stop-Agency, and the electronic documents circulation system are covered by the municipal budget. At the same time, the development of e-services has had a positive effect on the administrative costs of the municipality. It was calculated that by using e-services and the electronic document circulation system about 20 000 A4 paper sheets were saved in 2004, ~30 900 in 2007 and ~46 000 in 2008²⁵¹.

²⁴⁷ Individuals using the Internet, percentage of individuals who accessed internet at home during last 3 months, http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/main_tables (last accessed March 6, 2010).

²⁴⁸ E-government usage by enterprises, Percentage of enterprises, which use the Internet for interaction with public authorities. http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/main_tables (last accessed March 25, 2010).

²⁴⁹ E-government usage by all individuals, Percentage of individuals aged 16 to 74 using the Internet for communication with public authorities http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/main_tables (last accessed March 25, 2010).

²⁵⁰ E-government on-line availability, Percentage of online availability of 20 basic public services http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/main_tables (last accessed March 25, 2010).

²⁵¹ Data from Jekabpils Town Council www.jekabpils.lv (last accessed March 25, 2010).

The project was entirely financed by public funds (EU funding, national funding and municipality funding). Jekabpils town municipality planned to cover all the maintenance and operation costs from its own annual budget, with other financial aid, thus any savings in paper, time allocated for administrative procedures and communication costs can be considered as a step towards a "value for money" approach in the municipality, even if no detailed cost-benefit analysis has been conducted.

15.7. Thematic focus

Aging population is not a topic representing a relevant dimension for the project analysed. Also, migrants are not a topic relevant in this project, because there is a low level of immigration to Latvia.

Cross-border cooperation is a topic non-applicable to the project discussed.

Regarding geographical remoteness, it may be noted, that Jekabpils is located about 150 km from Riga, the capital of Latvia. There are 26 494²⁵² inhabitants in the town, and around 1 200 companies registered in Jekabpils. Thus, all companies and a large portion of the inhabitants are the target audience of the e-services offered by Jekabpils town council.

The inhabitants of Jekabpils comprise ~1.17% of the total population in Latvia. The town is one of the eight largest towns in Latvia. Therefore, a well-designed and functioning One-stop-agency and the information portal as well as the e-services, offer easier and quicker access to public services provided by the municipality for inhabitants and business independently of their physical location. The increasing number of queries (14 in 2006; 104 in 2007; 192 in 2008; 219 in 2009²⁵³) to the municipality as well as the increasing number of incoming documents from business and citizens is proof of the acceptance of the e-services by citizens and business. The project has a spill over effect to areas located around Jekabpils, some of which are recognised as areas in decline. Development of Jekabpils or any other town in Latvia is a contribution to balanced territorial development and a shift away from Riga as the only economic centre. At the same time, investments in Jekabpils and all kinds of modern public services are increasing the attractiveness of the entire region, thus providing intangible input into the socio-economic environment. However, the possible impact of such an initiative might not achieve the expected volume if it is not supported by appropriate regional policy. This is one of the challenges to be faced not only by Jekabpils town municipality but also by the national government.

15.8. Contribution to cohesion policy objectives

The project did not cover a large area with regards to numbers of the population (Jekabpils town - 26 494²⁵⁴ or ~1.17% of the total population of Latvia), but it was important from several aspects: balanced territorial development, best practice of electronic service delivery and the positive spill over effects to the neighbouring areas as well as improved communication between the local municipality and business/citizens.

Jekabpils is one of the eight largest towns in Latvia and is the crucial development centre located 150 km from Riga to the east. Geographically, Jekabpils is located between two large development centres- Riga and Daugavpils. In addition, Jekabpils is located on the border between two regions-Zemgale and Latgale where Latgale is both the most depressed and most economically declining region in Latvia. Therefore, any kind of development and implementation of modern technologies in public services are mitigating the tendency of population migration from rural areas to Riga as the main development centre in the country. From the national perspective, polycentric and balanced territorial

²⁵² Data at January 1, 2009 from Central Statistical Bureau of Latvia www.csb.gov.lv (last accessed March 25, 2010).

²⁵³ Data from Jekabpils Town Council www.jekabpils.lv (last accessed March 25, 2010).

²⁵⁴ Data as at 1st January 2009 from Central Statistical Bureau of Latvia www.csb.gov.lv.

development outside Riga achieved with development of ICT was and still is highly welcomed. In this case, the digitalised services of the local municipality were the factor directly increasing the attractiveness of the town and efficiency of business having a spill over effect to the areas nearby. In this context, the electronic document system with the possibility to submit electronic documents (e.g. standard business application forms, business application for construction work, business applications for real estate) speed up business processes and have a positive impact on economic activity. Therefore, improved communication between the local municipality and business/citizens should be viewed in the light of social and territorial cohesion where the role of public authorities is crucial. The opinion poll of 2007 showed that 53.5% of Jekabpils citizens were satisfied with the work of the local municipality in general, 22.4% of citizens used the town portal to acquire necessary information²⁵⁵.

At the same time, it should be recognised that digitalisation of public services and establishment of the One-Stop-Agency in Jekabpils improved the quality of the services, as each year citizens are using digitalised services more (e.g. the electronic document exchange system was used 6 564 times in 2006, 18 000 times in 2008²⁵⁶). Jekabpils town council found that the One-Stop-Agency is a good operating instrument for communication with society and ensuring the participation of society in the decision-making processes in Jekabpils leading to a positive effect on local democracy and governance. However, the contribution of one project should not be overestimated since the project implemented in Jekabpils on the digitalised public services, the e-documents exchange system and the One-Stop-Agency is only one positive individual case, not representing the general situation in Latvia.

In 2004, when the project was designed there were neither policy nor best practice guidelines available on how to design, develop and implement electronic public services in Latvia. Thus, Jekabpils town council contributed to the spread of the idea on e-services; however this was initiative at the local level and based on the assumption that the new public services should be more universal, more accessible and more qualitative than previous ones. At the same time, it should be recognised that without the Structural Funds contribution e-services would not have been developed. Later, several other local municipalities tried to transfer Jekabpils best practice and experience. After the project, in 2009 the State Regional Development Agency examined the experience of Jekabpils regarding the establishment, functioning and maintenance of the One-Stop-Agency as a potential best practice model for the whole country. The above-mentioned proves the strategic relevance of the project for the particular region. In addition, the results of this project are sustainable since Jekabpils town council ensures that the electronic services, the electronic document system and the One-Stop-Agency are operating to a high standard.

From the regional policy point of view, Latvia finished administrative territorial reforms in the summer of 2009 when the number of local governments was decreased by a factor of about five (there are now 118 local municipalities instead of 548 local municipalities). The Reforms process has mainly affected rural local municipalities, but towns like Jekabpils were minimally affected. Therefore, the size of a local municipality after amalgamation should not be an obstacle hindering development as small territorial coverage was one of the main arguments for amalgamation. The new administrative territories having an administrative centre and scattered administrative points (located in the previous administrative centre of the amalgamated municipalities) are forced to look for some sort

²⁵⁵ SKDS. Attieksme pret Jekabpili. Jekabpils iedzīvotāju aptauja. (Attitude towards Jekabpils, the opinion poll of Jekabpils citizens, November-December 2007.) <http://www.jekabpils.lv/JKP/SCMSControls/content/common/GetFile.aspx?id=15082> pp.9., 36., (last accessed March 28, 2010).

²⁵⁶ Data from Jekabpils Town Council www.jekabpils.lv.

of electronic document exchange possibilities. However, it is too early to evaluate whether the pressure of administrative reform was enough to encourage municipalities to cooperate in the joint development of e-services.

The Law on Regional Development (adopted in 2002) states that for planning and cooperation purposes, local municipalities form five planning regions covering all Latvia. Thus, there is an administrative mechanism in place to reach an agreement on quality of and access to public services in all regions at an equal level. Despite all the activities undertaken (i.e. amalgamation of municipalities, the status of supported area), regional disparities still exist. Therefore, the politically chosen approach was to support development centres or growth centres where favourable conditions for business development would be created. However, there is a strong tendency that more developed regions attract larger structural funding allocation, this means Riga region as the most developed is allocated the largest amount of structural funding (43%), but for the Latgale region-a declining one, the amount of allocated funding was the smallest (9%) in the programming period 2004-2006²⁵⁷. It should be pointed out, that regional policy in Latvia is vaguely defined, it is too general and there is no precise implementation mechanism developed. In general, Latvian regional policy is perceived as a policy for the financial support of declining regions, not as an instrument for addressing regional problems. Also, there is weak inter-sectoral coordination among the ministries where each ministry is addressing regional problems in the light of its own responsibility. Thus, in a small country like Latvia internal regional policy is not the appropriate place to reinforce the provision of SG(E)I, because of internal administrative fragmentation and regional disparities. The instability of administrative structures at the local level leads to a negative impact on the sustainability of the services and policies implemented. In this context, it can be concluded that structural funding invested in SG(E)I gives impetus for development of the respective services. Therefore, due to instability in the administrative structures and a too vague regional policy, the potential of structural funding and best practice on delivery of SG(E)I's available could not be utilised to the full extent.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Edvīns Karnītis, Member of the Council, Public Utilities Commission.
- Viktorija Gūtmane, Project Manager of the project, Head of the Informatics Unit, Jekabpils Town Council.

²⁵⁷ *Impact evaluation of EU SF on the regional development in Latvia. A report prepared by Municipal Consultation Centre Ltd. Riga, 2008.* <http://www.esfondi.lv/upload/01-strukturfondi/petijumi/PKC-Zinojums-2008augusts.pdf> pp4. (last accessed March 25, 2010).

16. Lithuania.

Renovation of central heating networks in the city of Klaipėda by installing modern technologies

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16.0. Background information

a) Country	Lithuania
b) Region	City of Klaipėda, Klaipėda district, Lithuania
c) Full Project Title	Renovation of central heating networks in the city of Klaipėda by installing modern technologies (BPD2004-ERPF-1.2.1-02-05/0320-01)
d) Duration	May 2006-September 2007
e) Programme	Objective 1 Programme 2004-2006
f) Total Cost	EUR 4 239 612.49
g) EU Contribution	ERDF 42.48%
h) National Contribution	0%
i) Private Contribution	57.62%
j) Sector	Energy
k) Sub-Sector	Energy efficiency, cogeneration, energy control
l) Beneficiary	AB 'Klaipėdos Energija'
m) Implementing body	Lithuanian Business Support Agency

16.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The term "services of general interest" has not been institutionalised or elaborated in Lithuanian legal acts, and therefore neither the Single Programming Document (SPD) nor the National Strategic Reference Framework make a clear distinction between SG(E)I and non-SG(E)I funding. It should be noted that the term itself is mentioned only once per both documents and still only in direct reference to ERDF support. Even so, support from the Structural Funds (SF) accounts for a substantial share in the overall funding in the areas of transport, telecommunication and information society, energy, environment, social and public health. In the SPD, all these areas of SG(E)I are covered by Priority 1 "Development of social and economic infrastructure" which aims to ensure sustainable and economically efficient development of infrastructure in energy, transport, health care, and education, based on the principles of rational use of energy and environmental protection. This goal of the Priority was to be achieved through the attainment of several objectives, including those aimed at increasing reliability and efficiency of the energy sector, i.e. Measure 1.2 "Ensuring of energy supply stability, accessibility and increased efficiency". This Measure sets three principal objectives:

- upgrade and develop energy transmission and distribution networks and improve their reliability;
- reduce dependency on imported energy through the diversification of fuel sources and conversion to local and renewable energy sources;
- increase energy efficiency and reduce negative impacts on the environment.

Therefore, the SF support under the SPD was primarily focused (as far as the energy sector is concerned) on the construction of additional electricity lines, on the development, upgrading and modernisation of heating facilities, on the expansion and renovation of district heating network, and on the expansion of local natural gas distribution network. All these activities were covered by the *de minimis* aid scheme, or aid schemes based either on Small and Medium Enterprises block exemption regulation or regional aid, depending on the project.

Furthermore, preference was given to projects that took into consideration the following criteria:

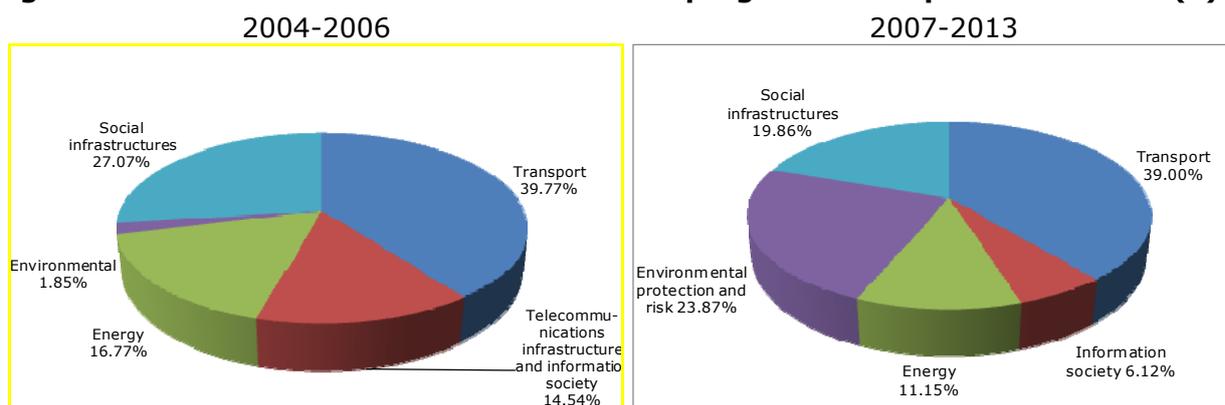
- reduce the negative impact on the environment;
- increase reliability of energy supply;
- use and promote the use of renewable energy resources;
- increase energy efficiency;
- introduce modern technologies.

Although the new programming period does not introduce any new approaches to energy sector projects, it still pays great attention to the provision of services in this area. The Lithuanian NSRF states that infrastructural connections (particularly transport and energy sectors) of the country with other EU Member States are still inadequate and have to be strengthened immediately. Accordingly, a substantial share of financial support is directed to the energy sector in the new programming period 2007-2013 under the Lithuania NSFR. Basically, funds for the provision of this SG(E)I are earmarked and justified under Priority 4 "Development of basic economic infrastructure" of the Operational Programme for Economic Growth for 2007-2013. This priority envisages investment in energy supply networks (electricity, natural gas, and heating) and the transport network with a view to reducing vulnerability of energy supply, which is recognised as one of major threats in Lithuania. Moreover, these investments are also assumed to have other positive effects, too. The SF-supported investment in the modernisation and development of energy networks by introducing new technologies is expected to have a downward effect on energy prices and improve the import/export balance of the country due to decrease in imported fuel requirements. Moreover, investment in the extension of power and gas systems is also expected to correct market failures. Given the scale of investment costs it was not cost-effective for suppliers, due to insufficient customer density, to extend their distribution networks, and, as a result, some remote areas were not connected to the distribution networks. SF support should help to solve this problem.

To reach the aforementioned positive results in the energy efficiency (heating) sub-sector, the Lithuanian NSRF provides for investment in the replacement of out-of-service heat supply pipelines with modern and effective trenchless systems. In addition, group heat substations will be replaced with individual heat substations in all multi-apartment residential and administrative buildings. Furthermore, district heating networks will be expanded to increase the share of power generated through an efficient co-generation process and/or promote a more efficient use of existing heat generation facilities where sufficient customer density exists. Energy metering, energy demand forecasting and automated data collection and transmission systems will be implemented so as to ensure reliable and stable operation of modern infrastructure of energy supply.

Analysis of the two consecutive programming periods in financial terms reveals that the proportion of investment in the energy sector has not changed (16.77% of total ERDF funds in 2000-2006 and 11.15% of total ERDF funds in 2007-2013). On the other hand, investment in absolute figures has increased sevenfold, from EUR 60 million in 2000-2006 to EUR 437.4 million in 2007-2013.

Neither the SPD nor its Complement provide a breakdown of the SF support among electricity, natural gas and energy efficiency (heating) sub-sectors, while the Operational Programme for Economic Growth for 2007-2013 (an integral part of the Lithuanian NSRF) is a little more specific-it provides that investment in energy supply networks shall amount to EUR 144 million. This amount shall be used to finance projects in electricity and natural gas sub-sectors as well as projects dealing with energy efficiency, co-generation and energy management. Energy efficiency (heating) sub-sector projects fall within the latter budget line.

Figure 24: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I

Source: Authors processing of DG Regio data

16.2. National framework in the provision of SG(E)I

Lithuania does not have a framework (horizontal) law to govern SG(E)I but, instead, has numerous laws dealing with specific sectors. Therefore, the EU concept of SG(E)I is vaguely mirrored in the national law and is generally included in the term 'public services' which covers services of general interest in all sectors and both services of general economic interest and non-economic services of general interest. According to the Law on Public Administration, "Public service shall mean activities of legal persons controlled by the State or municipalities when providing social services for persons, as well as services in the spheres of education, science, culture, sports and other services provided for by laws. Other persons may also provide public services in the cases and in the manner provided for by laws".²⁵⁸ The provision of administrative services²⁵⁹ and the administration of the provision of public services²⁶⁰ are among the four main spheres of public administration.²⁶¹ As regards the institutional framework regulating the development of the energy sector in Lithuania, there are a number of strategic documents, such as the National Energy Strategy²⁶², the Long-Term Development Strategy of the State²⁶³, or the National Strategy for Sustainable Development²⁶⁴, to guide the process, while the development of energy sub-sectors is governed by laws²⁶⁵, among which is the Law on Heat Sector (2003) as amended in 2007 that is of special importance to the energy efficiency (heating) sub-sector. This legal act lays down clear rules and principles governing activities that have previously been rather fragmented due to reforms in this sector in 1997 and ownership

²⁵⁸ Law on Public Administration VIII-1234 of 17 June 1999 as amended by Law VIII-1234 of 27 June 2006 and Law VIII-1234 of 18 January 2007

http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_e?p_id=315906&p_query=&p_tr2=

²⁵⁹ Issuance of authorisations (licences), issuance of documents that confirm certain legal facts, submission of information stipulated in laws and available to an entity of public administration to persons, conduct of administrative procedures. Administrative services are provided only by entities of public administration (Art. 15 of the Law on Public Administration).

²⁶⁰ "Administration of the provision of public services shall mean activities of entities of public administration when laying down the rules and arrangement for the provision of public services, setting up public establishments or issuing authorisations for the provision of public services to other persons as well as supervision and control of the provision of public services." (Art. 1 of the Law on Public Administration).

²⁶¹ Article 5 of the Law on Public Administration.

²⁶² Resolution of the Seimas of the Republic of Lithuania on the Approval of the National Energy Strategy http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=197078&p_query=&p_tr2=

²⁶³ Resolution of the Seimas of the Republic of Lithuania on the Long-Term Development Strategy of the State http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=219184&p_query=&p_tr2=

²⁶⁴ Resolution No. 1160 of the Government of the Republic of Lithuania on the Approval and Implementation of the National Strategy for Sustainable Development <http://www.am.lt/VI/en/VI/files/0.901665001073997792.pdf>

²⁶⁵ Such as the Law on Energy, Law on Heat Sector, Law on the Reorganisation of the Special Purpose Company "Lietuvos energija", Law on the Associations of Multi-Family Apartment House Owners, Law on Local Self-Government, Law on Territorial Planning, and other legal acts.

changes during 1998-2001. Basically, the reform consisted in reorganising the company 'Lietuvos Energija' (Lithuanian Power Company) by separating the whole district heating business from this company and splitting it into 6 major regional utility companies transferred to municipalities. These regional companies had been co-owned by several (from 4 to 9) municipalities and had been operating in broader regions. Eventually, larger cities felt discontent with the uniform district heating tariffs, as it meant that subsidies went from a city with dense concentration of consumers to more sparsely populated areas in which the cost of heat was evidently higher. The discontent resulted in all but one regional company being split to several single-municipality-owned companies.

The Law on Heat Sector requires that heat production be based on competition among heat producers and that municipal institutions provide for measures to promote competition in hot water supply and heating supervision systems. Although this means market liberalisation, the Lithuanian heat sub-sector is still perceived as a state regulated monopoly. This controversy stems from the same Law on Heat Sector in that it provides that the sector concerned shall be managed through special municipal heat sector plans approved by municipal councils which usually prioritise central heat supply. Thus, it is no wonder that approximately 78.5% of the heat supplied in 2006 (this includes central heating supplied both from heating networks and from local heating sources) was supplied centrally (for detailed statistics, see Table 3 below).

Table 3: Traditional housing, by method of heating²⁶⁶

	Total number of traditional housing	Central heating from heating networks*	%	Central heating from local heating sources*	%	Other heating facilities*	%	No heating*	%
Lithuania	1 275 055	674 556	52.9	325 808	25.6	321 554	25.2	2 752	0.2
Urban area	858 962	647 366	75.4	146 643	17.1	86 396	10.1	934	0.1
Rural area	416 093	27 190	6.5	179 165	43.1	235 158	56.5	1 818	0.4

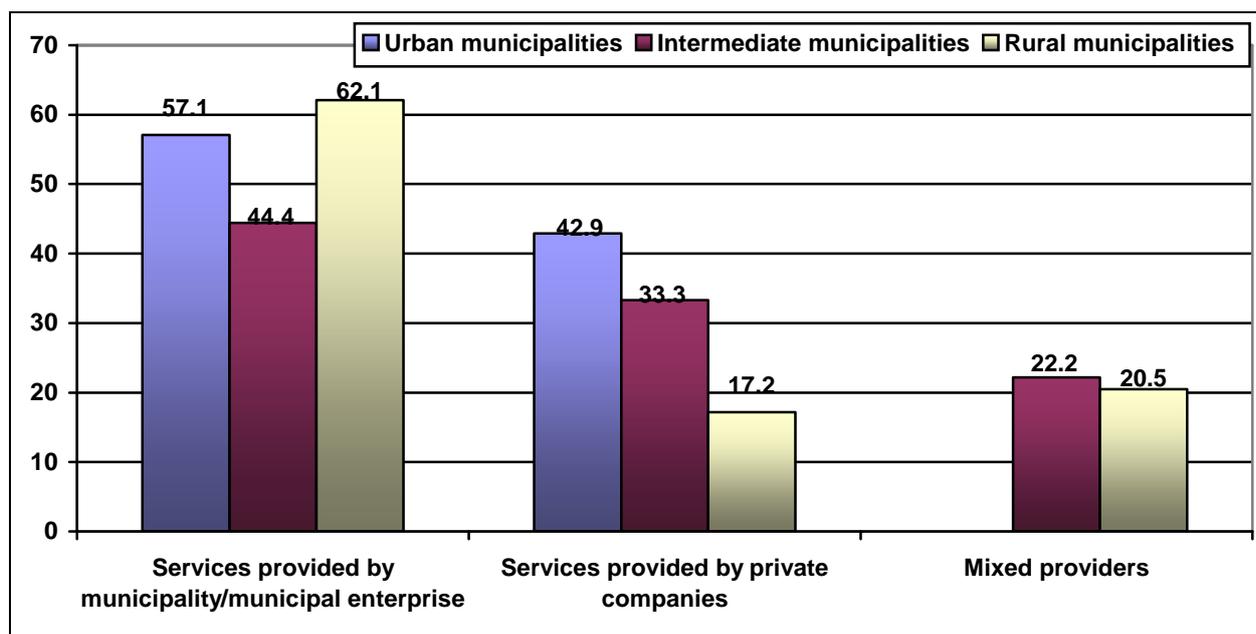
Source: Department of Statistics under the Government of the Republic of Lithuania
* Respondents were allowed to indicate several heating methods.

Historical developments and dominance of central heating services explain why heat and hot water is commonly supplied by non-privatised municipality-controlled companies. On the other hand, liberalisation of the market has played its role and private companies are now also engaged in the provision of central heating. According to the data provided by the Ministry of the Interior²⁶⁷, private companies had at least some share of the market in 42.9% of urban municipalities (see Figure 25). Although the data reveals that private companies find rural and intermediate municipalities (i.e. described by local authorities as something in-between rural and urban municipality) less attractive for business, they nevertheless participate in the provision of central heating services in non-urban municipalities.²⁶⁸

²⁶⁶ The data is based on the Population and Housing Census 2001, as last updated on 28 March 2006.

²⁶⁷ Privačių asmenų įtraukimo į viešųjų paslaugų teikimą savivaldybėse galimybių analizė [Feasibility Study on the Inclusion of Private Persons into Municipal Provision of Public Services]. Available at: http://www.vrm.lt/fileadmin/Padaliniu_failai/Viesojo_administravimo_dep/PRIVA_I__ASMEN__TRAUKIMO__VIE__J__PASLAUG__TEIKIM__SAVIVAL.doc

²⁶⁸ According to the same data provided by the Ministry of the Interior, rural municipalities accounted for approximately 57% of the total number of Lithuanian municipalities that responded to their questionnaire (53 out of 60 Lithuanian municipalities), while intermediate and urban municipalities accounted for 18% and 22%, respectively.

Figure 25: Central provision of heating services, by the status of provider

Source: Ministry of the Interior

Companies that provide heating services in Lithuania may have a status of a municipal enterprise, a private limited liability company (UAB) or a public limited liability company (AB). All of them must be licensed-suppliers of less than 10 GWh of heat a year are licensed by municipalities, and suppliers of more than 10 GWh of heat a year are licensed by the National Control Commission for Prices and Energy.

16.3. Project description

The overall aim of the Lithuanian Single Programming Document Measure 1.2 (Ensuring Energy Supply Stability, Accessibility and Increased Efficiency) is to ensure stability, reliability, flexibility and accessibility of energy supply to the benefit of users as well as improve energy efficiency and thereby lay a basis for stable and more predictable growth of the national economy.

The overall aim of the Project is to guarantee efficiency, reliability and security of the heat supply and distribution network in the city of Klaipėda.

The Project aims to modernise the central heating supply network in the city of Klaipėda by replacing the worn-out and out-of-service part (9 585 metres) of the heat supply network with a new one, suitable to meet current and future heat supply needs and insulated with efficient and modern insulation materials.

AB 'Klaipėdos Energija' in Klaipėda operates a CHP (Combined Heat and Power) network of 210 km length. Over 100 km of heating tracks have been in operation for more than 25 years (i.e. standard lifetime). Another 30 km of heating tracks have been in operation for more than 30 years and therefore fall short of the required quality and efficiency standards and are a matter of great concern (the Project aims at renovating a part of these tracks).

Although AB 'Klaipėdos Energija' spends 40% of its investment resources on the renovation of out-of-service heating tracks and renovates 3 to 5 km of those tracks annually, the overall situation is not improving at an adequate pace (e.g. only 34.8 km of out-of-service heating tracks have been replaced by 2004). Firstly, the investment resources accumulated

in the amortisation fund for the renovation of out-of-service heating tracks are not sufficient to renovate all out-of-service parts of the supply network. Secondly, the rate of return on this investment is low and gradual, which impedes the renovation progress, despite the fact that the renovation helps to reduce fuel consumption and save costs from accidents in the supply system. As a result, AB 'Klaipėdos energija' has nothing but focus on ensuring smooth and uninterrupted heat supply in the city of Klaipėda and leave investment in heat supply network renovation out of focus. Therefore, despite its long-term benefits the Project cannot be adequately implemented without financial assistance of the SF.

- population of the city of Klaipėda and the town of Gargždai. AB 'Klaipėdos energija' provides heating services to 91% of the urban residential area. Thus, the final beneficiary of the project is the majority of the population of the city of Klaipėda which has a total of 183 433 residents.²⁶⁹ This accounts for 5.5% of the total population of the country;
- other stakeholders. Most of the future construction works in Klaipėda and Gargždai are planned in the area where central heat supply is prioritised by the local self-governments. They will be beneficiaries of the current investment in the long run.

Renovation of the central heat supply system includes replacement of the pipes which have been in operation for 25-30 years and are therefore outdated, worn-out and cause great heat losses. Reconstruction of out-of-service heating tracks consists in installation of new ones using the trenchless lining method (laying pipelines in soil without using trenches). Planned activities can be classified into four categories:

- Category 1: renovation of 2 989 m of "1P" heating main (replacement of certain pipeline cells in the old town part of the city);
- Category 2: renovation of 2 152 m of "2P" heating main (replacement of certain pipeline cells in the southern part of the city);
- Category 3: renovation of 3 151 m of "1Š" heating main (replacement of certain pipeline cells in the northern part of the city);
- Category 4: renovation of 1 553 m of "3Š" heating main (replacement of certain pipeline cells in the northern part of the city).

In order to implement project objectives, the following two main stages of activities were planned:

- tender for the selection of the contractor. Potential contractors submitted their tenders during the procurement procedure. The tenderers undertook the obligation to provide construction services and supply AB 'Klaipėdos energija' with materials required to implement project activities. All materials were to comply with Lithuanian legislative norms. The selection of the contractor was based on financial and technical criteria;
- renovation of the thermal route (supply of materials and construction works). The contractor supplied AB 'Klaipėdos energija' with materials and performed construction works. Materials included pipelines of a specific diameter, other materials and machinery. Under the Project, no expansion of the heat supply network was planned. To modernise the current infrastructure, a range of activities were carried out, including:
 - excavation;

²⁶⁹ Department of Statistics under the Government of the Republic of Lithuania. Data for 2009.

- blinding of pipelines;
- dismantling of pipelines;
- installation of new pipelines;
- hydraulic tests;
- addition of sockets;
- cleaning of new pipelines;
- connection to the existing networks;
- flooding of pipelines;
- amenities.

16.4. Specific aspects of SG(E)I affected by the project

Specific aspects/objectives of SG(E)I realised/enhanced with the Project

The Project was implemented to contribute to the following objectives:

- efficiency;
- reliability and safety of supply;
- environment-friendliness.

Main results of the Project by reference to the specific aspects/objectives of SG(E)I

Efficiency: the overall objective of this Project was to improve efficiency of heat supply in the city of Klaipėda. Consequently, project activities were, first and foremost, focused on delivering quantitative results. According to the figures provided by AB 'Klaipėdos Energija', the renovation has resulted in a reduction of heat losses (savings of up to 5 223 MWh a year, i.e. 54.49%) and in lower dependency on imported fuels (savings of up to 352 tonnes of oil equivalent).

Reliability and safety of supply: the replacement of out-of-service pipelines and the renovation of heating tracks has reduced the accident rate to a minimum. As a result, 91% of the urban residential area supplied with heat by AB 'Klaipėdos energija' can enjoy the services without the fear of having the supply cut off due to unreliable and outdated infrastructure used by the service provider.

Environment-friendliness: more efficient supply is directly associated with less harm to the environment. The reduction of fuel costs (fuel consumption) in the provision of the service has, in turn, led to lower air pollution-emission of CO₂ (836 tonnes less) and NO_x (610 tonnes less).

The Project in question implemented by AB 'Klaipėdos energija' was recognised as one of the most smoothly running projects in the programming period 2004-2006. Despite the fact that most of the renovation work was concentrated in the old town of the city where pipeline-laying works were expensive and technically complex (not to mention higher environmental protection requirements), all project activities were finished in time. Moreover, the pipes used for the provision of heating were not simply replaced-modern technologies were applied and new, more efficient pipes were laid. This resulted in substantial energy savings and lower fuel requirement. All these achievements were acknowledged in an acknowledgement letter from the Lithuanian Minister of Finance. Furthermore, AB 'Klaipėdos energija' was also awarded a diploma by the Lithuanian Ministry of Economy for saving the largest amount of energy (kWh) among all energy

saving projects carried out in the programming period 2004-2006. In addition, the Project has also had an indirect benefit to the users of the service as the lower fuel consumption curbed the growth of heating prices.²⁷⁰

Change of the approach to public service at regional and/or national level, stemming from the expected results of the Project

Rationalisation and modernisation of the supply network have reduced the total heat loss and increased the overall stability and reliability of heat supply due to a lower risk of accidents in heat supply routes. Apart from improved reliability and efficiency of supply, the renovation of out-of-service heating tracks has also contributed to energy cost reduction since less fuel is required to provide a service of the same quality. Therefore, users of this public service can either choose a service of the same quality without paying for it more, or a service of higher quality at the price which they used to pay before the modernisation of the outdated infrastructure. In other words, the investments and their results have not only improved the provision and the quality of central heating services at regional level, but have also increased comfort for end users at no additional cost for them. Such developments are of great social and economic importance when no alternative to centralised provision of heating is available.

The Project had a positive impact at national level, too, as it helped to reduce fuel consumption. This, in turn, resulted in lower emissions and higher opportunities to sell unused emissions allowances. Furthermore, the Project stood as an example for other cities of Lithuania, and example of using modern technologies and techniques in replacing and renovating outdated parts of the heating provision network in such areas as old town of the city. A proof of this is the city of Panevėžys, where local heating service providers are planning to follow the example of AB 'Klaipėdos energija'.

Expected changes in the use of the Structural Funds in the SG(E)I at regional and/or national level, stemming from the experience of project co-financing from the Structural Funds

There is an evident need for further investment into modernisation of heat supply infrastructure since only the lesser part of the whole network has been renovated to date. Consequently, potential accidents caused by outdated infrastructure still might affect a large part of local population. Bearing in mind that Lithuania has inherited the central heating system from the Soviet period and the system has not been renovated since the collapse of the Soviet Union, similar investments are very likely to be made in the future. Moreover, the successful implementation of the Project encouraged AB 'Klaipėdos energija' to apply for SF financial assistance in the programming period 2007-2013. The city of Panevėžys is also considering this option. Thus, the demand for SF assistance on the part of providers of this SG(E)I is not likely to decrease.

16.5. Governance aspects

The main stakeholders involved in the Project were the following:

- Ministry of Economy of the Republic of Lithuania as the intermediate authority responsible for the issuance of the Guidelines for Applicants and project implementation rules;
- Lithuanian Business Support Agency as the implementing authority responsible for project administration and implementation. The Agency's tasks included evaluation of

²⁷⁰ The variable constituent of the heating price depends on fluctuations in fuel prices. Therefore, even if fuel prices go up, heat prices are not so much affected as they have been before the renovation, because of a lower fuel requirement.

applications, preparation and signature of the agreement, supervision of project activities, on-the-spot checks, verification of payment records, coordination of implementation of activities foreseen in the project application;

- Energy Agency as a state agency not directly involved in the Project. As this Project was one of the first projects in the Lithuanian energy sector to receive SF financial assistance, the Energy Agency provided consultancy services and expertise to the main stakeholders;
- AB 'Klaipėdos energija' as the final beneficiary responsible for the actual implementation of project activities, including organisation of public procurement to select a contractor capable to supply AB 'Klaipėdos energija' with proper materials and tools and perform all construction-installation works;
- Klaipėda City Municipality as a local authority responsible for issuing the necessary environmental and construction authorisations and coordinating project activities.

Local authorities: In addition to the above-mentioned roles, the Klaipėda City Municipality was also responsible for the preparation and implementation of the Klaipėda City General Plan and Special Municipal Heat Plan. In both documents, central heat supply is acknowledged as an environmentally and economically optimal choice for all interested parties, i.e. the municipality, service users and service providers, which means that investment in the development of the central heat supply network is considered to be of primary importance and that AB 'Klaipėdos energija' in this case has a good backing and support from the local municipality (which actually owns 75.2% of the company's shares).

Public-Private Partnership: This was not a public-private partnership project. AB 'Klaipėdos energija' has applied for SF financial assistance and has implemented the Project alone, without any partners. Therefore, AB 'Klaipėdos energija' did not have to share responsibility or roles with anyone. On the other hand, this energy company had a good backing and support from the local municipality (which actually owns 75.2% of the company's shares).

Contractual arrangements: In order to meet the challenges and achieve project goals, the selection of the contractor was among the most important tasks of the Project. For this purpose, public procurement procedure was launched and, after the evaluation of tenders by reference to financial and technical criteria, UAB 'Klaipėdos inžinerinių tinklų statyba' was selected for the following tasks: 1) to supply 'Klaipėdos energija' with all the materials and tools for renovation works; and 2) to carry out the thermal track renovation and modernization works, including excavation and dismantling of out-of-service pipelines, installation of new ones, implementation of hydraulic tests, cleaning of new pipelines, etc. The contractor has managed to fulfil all the commitments in time-all works were performed without delays. This strict observance of deadlines was the result of good preparatory works by AB 'Klaipėdos energija'-all environmental and construction authorisations have been obtained even before the official start of the Project. Thanks to this, no substantial obstacles emerged during the implementation period of the Project.

Specific governance aspects: The rate of SF contribution to the Project was determined by the legal status of AB 'Klaipėdos energija'. Because AB 'Klaipėdos energija' is a limited liability company (i.e. private entity), only 50% of eligible costs could be covered by state aid schemes. Furthermore, to receive financial assistance, the Project had to be approved by the State Commission for Prices and Energy first and be included into the biennial list of investment projects. These requirements do not apply to public companies which can apply for 100% coverage of eligible costs. On top of that, financial assistance to the Project was

earmarked under a regional aid scheme. Therefore, funds could not be used for simple replacement of out-of-service pipelines-pipelines of innovative technical characteristics had to be installed and innovative technologies had to be used.

16.6. Universality of access and affordability

Universality of access

In consequence of the aforementioned legal regulations that give preference to centralised provision of heating services, 91% of the Klaipėda city urban residential area is supplied with heat centrally. This means that even a partial renovation of supply networks will have a positive effect on almost every resident of the city of Klaipėda. Even though the renovation and optimisation of outdated heating tracks has not extended the existing network and has not made this service available to an additional number of local population, the SF support helped to prevent a rise in service provision prices that would otherwise be likely to rise due to inefficiencies in the supply system. In this sense, the SF support could be interpreted as having improved access to services for citizens. Furthermore, centralised provision of services means equal treatment of different social groups as the service is available to everyone living in the city of Klaipėda and its suburbs (unless users cannot afford the services). The intrinsic benefit of central heat supply is that neither in theory nor in practice can service providers discriminate their customers as they have only two options-“to provide” or “not to provide” the service.

Affordability

The current tariffs for heating services in the city of Klaipėda depend on the source of provision-if heat is provided from heat stations belonging to users, the total monomial heating price is EUR 5.67/kWh; if heat is provided from heat stations belonging to the provider, the total monomial heating price is EUR 5.84/kWh. These rates apply to all service users irrespective of their income or their belonging to a certain social group. On the other hand, low-income families and single residents, seniors, disabled persons, servicemen in compulsory military service and other socially disadvantaged groups are eligible for compensations from the state budget to reduce their financial burden.

Although heating tariffs are subject to constant changes (according to the current legal regulations²⁷¹, these tariffs can be recalculated on a monthly basis; on the other hand, the tariffs cannot be changed unless heat price differs from the previous price by more than 5%), AB 'Klaipėdos energija' investments in the renovation of the service supply network did not trigger a price increase²⁷². Instead, amortization funds-a fixed 20% share of the tariff, to cover the cost of operation and maintenance-were used. As a result, the company was able to allocate approximately EUR 2.1 million for the renovation of 9.5 kilometres of outdated heating tracks without raising service provision prices. Of course, if no financial assistance had been allocated from the SF, the scale of renovation would have been twice lower, because with the SF financial support AB 'Klaipėdos energija' had to cover only 50 per cent of the total project costs.

Successful implementation of the Project has certainly improved the price-to-quality (and quantity to some extent) ratio of the service. Reduced energy consumption for the provision of the services did not trigger an increase in tariffs, because the supply network

²⁷¹ Heat Pricing Methodology (available only in Lithuanian):

http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=350475&p_query=&p_tr2=

²⁷² Heating service providers are not completely free to set prices on their own. According to the Heat Pricing Methodology, providers of heating services only provide data on planned price changes (including justification of the changes) to the National Control Commission for Prices and Energy and municipal councils. The constituents of the basic heating and hot water price for suppliers of less than 10 GWh of heat a year are set by municipal councils, while the constituents of the basic heating and hot water price for suppliers of more than 10 GWh of heat a year are set by the Commission.

has become more efficient, and residents of Klaipėda now have warmer housing. On the other hand, the only safeguard of affordable and stable prices is further financial assistance from the SF as only the lesser part of the outdated supply network has been renovated so far.

16.7. Contribution to cohesion policy objectives

Investment in the renovation of the heat supply network of the city of Klaipėda has certainly had, and will have, positive economic and social effects on the region. First, the region has become more attractive to its current and potential residents—due to higher efficiency of the supply system and lower energy losses, the price-to-quality ratio of the service has become much more favourable to users. The local population can now enjoy a more comfortable life without having an additional price to pay, and they are also less vulnerable to consequences of possible supply disruptions. Lower energy losses have also resulted in substantial reduction of fuel consumption and environmental damage. Lower CO₂ and NO_x emissions have, in turn, allowed AB 'Klaipėdos energija' to sell unused emissions allowances. In 2005-2008, revenue from this source amounted to EUR 1.1 million (all this revenue was later used to further renovate outdated heat supply tracks).²⁷³ Furthermore, modernized and safer infrastructure is always more attractive to entrepreneurs and has a positive effect on domestic and foreign investment flows. The same applies to less fluctuating and more predictable prices as a predictable business environment is always the key determinant in making a decision to start a business in the region. Therefore, in addition to the immediate impact, the investment will have a long-term positive effect on the region's economic competitiveness.

Although the Project was implemented in a region that cannot be defined as lagging behind or problematic²⁷⁴, it can still be argued that the Project aimed to reduce territorial disparities and imbalances. This argument is supported by the fact that all Lithuanian regions lag behind the capital region which attracts the largest share of investments. Other Lithuanian regions have lower capacities to develop new or modernize outdated infrastructure, meet public needs and create business-attractive environment than the capital region. Therefore, any kind of additional investment (in this case—the SF financial assistance) helps to bridge this gap and provides a stimulus for the convergence of regions of different level of economic and social development. This approach is reflected in Lithuanian regional policy priorities as the Government prioritises investment in the development of the so-called "growth poles", cities with a good economic potential and a quite well developed infrastructure surrounded by areas with a lower living standard. Investments in "growth poles" are considered to have a positive effect on the whole region: for example, the development of a "growth pole" provides various new possibilities to the residents of less-developed areas, including better chances to get a well-paid job, more leisure activities, etc. Thus, investments in the city of Klaipėda have also indirectly benefited the surrounding territories (municipalities) of the city.

On the other hand, investments into the energy sector are always an object of discussions as to what should be increased—production, supply or consumption efficiency? Although the Project of AB 'Klaipėdos energija' is an obvious example of the preference to increase heat supply efficiency, such projects receive less financial assistance than other projects in Lithuania. Higher priority is given to projects aiming to increase consumption efficiency

²⁷³ Data of the National Control Commission for Prices and Energy (available only in Lithuanian at http://www.regula.lt/lt/siluma/silumos-sektoriaus-rodikliai/tarsos_leidimai.php).

²⁷⁴ According to the Resolution No 428 (8 April, 2003) of the Government of the Republic of Lithuania, problem areas in Lithuania are determined by reference to the following criteria: 1) the annual average registered unemployment relative to the working-age population must be 60% (or more) higher than the national average; and 2) the annual average number of social benefit recipients relative to the local population must be 60% (or more) higher than the national average. According to these criteria, the Klaipėda municipality does not qualify as a problem area.

(e.g. such measures as renovation of public buildings and apartment houses). Although this hierarchy of priorities is undoubtedly more welcome when it comes to promoting social cohesion (i.e. more efficient heating in schools, hospitals, apartment houses, etc.) and is more oriented towards mitigation of the negative effects of the economic recession on the construction sector of Lithuania, it has less to do with the reduction of regional economic disparities.

Anyway, there is no doubt that regional policy is an appropriate instrument to reinforce SG(E)I provision. This stance is strengthened by the fact that the largest share of allocations for the development of different SG(E)I sectors is primarily dedicated to the development of local infrastructure-this provides regions with an impetus for economic and territorial cohesion. Furthermore, regional policy aims to support lagging and problematic areas which actually do not have enough resources to ensure the provision of high quality SG(E)I. In other words, regional policy promotes SG(E)I in the regions where these services are least developed.

Although the Project implemented by AB 'Klaipėdos energija' is not the latter case, investment in this region was certainly driven by strategic objectives. The port of Klaipėda generates-directly or indirectly-18% of Lithuania's total GDP. Therefore, making this region even more attractive for investors is a vital interest of Lithuania. The more so because, according to regional development theories, such growth centres as Klaipėda stimulate economic growth of the surrounding regions. Hence, the SF funds allocated for the modernization of the local heating supply system are expected to at least partially promote territorial cohesion.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Audronė Nakrošienė, Specialist, Lithuanian District Heating Association.
- Danguolė Saldžiūnienė, former Head of the Structural Funds Management Department, Ministry of Economy of the Republic of Lithuania.
- Elena Dadurkaitė, Project Manager, Lithuanian Business Support Agency.
- Marijus Franckevičius, Director, Energy Agency.
- Vilius Buinevičius, Director of the Production Department, AB 'Klaipėdos energija'.

17. Luxembourg. Extension of the Luxembourg railway beyond the border to Volmerange-les- Mines

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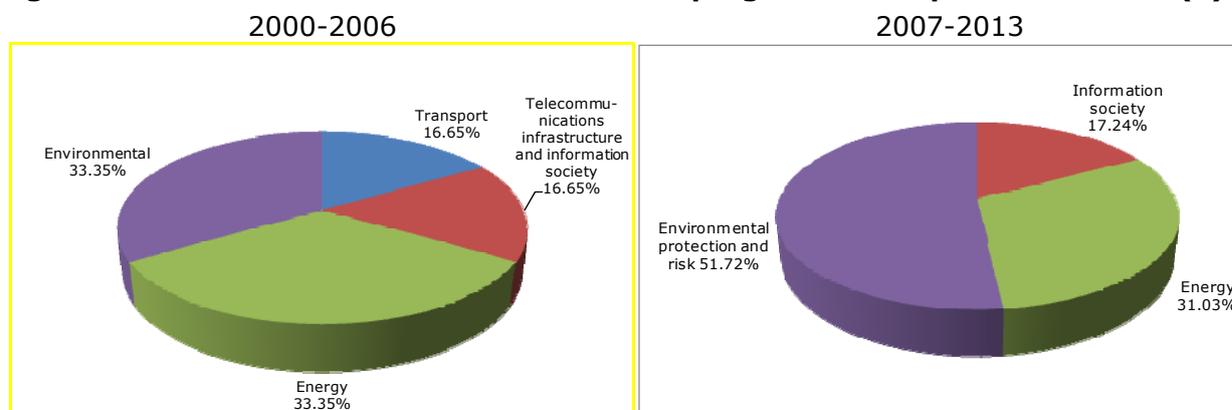
17.0. Background information

a) Country	G.D. of Luxembourg
b) Region	Dudelange
c) Full Project Title	Expansion of the Luxembourg railway beyond the border to Volmerange-les-Mines
d) Duration	2000-2007
e) Programme	Objective 2 Programme 2000-2006
f) Total Cost	EUR 7 200 000
g) EU Contribution	ERDF 8%
h) National Contribution	92.0%
i) Private Contribution	0%
j) Sector	Transport
k) Sub-Sector	Railway
l) Beneficiary	Transport Ministry of Luxembourg
m) Implementing body	Chemins de Fer Luxembourgeois (CFL)

17.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The pie charts below show the distribution of the ERDF intended for infrastructures in Luxembourg. The total amount was EUR 14 168 586 for the period 2000-2006 and EUR 7 320 663 for the period 2007-2013. Environmental projects remain a priority, whereas social infrastructures are not considered. Transport, which is the field of this case study, disappears for the period 2007-2013.

Figure 26: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

In its introduction the National Strategic Reference Framework (NSRF) for 2007-2013 sets out the objectives and details the priorities of the G.D. of Luxembourg for "Regional Competitiveness and Employment" as well as for "Territorial Cooperation". The concentration principle, which is followed in the NSRF, avoids a scattering effect by fixing geographical priorities according to the national "Programme Directeur d'Aménagement du Territoire", defining action fields for the development of the country among which can be found "transports and telecommunications".

When describing the characteristics of the country, the NSRF states that the G.D. of Luxembourg has a particularity: cross-border workers from the surrounding countries occupy more than a third of the total domestic employment, because of high unemployment rates in the neighbour regions and the discrepancy between some special

qualifications required by the enterprises and what can be found in the country. In 2005, 118 385 cross-border workers were active in the G.D. of Luxembourg, among which 59 813 from France. These numbers are in constant growth, causing problems and saturation in the field of transports, not only by car but also by train.

If transport is not among the priorities for the objective "Regional Competitiveness and Employment", we can find it in the objective "Territorial cooperation". Accessibility is one of the priorities for the G.D. of Luxembourg for Objective 3 of the European territorial cooperation. The use of the railway, notably by cross-border workers, has to be improved and the transport system must be developed in the long term, be it in terms of infrastructures, material technique, organisation or tariffs.

17.2. National framework in the provision of SG(E)I

In the G.D. of Luxembourg, the State is the owner of railway infrastructures and takes the financial responsibility for them. The management of the network has been delegated to the "Chemins de Fer Luxembourgeois" (CFL), which has to carry out missions specified in a management contract. Following the *Arrêté grand-ducal du 27 juillet 2009 portant constitution des Ministères*, the Transports Ministry became a department of the Ministry of Sustainable Development and Infrastructures, keeping in its attributions the railway sector, notably the Railway Funds and infrastructures.

Four documents are important for the project studied in this case.

- *Programme directeur d'aménagement du territoire*: it is a strategic tool for the sustainable development of the territory of Luxembourg. One of the three action fields of this programme is dedicated to transport and communications. The measures taken in order to fulfil the political objectives aim among other things at raising the attractiveness of public transportation, improving international rail links, diminishing nuisances by reducing road traffic and developing multimodality for the transport of people;
- *IVL Study*: This is a study presented as a working tool and reference frame for regional planning, integrating transport and spatial development. Among the priorities for 2020 reducing the part of road transport and doubling the part of public transport, organising the spatial structure in order to reduce road traffic and setting up transport infrastructures according to a lasting development;
- *Mobilité.lu Plan*: This plan is a mobility strategy, elaborated by the Transport Ministry, aiming at inducing a transfer of 25% of the traffic towards public transportation for 2020. Among the fixed objectives we can find the expansion of the national rail network, notably in the south of the country, and the creation or opening of train-bus exchange stations in the capital;
- *Agreement between the State of the G.D. of Luxembourg and the Regional Council of Lorraine*: The goal of this agreement from April 2001 is to improve and develop cross-border public transportation between both areas. The main decisions taken concern enhancement of the attractiveness of cross-border public transport, notably by raising the capacity of the infrastructures, the confirmation of the structuring role of the cross-border rail links, with the expansion of lines beyond the border, and promotion of public transport beyond the border by a combined and attractive tariff. The studied project is mentioned in the agreement.

17.3. Project description

The studied project is part of the improvement of the offer of public transport between the G.D. of Luxembourg and French Lorraine. This would help to reduce recourse to cars by

cross-border workers and therefore the negative effects on environment. This is thus an example of successful cross-border cooperation, albeit a small one.

The construction of a parking lot counting 170 spaces in Volmerange-les-Mines is a French project which received help from the ERDF in the amount of EUR 347 840 as well, although it may be seen as a part of this project, both parts being interdependent, given the "park and ride" nature of the whole.

The project aims at reducing the flow of cars on the main road connections, which are the interurban highway A31, with 40 000 cars a day between Thionville and the border in 2005, the RD 58 in France which crosses Volmerange toward Dudelange with 7 828 cars a day in 2000 and, finally, the RD 15 which links Volmerange and the A31 highway, with 7 000 to 14 000 cars a day according to the stretch considered.

The expected result of the project was to reduce congestion due to the rise in the number of cross-border workers (from 7 820 in 1990 to 26 834 in 2000), by allowing better control of traveller flows, transferring some of them from road to rail, by diminishing traffic jams around the important employment poles and by limiting areas used illegally for parking.

The final beneficiaries are the cross-border workers, mainly from France. Access to the new section of the line would be included in already existing season tickets and so would not require additional payment. However, indirect beneficiaries may also be identified. The new station, by attracting cross-border workers, will generate a flow of potential customers for the nearby businesses. The environmental and mobility advantages would also benefit the whole population in the south of the country.

The investments concern the expansion of the railway line, 860 metres long, the construction of a platform 150 meters long in Volmerange-les-Mines, the lengthening of the platform in Dudelange and an underground way.

The project's activities mainly consist of excavation work, setting up a platform under the way, installation of the rail superstructure and electrification of the line. Adaptation work was also needed in the station of Dudelange. The construction of civil structures was also required in and between Dudelange and Volmerange-les-Mines. Signal installations and telecommunication works were also executed.

17.4. Specific aspects of SG(E)I affected by the project

Specific aspects/objectives of SG(E)I realised/enhanced with the project

- universal and continuous accessibility;
- territorial accessibility;
- environmental friendliness;
- efficiency and effectiveness.

Main expected results of the project with reference to the specific aspect/objectives of SG(E)I

- ***Universal and continuous accessibility:*** the project gave birth to a railway that may be used by anyone, from Luxembourg to France or from France to Luxembourg, not only by cross-border workers. Besides, there will not be any supplementary cost to pay for the customer in his ticket or season pass for the use of the train in this new section;

- ***Territorial accessibility***: the project will give a new connection between the G.D. of Luxembourg and France, allowing cross-border workers better accessibility to the main working places in the country;
- ***Environmental friendliness***: by diverting cross-border workers from rail to road the project should allow reduction of greenhouse gas emissions and noise pollution. It should also reduce illegal parking and improve the security of the people living near the most frequented axes of vehicular traffic;
- ***Efficiency and effectiveness***: the development of a new access point between the G.D. of Luxembourg and France is positive for the offer of multimodal transport, especially for cross-border workers, improving the efficiency of the public transport network in the country. The project thus gives a new opportunity to travel from France to Luxembourg and *vice versa*, widening the national network and making it more efficient. It should also reduce overall travel time for those who rely on public transport on one hand, and for those remaining on the roads and highways in case of successful transmodal switch from road to rail for some cross-border workers.

17.5. Governance aspects

The main stakeholders involved in the project are the following:

- CFL (Chemins de Fer Luxembourgeois): The CFL is the public operator of the rail network in the G.D. of Luxembourg. It participated in the expansion works and now operates it, even if the terminus Volmerange-les-Mines is built on French soil;
- State of Luxembourg: The State, Ministry of Transport at the time of the project, assigns missions to the CFL through a management contract. It is the owner of the rail infrastructures and is responsible for the financial aspects. It is as such the beneficiary of the project. Furthermore, the decision of according assistance from the ERDF was taken by another ministry in charge of the management of European funds, the Ministry of Economics and Foreign Trade.

However, another part of this project was developed in France, in Volmerange-les-Mines. This part, concerning the parking facilities for the station in Volmerange, is not specifically included in the project in this case study, but is part of the global project and underlines the cross-border cooperation under this project. In other words, the construction of the car park also benefited from the Structural Funds, but for France. The global project is thus the combination of those two projects, each one being crucial in order to help cross-border mobility.

The main French stakeholders are the following, but also because both projects have positive effects on the environment and favour sustainable development.

- Regional Council of Lorraine: French Lorraine has an agreement with the GD of Luxembourg for the development of mobility of cross-border workers between both regions²⁷⁵. The project in this case study has been developed in that framework. It is important to understand that this agreement has not been directly undertaken in the framework of the Structural Funds and Cohesion policy, but expresses the will of both countries to develop connections between them and to increase cross-border mobility;
- Department of Moselle: The Department co-financed the construction of the parking lot in Volmerange-les-Mines;

²⁷⁵ See section 2 above.

- Community of municipalities of Cattenom and surroundings: It is the owner of the ground on which the parking lot in Volmerange-les-Mines was built. It also contributed to the financing of the said parking lot.

17.6. Universality of access and affordability

Universality of access

Although the project is aimed at increasing sustainable mobility of cross-border workers, anyone may take a CFL train in Volmerange-les-Mines. The tariffs are those of the national network, with all possible social reductions provided by the CFL for the whole network. Those reductions concern senior citizens, large families and children for season passes in economic class, as well as students and workers.

The frequency of the trains is one every half-hour, from around 4.30 am until around 11.30 pm. They give access to the main working poles of South Luxembourg and to the capital city. The capacity of these trains ranges from 164 to 595 seats according to the time of day.

Affordability

Although actually situated in France the station of Volmerange-les-Mines is considered as being in the national network. The national Luxembourg tariffs are therefore applicable. The tickets and season passes are valid for the four national public transport networks (CFL, Autobus de la Ville de Luxembourg, Régime Général des Transports Routiers, Syndicat des Tramways Intercommunaux dans le Canton d'Esch). The user has several possibilities according to how often he takes the train and if he plans to use the whole network. The daily ticket for short time (2 hours from cancellation) costs EUR 1.50, for long time (until 8 a.m. the next day) costs EUR 4. Season tickets, more useful for workers who take the train every day, may be purchased for a month for an amount of EUR 45 or EUR 200 a year, lowest prices without reduction. There are no special tariffs or price increases due exclusively to the opening or the expansion of the national network.

17.7. Thematic focus

Cross-border cooperation

The station of Volmerange-les-Mines is situated in France. However, it is also, after the realisation of the studied project, the terminus of the line Luxembourg-Bettembourg-Dudelange, which is exploited by the CFL, which means that only CFL trains operate from and to Volmerange-les-Mines, on French soil.

Under the agreement between the G.D. of Luxembourg and French Lorraine relating to the improvement of mobility for cross-border workers, cooperation between both regions is reinforced. This was therefore a favourable framework for the development of projects such as that studied here. As already stated, the project may be divided into two parts, one for the G.D. of Luxembourg, the other for France, both of them crucial if the global project is to work efficiently.

17.8. Contribution to cohesion policy objectives

The cross-border aspect of the project is very interesting. Since the agreement between the G.D. of Luxembourg and French Lorraine on the development and improvement of cross-border worker mobility between both areas, some rail connections have been established between the two countries. The studied project is one of them. This agreement,

signed on 10 April 2001, is a first step to provide the "Grande Région" with sustainable mobility in order to manage the cross-border workers flows. The main decisions that it contains are the reinforcement of the attractiveness of the cross-border public transport, notably by raising the capacity of existing infrastructures, but also increase of frequencies, the number of stops, improving the connections and carrying out expansions of lines, such as in Volmerange-les-Mines. The goal is also to promote public transport and offer combined and attractive fares to cross-border workers, which gave rise to fare initiatives such as Flexway, Saarlortlux Ticket or Pass Campus.

Beside the cross-border aspect, the important expected benefits of the project for the G.D. of Luxembourg lie in its contribution to the improvement of mobility in the south of the country, with the implied positive effects on the environment and in some socio-economic spin-offs, not only for Luxembourg but also for the neighbour region of French Lorraine.

In terms of mobility, the increased offer of transport helps to develop multimodal public transport, hence reducing the flow of cars on the main cross-border axes.

In terms of environment, the positive consequences concern limitation of atmospheric and noise pollution by cars, but also the improvement of security of both cross-border workers and local inhabitants living near the most frequented axes. Another positive point is the expected reduction of illegal parking, notably in Dudelange near the station.

In terms of positive socio-economic aspects, it is expected that use of the stations will have repercussions on the surrounding businesses, restaurants and so forth.

For the rest the project is quite consistent with the priorities developed by the G.D. of Luxembourg in terms of mobility and transport, in documents such as the "Programme directeur national d'aménagement du territoire", the IVL study and the plan "Mobilité.lu"²⁷⁶. These suggest, *inter alia*, supporting any project that may help to reach the objective of diverting 25% of private motor vehicle traffic to the public transport by 2020. This is also consistent with the priorities defended by the European strategy in terms of mobility.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Elisabeth Mannes-Kieffer, first adviser of the Government and Mr. Nico Godart, principal inspector at the regional policy direction of the Ministry of Economics and Foreign Commerce, Luxembourg.

²⁷⁶ See Section 17.2 above.

18. Malta.

Upgrading of Sant'Antnin waste treatment plant and material recycling and recovery facility

Author: Emanuela Sirtori
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18.0. Background information

a) Country	Malta
b) Region	n.a.
c) Full Project Title	Upgrading of Sant'Antnin waste treatment plant and material recycling and recovery facility
d) Duration	2007-2010
e) Programme	Cohesion Fund Programme 2004-2006
f) Total Cost	EUR 16 747 500
g) EU Contribution	Cohesion Fund 70.0%
h) National Contribution	30.0%
i) Private Contribution	0%
j) Sector	Environment
k) Sub-Sector	Urban and industrial waste management
l) Beneficiary	WasteServ Malta Limited Final beneficiaries: 1/3 of the Maltese population (around 140 000 people)
m) Implementing body	Ministry for Rural Affairs and the Environment

18.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The Maltese archipelago, consisting of three islands, is placed on the periphery of the European Union. Malta is the smallest and most densely populated country of the Union, with a total population of 402 700 (2005) and a population density of 1 276 person per square kilometre (2004), almost 11 times to EU-25 average²⁷⁷. The high population density is further accentuated by the large annual influx of tourists and by illegal immigration. These territorial and social characteristics pose many challenges in the administrative capacity required in these areas, especially in the provision of a high standard services. Population density acts as a constraint rather than a driver to economic growth, since it results in acute environmental pressures, which constrains also the national economic competitiveness. In particular, Malta's environment is considered essential for the quality of life and health of its citizens, as well as being part of the country's national identity and competitiveness for important sectors such as tourism²⁷⁸. Given strong linkages with economic resources management, this sector is strategic to Malta's future development.

Within the environment sector a variety of areas can be identified: groundwater extraction, protection against flash floods and of costs, sewage treatment, reduction of greenhouses emissions and waste management. The present case study will deal mainly with the latter mentioned sub-sector.

In Malta, Municipal Solid Waste (MSW) has increased by 53% since 1996 and is still increasing rapidly. Currently, waste generation is on a per capita basis relatively higher than EU benchmarks: estimates suggest that each household and the average tourist generates approximately 2.2 kilograms and 1.5 kilograms of daily waste. Before the accession to the European Union in 2004, this waste was exclusively land-filled, doubling the EU per capita average of land filled waste, while recycling accounted for only 1% of the annual total waste generation.

Another sector which has significant impact on the quality of life and is determinant for economic competitiveness is energy. Since 1996 consumption of electrical energy has been increasing steadily by 3.3% on average per annum, as a consequence of the growth in economic activity and higher standards of living. Malta's electricity generation is exclusively

²⁷⁷ The source is the National Strategic Reference Framework of Malta 2007-2013, December 2006.

²⁷⁸ Tourism in Malta contributes to 24.3% of GDP and to 29% of full time employment.

reliant on non-renewable energy sources (liquid fossil fuels) and this had been negatively affected by developments in the international pricing of petroleum products. Before the EU accession there was no generation of electricity from renewable sources, compared to a 13% share of such electricity in the Union.

The lack of adequate waste management infrastructure and of clean energy production are recognised as constraints which not only threaten the national competitiveness, but also prevent the country from complying with many environmental EU directive, like the Council Directive 1999/31/EC on the landfill of waste, which sets targets for the reduction of biodegradable waste sent to landfill as 75% of the 1995 level by 2010, 50% by 2013 and 35% by 2020. The directive also stipulates that measures taken to reduce the landfill of biodegradable waste should aim at encouraging the separate collection of organic waste, sorting in general, recovery and recycling. Malta needs to develop an adequate waste management system, since the geographical isolation of Malta from the main European markets makes the option of exporting waste for recycling too expensive. Such strategy should foresee an integrated approach, which also involves the reduction of the quantity of waste, the increase of recycling and composting and the encouragement of household to undertake waste separation at sources. Contemporary, the energy sector requires massive investment to sustain growth in demand. The differentiation of the energy sources through the production of clean and renewable energy contributes from one side at protecting the environment, and from the other one at reducing Malta's dependence on the floating oil prices.

These needs are explicitly recognised and addressed by the Maltese Government, also through the utilisation of EU funds. The sector has benefitted from several technical assistance and institution building projects co-financed by the EU Pre-Accession Funds, the Transition Facility and also the bilateral instruments. After the accession, the environment sector has been the largest beneficiary sector of the Cohesion Policy.

During the 2004-2006 planning period, the main strategic focus was on strengthening the competitiveness of the Maltese economy, whilst maintaining a sustainable use of the environment. The following three national objectives were identified:

- to promote an open and competitive economy;
- to ensure that the growth in a social and economic development is spread equitably across the Maltese islands, both socially and geographically;
- to promote a sustainable use of the environment and to assist in the implementation of the EU environmental directives and regulations.

In the period 2007-2013 Malta's strategic objectives contained in the National Strategic Reference Framework (NSRF) passed from three to four:

- sustaining a growing, knowledge-based, competitive economy;
- improving Malta's attractiveness and quality of life;
- investing in human capital;
- addressing Gozo's regional distinctiveness²⁷⁹.

Even in the current programming period environment is interested by two objectives since it is considered as factor of competitiveness (Priority 1) and attractiveness (Priority 2) for Malta.

²⁷⁹ Gozo is the second largest island of the Maltese archipelagos, of 67 square kilometers and a population of approximately 30 000.

Government’s commitment towards environmental sector is reflected in the allocation of ERDF resources in both the programming periods (Figure 27), corresponding to more than EUR 200 million for environmental protection and more than EUR 30 million for energy in the current period. As respect to 2004-2006, the share of environment infrastructures on the total EU expenditure in services of general interest has decreased in favour of a greater share for energy; however, it is still the most relevant funded sector.

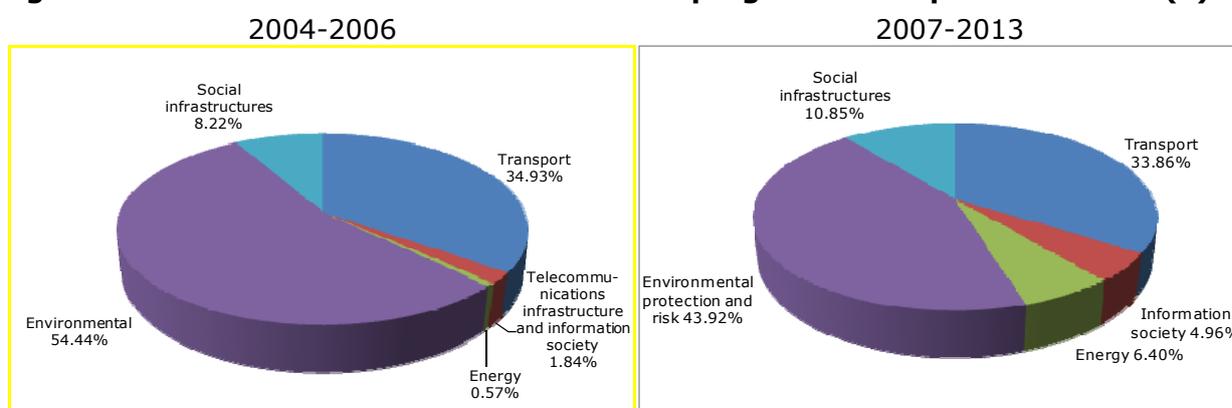
Malta’s NSRF must be viewed in the context and in linkage with other pertaining national sectoral strategic documents, since it is one of a number of key government strategic documents which aim to shape Malta’s socio-economic development process over the medium to longer term. The pre-budget documents “A better quality of life” (2005) “Securing our future” (2006) and the Sustainable Development Strategy for the Maltese Islands 2004-2016 are in line with the needs and objectives identified by the NSRF and , in particular, they all consider environment protection and renewable energy development as pillars for sustaining growth.

The national strategy for the waste management sub-sector is contained in the Solid Waste Strategy for the Maltese islands (2001) aimed at tackle the increasing amount of waste, recovering value from the produced waste, establishing an integrated waste management system using the best available technologies and techniques and ensuring that waste is recovered or disposed without endangering human health or harming the environment. These targets are expected to lead the future investments in the sector across different activities, ranging from development and adaptation of the policy and legislative framework, communication campaigns to raise stakeholder awareness, increase of human resources and capacity for waste management in both public and private and the construction of new and adequate facilities.

Malta's strategy for the energy sector rests on the deliberations and recommendations contained in two main documents: “A proposal for an energy policy for Malta” and “A renewable energy policy” (both 2006). The stress is still on the promotion of energy efficiency and renewable energy (solar, wind and biogas) and on the diversification of the energy mix.

To sum up, the national approach in the waste management and renewable energy production sectors in Malta is consistent both in the national strategic documents and in the NSRF, laying down the strategy for the allocation of the EU Structural Funds. The set objectives derive from a deep analysis of the actual needs and challenges and are oriented towards offering more adequate services to the Maltese population, with the ultimate goal of increasing the national economic and social competitiveness.

Figure 27: 2004-2006 and 2007-2013 EDRF programmed expenditure in SG(E)I



Source: Authors processing of DG Regio data

18.2. National framework in the provision of SG(E)I

The EU Environment Commissioner, Stavros Dimas, highlights that “the most important thing about Malta is that until a few years ago the management of waste was non-existent”²⁸⁰. Not so many years ago local experts were still arguing about the definition of waste. This problem was solved when EU Directives began to be used as reference guidance. Actually, since accession to the EU, waste management legislation in Malta has grown significantly. The Environment Protection Act (Cap. 435) today acts as an enabling legislative instrument for a series of other regulations that result from the transposition of European Directives into national law. Equally important is the Eco-contribution Act (Cap. 473) which was aimed to play a decisive role in the management of waste, or end of life products by levying an eco-contribution on a selected number of products which generate such waste.

Various players take part in the solid waste management and in the renewable energy production sectors. Government acts as a legislator/policy maker and sets the national strategic objectives, while two Authorities act as regulators: the Malta Environment & Planning Authority (MEPA), with the role of ensuring that land use and the protection of the environment meet the needs of today's society and future communities, and the Malta Resource Authority, which seeks to serve the Maltese community through effective, coherent and transparent regulation of the energy, minerals and water resources sectors of the economy to support environmental, social, economic and business development.

WasteServ Malta Limited is a public company, owned by the Ministry of Rural Affairs and the Environment, responsible for organising, managing and operating integrated systems for waste management. It is also the owner of the waste management facilities existing in Malta. The local authorities participate in solid waste management through the collection services of municipal solid waste. This responsibility has been assigned them through the Local Council Act of 1993.

Hence, the provision of the services related to waste management (from collection till recycling or deposit in landfills) is a public issue where WasteServ Malta has the largest responsibility and the Local Council simply provides the collection service. WasteServ Malta Ltd. is also owner of the service facilities and plants.

Malta's accession to the EU is a major driver for the country to adjust its market structures in sectors which up to now have enjoyed limited or no competition, such as environment and energy. The liberalisation of this market is expected to contribute towards increased efficiency and improved quality; this in turn should contribute towards greater competitiveness and community prosperity. The process however requires delicate reforms to be introduced as well as development and updating of legislative instruments, rules and operating practices. At present, the private sector operators have been involved to an increasing degree in the collection phase on behalf of Local Councils, by open tender procedures for the selection, while involvement of private waste management operators in the other phases (sorting, pre-treating, recycling, depositing) is still under examination by the Governmental authorities.

18.3. Project description

The upgrading of Sant'Antnin Solid Waste Treatment Plant is part of the Cohesion Fund Programme for Malta 2004-2006, which amounted to over EUR 85 million. Its objective is to address the urgent Maltese need of sustainable socio-economic infrastructures, particularly in waste management and water treatment plants.

²⁸⁰ Quoted by G. Pullicino, Minister for the Rural Affairs and the Environment of Malta, in “Sustainable Waste Management for the Maltese Islands-5 Years of achievements”, WasteServ Malta Ltd, Corporate Responsibility Report 2008.

In the area of waste management infrastructure, the strategic direction of Malta is to expand the network of waste facilities. The principal aim is to reduce the amount of waste as much as possible and to divert the remaining residues for recycling, recovery of resources and the efficient utilisation for energy production.

This project is integrated by other interventions financed by the European and national authorities in the same sectors and contributing to achieve a sustainable waste management system: the arrangement of Bring-in and Civic Amenity sites, the closure or rehabilitation of illegal and uncontrolled landfills, the construction of an Incinerator facility in Marsa²⁸¹ and campaigns of communication to raise public awareness and change the Maltese waste management habits.

The current facility of Sant'Antnin, built in 1993, had been designed to cater for a throughput of 80 000 tonnes of MSW per annum. However the plant has never achieved its design capacity and has been beset by a series of technical and environmental problems throughout its history. Over the years, several changes and improvements to the plant have been carried out, the most recent being the introduction of the 'Eco-Pod' composting method²⁸². This system was working reasonably well, although the quality of the finished product was still unsatisfactory. In 2000, the plant received and processed approximately 31 000 tonnes of mixed MSW, and produced around 3 000 tonnes of compost.

Since that facility was not capable of treating the biodegradable waste fraction produced in Malta due to the outdated technology, and that no system for the reduction of emissions released in the atmosphere was foreseen, WasteServ Malta Ltd. applied for the Cohesion Fund to upgrade this facility.

The overall objective of the project is the development of a state-of-the-art mechanical biological treatment plant in the South of Malta for the collection, separation and recycling of municipal waste, in order to reduce the amount of waste deposited in landfills, and, contemporary, to produce electricity from biogas obtained from biological waste.

The upgraded Sant'Antnin Waste treatment Plant is designed to receive 200 000 tonnes/annum mixed households waste. Out of this amount, the plant will cater for the treatment of 36 000 tonnes/annum of separated collected dry recyclables and 35 000 tonnes/annum of source segregated and separately collected bio-waste, that can undergo simple pre-treatment prior to digestion. All rejects from this plant together with the other non-treated 129 000 tonnes of waste will be directly deposited in a landfill.

This project addresses the need of the Maltese islands to achieve a more sustainable system for managing waste, based on waste differentiation and recycling. The aim is to comply with the requirements set out in national and European legislation related to waste management and reduction of disposal of biodegradable waste through land-filling.

The project also contributes to the need of diversifying the energy sources and of reducing the reliability on petroleum products, through the generation of clean electricity.

The project targets around one-third of the household solid waste (MSW-Municipal Solid Waste) generated in Malta particularly the waste from households in the vicinity of the plant (South of Malta). It corresponds to around 140 thousands of inhabitants. These are the inhabitants which generate the waste that is treated by the facility. Among these, 1 400 households of 4 persons each, corresponding to 5 600 inhabitants, will benefit from the electrical power generated from the biogas.

The project's activities entail the treatment of MSW and the generation of electricity through the enlargement and construction of the following facilities:

²⁸¹ City in the South of Malta, with 5 400 inhabitants (2005).

²⁸² Decomposition by forced aeration of pre-processed waste enclosed in static, elongated plastic bags.

- a Material Recovery Facility (MRF) for the manually sorting of sort dry recyclables and packaging wastes such as plastics, paper, cardboard and metal;
- a Mechanical Treatment Plant (MTP) to mechanically separate the organic content found in biodegradable waste stream from MSW;
- a Digestion and Stabilising (Composting) Plant, which would treat the source-separated biodegradable waste and mechanically sorted biodegradable waste from the MTP, in order to produce biogas and produce biogas and digested material to be used as Compost;
- a Combined Heat and Power Plant (CHP) which will run on the biogas produced and return electrical power enough for 1 400 households of 4 persons each, besides the heat required to run the plant;
- Regenerative Thermal Oxidiser (RTO) to treat gases and odours generated within the closed compartment before being released into the atmosphere;
- waste acceptance station for the collection of data and control waste deposit at this site.

18.4. Specific aspects of SG(E)I affected by the project

Specific aspect/objectives of SG(E)I realised/enhanced with the project

The expected results of the upgrading of the Sant'Antnin Waste Management Plant are three:

- the collection of 200 000 tonnes per annum of total municipal waste in the South of Malta;
- the treatment of 36 000 tonnes per annum of dry recyclables and packaging wastes through the Material Recovery Facility (MRF);
- the treatment of 35 000 tonnes per annum of organic waste in the Digestion Plant complimented by the generation of 6.5-10 kW/hours per annum of green electricity to be used by around 5 600 inhabitants and for the functioning of the Plant.

Main expected results of the project with reference to the specific aspect/objectives of SG(E)I

The project contributes to the achievement of four objectives related to the provision of services of general interest.

- **Environmental friendliness:** the under construction project contributes at radically improving the efficiency of the waste management system of Malta. The reduction of the amount of land filled waste, the introduction of a process of differentiation and recycling, the reduction of the emissions released in the atmosphere are results which address one of the strategic factor for Malta competitiveness and future sustainability: environment. At the same time, the generation of green electricity from the treatment of the organic waste is both an output and an input for the plant itself, since part of this electricity is destined to the functioning of the treatment facilities, thus further reducing its economic and environmental impact.
- **Efficiency and effectiveness:** the project has upgraded an already existing facility which however had never functioned at maximum capacity. The modernization will permit Sant'Antnin Plant to receive a greater amount of waste (from 80 000 to 200 000) and to treat the recyclable and biodegradable products. Moreover, energy

required for the functioning of the facility will be entirely covered by the electricity internally produced from biogas.

- **Energy sources differentiation:** the production of renewable electricity from biogas, which will cover the energetic demand of around 5 600 inhabitants of South of Malta, clearly helps the safeguarding of the environment. Moreover, this result contributes to the energy sources differentiation of the country, thus reducing its reliability on the import of oil products and on the floatation of its price.
- **Public awareness:** since Malta joined the European Union, benefitting as a result from various funding programmes assisting in the establishment of several waste acceptance/treatment facilities (e.g. Bring-in-Sites, Civic Amenity Sites), public awareness and responsibility has increased. With the upgrading of the Sant'Antnin Waste Treatment Plant it is expected that the public's perception of national waste management schemes (also through co-funding from the EU) will continue to improve, even if cultural change can be more directly supported by more comprehensive awareness raising and information campaigns on waste management practices and options.

Improvement of public service approach and expected changes in the use of the EU Funds in the SG(E)I, as a consequence of the expected results of the project

The considered project is part of a broader strategy for the modernisation of the Maltese waste management system. Government has set itself the target of commissioning the establishment of two or more waste treatment facilities for the Maltese islands, in order to reach the entire population and to produce more green electricity. Preliminary studies for the rehabilitation of existing sites have been drawn up through financing under Technical Assistance of the Cohesion Fund 2004-2006 and one of the Priority Axes set out in Malta's Operational Programme I 2007-2013 not only foresees the continuation of investment in infrastructures for sound waste management practices, but builds upon the latter through interventions to promote waste prevention.

The expected positive results of the project will further strengthen the attitude towards the environmental protection and efficient waste management and they will constitute solid bases for the future construction of similar facilities. The contribution of the Cohesion Fund has made possible the financing and the implementation of the project. Chief Executive Officer of WasteServ Malta, Ing. Vincent Mauri, states that "a significant investment was only possible because of EU co-funding. Without this opportunity [...], WasteServ would have had to shelve a number of vital development or decide to sacrifice the quality of the selected technologies"²⁸³.

For the future, according to WasteServ Malta, the use of EU Funds in the environmental sector should continue to be concentrated not only on the construction of infrastructures, but also on their promotion through extensive public awareness campaigns.

18.5. Governance aspects

The main stakeholders involved in the project are the following:

- the Planning and Priorities Coordination Division (PPCD), which forms a part of the Office of the Prime Minister as Managing Authority²⁸⁴, responsible for the management and coordination of EU funding. The PPCD acts as the Government's central contract and information point for issues concerning Structural Funds; it leads the negotiations

²⁸³ "Sustainable Waste Management for the Maltese Islands-5 years of achievements", WasteServ Malta Corporate Responsibility report, 2008.

²⁸⁴ Its duties are designed in terms of the Article 9(n) of regulation (EC) 1260/99 by Cabinet decision 405/2000 of 25th September 2000.

on the plans related to the implementation of the Structural Funds Programmes in Malta and ensures the correctness of operations according to the principle of sound financial management; it submits the Annual Implementation Report to the Commission through the Monitoring Committee;

- the Monitoring Committee, comprising Government representatives, social and economic partners, representative of fisheries and agricultural sector and NGOs, has the role of verifying the effectiveness and quality of the implementation of EU co-financed expenditure;
- the Ministry for Resources and Rural Affairs is responsible for the implementation of the strategy defined by the PPCD;
- Malta Environment and Planning Authority (MEPA), established in 2002, is an autonomous entity responsible for regulating environmental matters, as outlines in action B” of the 2001 Strategy. According to the Environment Protection Act, “the Authority shall advise the Minister in the formulation and implementation of policies relating to the promotion of sustainable development, protection and management of the environment and the sustainable management of natural resources, and on such other matters as may be necessary for the better carrying out of the provisions of this Acts”;
- the public company WasteServ Malta Ltd as responsible for organising, managing and operating integrated systems for waste management in the Maltese islands. Established in November 2002, the company operates integrated systems for waste management in accordance to the Law of Malta. The establishment of MEPA and WasteServ has managed to achieve a clear institutional separation of the Government’s powers and functions as a legislator, as a regulator and as a provider of waste management facilities and services;
- Local Councils, as responsible for the provision of municipal waste collection and transportation activities within their respective localities. So far, their operations have largely been an individualistic effort²⁸⁵, with only a limited number of Council teaming up to achieve greater economies of scale and to provide a more cost-effective service by regionalising the collection of MSW. In order to promote the collaboration among the Councils, the Government, in consultation with the Local Council Association, has planned to conduct feasibility studies to determine whether it would make economic sense to make use of the regionalised concept;
- private operators carry out the collection services on behalf of the Local Council.

Besides the above mentioned public bodies, the following were consulted as advisors:

- the Ministries of Health, Agriculture and Contracts;
- the public body Malta Resources Authority. Since it has regulatory responsibilities relating to water, energy and mineral resources in Malta, it has been involved to give assistance for the part of project concerning the production of energy and electricity.

The final users were not involved in the implementation phase of the project but they were consulted during the permitting and Equality Impact Assessment stage²⁸⁶ through the

²⁸⁵ As highlighted by the Ministry of Resources and Rural Affairs in the first updated of “A Solid Waste Management Strategy for the Maltese Islands”, January 2009.

²⁸⁶ The Equality Impact Assessment (EIA) is a systematic ex-ante analysis of the impacts and objectives of a given policy.

representatives of civil society (Non Governmental Organisations) with an interest in waste management issues²⁸⁷.

18.6. Universality of access and affordability

The themes of universality of access and affordability are dealt separately by the type of service provided by the project, which are waste collection and recovery, from one side, and energy generation, from the other one.

Waste collection and recovery

Systems for the waste collection are in function in all the three islands of the Maltese archipelagos and are available to all population regardless to any socio-economic characteristics, age or sex. Hence, the objective of the updating of the Sant'Antnin Treatment Plant is not the increase of the number of people connected to the service. Its role is rather to increase the efficiency of the service, by recovering and recycling the collected waste and producing electricity.

The service of treatment and recovery has been introduced in Malta by this project and it is expected to cover around one third of the total population. The construction of similar facilities have been scheduled for the next years, with the final purpose to offer the same service to the rest of the population.

An increase of the efficiency obviously corresponds to a cost increase of the service, which falls only indirectly on the final users by means of a tax. Actually, in September 2004 Malta introduced a form of eco-tax to fund the waste management and the recovery process of certain types of products, which could have a negative environmental impact, such as plastic bags, mobile telephones, computer monitors, water heaters and refrigerators. A production tariff is listed against each of these products and as in any cost increase, industry simply passes it onto the consumer.

Renewable energy generation

Currently Malta still relies on imported non-renewable energy. When the project will be completed, 1 400 families will be reached by electricity produced by biogas. This is a new service at the disposal of the Maltese population, which is scheduled to be enlarged to all the population in the next years.

The energy needed for the functioning of the facility is fully ensured by the electricity produced by the same plant. Since Sant'Antnin Treatment Plant is still under construction, the interviewed persons, both within the Managing Authority and the WasteServ Malta Ltd., have not made available yet any information about the tariff for the consumption of the produced energy.

18.7. Contribution to cohesion policy objectives

The strategic relevance of the considered project lies in the fact that it will contribute towards the upgrading of the country's environmental infrastructure, particularly in the area of solid waste management. The project will also enable Malta to comply with the requirements set out in national and European legislation relating to waste management. In addition, the project gives a relevant contribution to the fulfilment of the Cohesion Policy objectives.

In Malta, investment in environment is a key priority, given the strong linkages of this sector with the competitiveness level of the country. The policy challenge remains that of balancing the requirements of economic development with sustainable use of the environment.

²⁸⁷ They include: the Biological Conservation Research Foundation, BirdLife Malta, Malta Organic Agriculture Movement, Wirt Ghawdex, GAIA Foundation, Moviment Għall-Ambjent (Friends of the Earth Malta), Fondazzjoni Ekologika Maltija, Greenpeace Mediterranean, Fondazzjoni Wirt Artna, Din I-Art Helwa and Nature Trust Malta

The project gives a relevant contribution in the convergence process to the EU economic and social benchmarks. On the economic side, the implementation of an efficient waste management system and the reduction of the land-filled waste favour the tourist activities, on which almost 15% of the national GDP relies; moreover, the generation of electricity from biogas reduces the Maltese dependency on imported energy sources. On the social side, the upgrading of Sant'Antnin Plant improves the quality of life of the Maltese population, thanks to the reduction of the emissions, the recovery of polluting waste products and the generation of green energy. In this ways, the project helps improving the attractiveness of the island.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Charmaine Vella: EU Fund Officer in the Unit responsible for the management and coordination of the Cohesion Fund 2005-2006, Planning and Priorities Coordination Division, Office of the Prime Minister.
- Maria Pia Pace: Senior Manager responsible for the management and coordination of the Cohesion Fund 2004-2006, Planning & Priorities Co-ordination Division, Office of the Prime Minister.
- Stephen Dimech: Engineer, delegated Project Leader responsible for the implementation of the Project, WasteServ Malta Ltd.

19. The Netherlands. Malburgen Establishment of the Multi- cultural Educational-and Care Centre (MOZC)

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19.0. Background information

a) Country	The Netherlands
b) Region	Gelderland
c) Full Project Title	Malburgen Establishment of the Multi-cultural Educational- and Care Centre
d) Duration	Early 2004-June 2006
e) Programme	National programme "Policy for the Larger Cities" supported by the ERDF during programming period 2000-2006 under the SPD for Urban Areas
f) Total Cost	EUR 11 million
g) EU Contribution	ERDF 5.7%
h) National Contribution	94.3%
i) Private Contribution	0%
j) Sector	Social infrastructure
k) Sub-Sector	Education and Culture infrastructure
l) Beneficiary	Municipality of Arnhem
m) Implementing body	Municipality of Arnhem

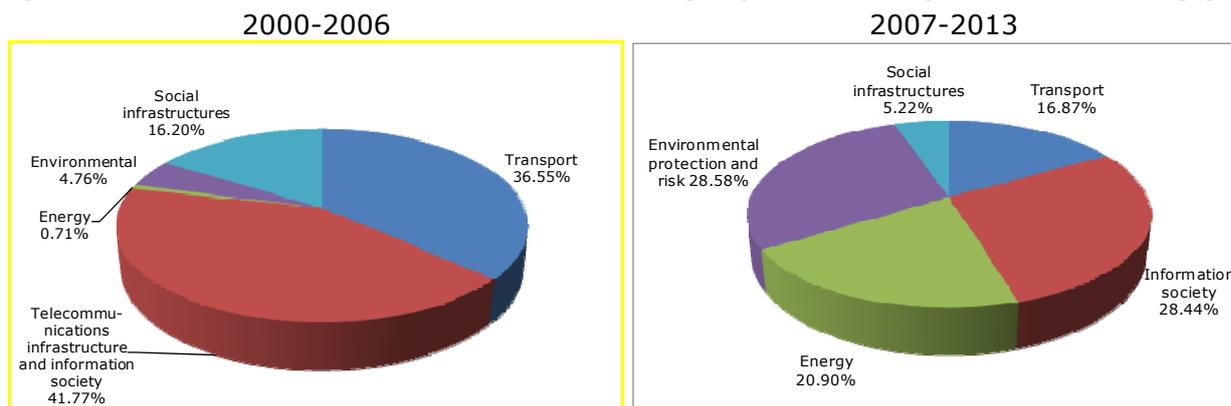
19.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The framework for structural funding in the Netherlands is provided by the NSRF and was introduced for the first time for the period 2007-2013. The term Services of General (Economic) Interest is not used neither in the SPDs for 2000-2006, the NSRF for 2007-2013, the SPDs for the regional programmes for 2007-2013 under Objective 2 and the SPDs for the cross border, transnational and interregional programmes under Objective 3. Focus of the NSRF is on implementation of the Lisbon agenda. It listed as priorities innovation, the knowledge economy and human capital development. At the same time however, it acknowledges the importance of services provision when it states that 'the knowledge economy prospers only in an attractive business climate, in which the quality of the surroundings is also an important factor. Investment in an attractive living and working environment to contribute to economic growth and employment also therefore forms part of the commitment of the Structural Funds'. The NSRF has a specific section in which it discusses the position of the cities (Chapter 4.4 "Attractive cities"). Here it emphasizes the importance of cities attracting people and businesses to locate. It includes the improved level of amenities and the spatial quality of the living and working environment and fostering liveability, (economic) participation and social cohesion.

The case study at hand belongs in SG(E)I terms to the field of human infrastructure that consists of the following sub-sectors: health, social services and educational infrastructure. In NSRF terms it belongs to the category of Social infrastructure which in the relevant SPD for 2000-2006 was defined under priority axis Socio-economic activation which focuses on gender equality and social inclusion aspects and included projects such as the establishment of day care centres, community centres and neighbourhood management structures.

Figure 28 below gives an overview of ERDF expenditures for the period 2000-2006 and 2007-2013 as per different SG(E)I sectors. It shows some marked differences in investment patterns. With the emphasis on innovation and knowledge economy there has been a considerable reduction in spending on social infrastructure with a decline from 16.2% to 5.22% only.

Figure 28: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

19.2. National framework in the provision of SG(E)I

Delivery of social infrastructure is the responsibility of local government. It receives central government contributions for providing sport, health care, cultural, social and other services at often subsidized rates and has to establish adequate facilities.

In operation of social facilities, the organisational arrangement is that local government establishes the facilities. Operation is delegated to specialized semi-public or private organisations, foundations, monitored or controlled by local government. Quality of services delivery is regulated by central government through national legislation and monitored and controlled by municipalities. Parties having been assigned the responsibility for operating these facilities do so within strictly formulated boundaries specifying what level and quality of services should be provided and enter into an agreement thereto with the municipality in which the facility is located.

Regulations and provisions for involving third parties operating these facilities differ. There is a transition from hitherto government owned and controlled operations to private/semi-public parties with the intention of having cost control through increased competition.

In the case of child care a differentiation is made between day care for children for the age group 0-4 and after care (outside schooling hours: before, in-between and after school) for the age group 4-14. The difference relates to primary school starting at 4 years of age. There is also a more limited provision of kindergarten for children in the age group 2-4 but focusing more on children with learning disabilities.

Provision of child care is regulated by the Law on Child Care (Wet kinderopvang) of 9 July 2004 and subsequent adaptations. Individual parents pay for child care services but receive a contribution. It consists of a governmental subsidy arranged through the tax office which is income dependent and an employers' contribution. There is a maximum tariff however above which parents have to pay the full amount themselves. In 2010 this was EUR 6.25 per hour for day care and EUR 5.82 for after school care.

Private parties wanting to operate facilities need to obtain a permit from the municipality and are registered. For each operation a contract is established defining the conditions for such operation.

19.3. Project description

Policy for the Larger cities (GSB)

The GSB was introduced in 1994 and consists of three components: improvement of the physical environment, social environment and the economy. In addition to city-wide

interventions, under the GSB, priority neighbourhoods were selected which require an integrated approach for rehabilitation. Here, investment funds were matched with other investments in social cohesion aspects and economic development measures. In 30 of the largest cities (G30), 56 of such neighbourhoods were identified. Programme investments were based on multi-year planning documents, having a planning horizon of 4 years. These are prepared by municipalities and a target related subsidy is provided based on contributions of among others the Ministry of Housing, Physical Planning and Environment and the Ministry of Education, Culture and Science. Financially, in principle, no direct investments were made in the housing stock, this is seen as the responsibility of private/semi-public parties, but in improvement of public space, services provision and facilitation of the planning process. Social inclusion as defined in the GSB is having the two pillars of gender equality and social cohesion. In promoting gender equality special consideration had to be given to the position of migrant women and children as discussed below.

Gender equality and social inclusion

In 2000, the government formulated the Multi-year Policy Plan Emancipation²⁸⁸ which sets the targets for the period to 2010 and policy actions for the first 4 years. It observed that there was a steady improvement in educational level of women, more of them following higher levels of education while on average women took less time to get a diploma. Participation of women in work annually increased with one percent and reached 54%. Also the share in top management functions increased and reached 25% of all positions. Number of high political positions taken by women also increased.

A number of legal measures were responsible for the improved participation of women in the labour market. To make having a job more attractive for both men and women different tax measures²⁸⁹ were introduced. The Law on Adjustment of Working Hours²⁹⁰ (2000) and the Law on Labour and Care²⁹¹ (2001) gave more legal possibilities for employees to reduce or extend the duration of the weekly number of working hours. The Law on Child Care²⁹² (2005) provided a new financial framework for financing, quality control and market operation of child care. The effect was that child care became cheaper for especially the lower income groups and the number of facilities increased from 126 000 positions available in 2000 to more than 206 000 in 2004. In 2006 the facility was further improved by introducing a life time arrangement for child care²⁹³.

In formulating future policy directions, the conclusion was that what remained as a top priority was to ensure that more women would work for longer hours and utilize their talents and qualities in a better way. Of women with 2 children, only 12% worked more than 24 hours per week. Next, priority would have to be given to participation of women in vulnerable positions. As for the first objective, the average number of hours worked by women remained one of the lowest in Europe. A higher participation rate of women is considered to be important in the context of an ageing population. The target remained that participation rate of women would increase to 65% in 2010 and the percentage of economic independent women to 60%. The concern was expressed that if such an increase is not realized, the welfare state becomes unaffordable; the Netherlands would need all talents of men and women to be able to compete in the world economy.

Establishment of the MOZC and providing a direct physical linkage between child care and school facilities was felt to be one of the operational measures for such policy.

²⁸⁸ Meerjarenbeleidsplan Emancipatie, MinSZW- Ministerie van Sociale Zaken en Werkgelegenheid, 2000.

²⁸⁹ Arbeidskorting en combinatiekorting.

²⁹⁰ Wet Aanpassing Arbeidsduur.

²⁹¹ Wet Arbeid en Zorg.

²⁹² Wet Kinderopvang.

²⁹³ Levensloopregeling.

The MOZC was established under Objective 2 Regional Competitiveness and received support under the National programme "Policy for the Larger Cities" supported by the ERDF during the programming period 2000-2006 under the SPD for Urban Areas. For the establishment of the MOZC extra project-related support was received for its expected contribution to gender equality and social inclusion.

The MOZC provides a concept in which the delivery of social, cultural, (first line) health care and child-care facilities are linked to the physical entity of a primary school complex. Educational-and health care facilities and activities formed part of regular services provisions and did not form part of the ERDF supported intervention.

Overall objective of the project was formulated as the establishment of an educational-and care centre in the Malburgen district, which next to regular educational-and care facilities (non-subsidable and therefore not part of the ERDF supported intervention) would provide a number of activities to promote the labour participation of vulnerable groups. The latter included infrastructure and facilities for adult education, ICT and child care for children attending kindergarten and primary school in-between, pre, and after school hours.

Target groups were listed as all citizens in the neighbourhood and in particular the migrant population, women and those receiving social benefit assistance.

Malburgen is an urban district in the Southern part of Arnhem with a population of approximately 17 000 inhabitants. It was designed as a garden suburb in the thirties of the last century as the first city extension south of the river. The original plan was altered for the large need of cheap housing stock after the completion of World War II. There were more low-cost houses built than planned and the density of housing was significantly higher, with an increased number of apartment blocks. Around 60% of the housing was constructed as low-rise apartment blocks. Of the 7 000 housing units built, 80% was social housing. About 90% of these houses were owned by the housing corporation 'Volkshuisvesting'. In 2000 Malburgen had a population of approximately 17 000 inhabitants. From midway the 70ties, the quality of the housing stock declined and demand with middle-and higher income groups was low. Quality of construction was often poor, many apartments and houses were too small as per modern standards and had low comfort standards owing to bad insulation and the lack of modern heating systems. Malburgen became one of the least attractive urban districts of Arnhem characterized by mainly densely built and cheap rental apartment blocks. Social problems became rampant and the level of services and facilities decreased.

From the early 90ties, an urban renewal process was started with initially a focus on incremental improvements. With results not being satisfactorily, the municipality opted for a more fundamental approach by adopting the Development Plan Malburgen (1998). Overall objective of the programme was to return to the original concept of a garden city, by making large scale investments in improvement of public space, mixed housing development and demolition of large parts of the deteriorated housing stock.

In Malburgen East-North, the neighbourhood in which the MOZC is located, the housing characteristics are largely social housing, mainly one-family houses, long average period of stay of residents in one house, large number of 1-person households and families, percentage of migrant population of about 25%, many original inhabitants staying in the neighbourhood having low incomes and being non-active and high level of community involvement. The percentage of about 25% of migrant population is relatively low as compared to other low-income urban districts in the larger cities,

As shown in the Table 4 below between 2006 and 2008 quite a large number of new housing units became available. The population increase was from 4 500 to 6 000. There was an influx of two-person households with and without children resulting in more young

families in the district. On the other side there is the construction of a large complex for the elderly. The expectation is that percentage of migrant population would gradually decrease.

Table 4: Housing development in Malburgen East-North

Period	Initial housing stock	Demolished	New structures	Housing stock after intervention
2002-2006	2 101	146	75	2 030
2006-2008	2 030	0	586	2 616
2008-2012	2 616	120	194	2 690
2012-2015	2 690	0	0	2 690

Source: Gemeente Arnhem 2005.

The final beneficiaries of the project are citizens of the Malburgen district and in particular those making use of the MOZC facilities.

Children: Club activities for children with participation of 60-75 children once in every two weeks.

Participation of 150-200 children in after-school activities every week.

Kinderwerk (children's work) with weekly activities and participation of 10-15 children

Day care facilities which have participation of 20-30 children.

The in-between school facility caters to about 50 children

The day care facility has 18 children

Courses for parents on better understanding of their children (age group 2-4 yrs old).

Women: Clubs offering cooking classes and sewing.

Dutch language classes for migrant women with participation of mostly elderly women and lessons given by a female teacher from the same community (10-15 women).

Community: Depending on the type of activities, there is a balanced participation from different communities with a division of about 50-50 between migrant population and original inhabitants.

Total budget: EUR 11 million (development costs, including municipal contribution, funds provided by the two educational facilities and through sale of vacant school buildings and land. Direct municipal contribution was EUR 1 005 368).

The ERDF contribution of EUR 625 127 was relatively small and was used as contribution to creating those facilities (construction costs and equipment) which are not covered by the regular municipal budget and could be considered as extra therefore. It included building a community hall and equipment for the same.

MOZC facilities offer a wide range of activities, including:

- day care facilities for children in the age group 0-4;
- after care facilities for children (age group 4-14);
- social-and cultural activities for children in the age group 4-14;
- social-and cultural activities and fitness for the elderly;
- care facilities for the elderly;
- health facility for pregnant women and young mothers and their newborns;

- sport activities for different age groups of children (6-14).

Of these activities, the health facility, care facility for the elderly and sports facility are regular municipal services and same as for all operational expenses did not form part of the project. and are outside the scope of this case study.

As indicated in the interviews, the MOZC facilities are well used and frequented and show a balanced participation in neighbourhoods with a mixed ethnic composition and clearly answer a demand for such facilities. These opinions were supported by observations made during field visits to a selected number of such facilities. Activities currently taking place can be listed as follows:

Once in the two weeks, on Sunday, Rijnstad organises club activities for children from the neighbourhood around different themes. Normally, around 60 children participate but attendance goes up and reached 75 the last time. The club offers 7 different activities during the afternoon. One of them is Arabic lessons and next to children from migrant communities also children with a non-Islamic background participate, wanting to learn more about their friends. The club also pays attention to cultural notions of different ethnic communities, a theme like 'pestering other children' at school and other aspects of living together in the same neighbourhood. Name of the club is A-salaam (peace). On Wednesday evening there is a girl's club. In after-school activities every week between 150-200 children participate in the age group of 4-14 years old. Malburcht has a hobby club and has a site at Hyves. On Wednesday afternoons there is now Kinderwerk (children's work) which started with a group of 10-15 participants but it is expected to grow in attendance when the facility becomes better known. There are also clubs with cooking classes and sewing. Depending on the type of activities, there is a balanced participation from different communities with a division of about 50-50.

Day care facilities include the Lindehart, offering after-school facilities and have participation of 20-30 children. The in-between school facility caters to about 50 children. The day care facility has 18 children. Two courses are conducted for parents understanding their children (age group 2-4 yrs old) better.

For migrant women there are Dutch language classes with participation of mostly elderly women and lessons are given by a female teacher from the same community.

In June, the Malburcht organises an open day for the whole neighbourhood with a large number of activities which is normally attended by many people and not only by parents and children from the two schools.

Sport activities are organised for children from both the two schools but have participation from children which are attending other schools as well but live in the neighbourhood. Facilities are also used by sport clubs from the neighbourhood and matches.

Participation of women in the labour market is promoted by offering the central facility of the MOZC. It has been particularly successful because of the introduction of national initiatives of financial-and legal measures promoting the same. It made day care for children much cheaper and attractive also for lower income groups and the number of facilities for child care increased substantially.

Neighbourhood activities are facilitated with the principle that initiative should come from the neighbourhood itself. The latter initially with hesitance, active inhabitants feeling attached to their old facilities, now gradually with more success and with support of the MOZC and the neighbourhood facilitator of the Municipality. The Box below presents some reflections from the users survey done for the MOZC facilities.

In the MOZS facilities of Malburgen it is unavoidable to organise matters well. There is a need to share the use of facilities and it implies that consideration has to be given to each other. To do this properly, there is a need for rules and coordination. The presence of different institutions in one location offers the possibility to make informal arrangements. The level of spirit and commitment of cooperation depends on the people concerned. It is noted that people who are positive about how things go are also those who know how to organise activities. They are less disturbed by matters organised differently than in the past and are output oriented wanting to get things done and use there to more informal methods in a creative way. Their ideas develop while talking in the corridors and are decided upon during lunch. Flexibility and personal contact are the success factors.

Source: Holland Branding Group, 2008.

19.4. specific aspects of SG(E)I affected by the project

Specific aspect/objectives of SG(E)I realised/enhanced with the project

The following specific aspects / objectives are enhanced with the project:

- social cohesion;
- efficiency and effectiveness in services delivery.

Main expected results of the project with reference to the specific aspect/objectives of SG(E)I

- **Social cohesion:** to determine the impact of the MOZC it would be of interest to know the number of users of facilities as per ethnic origin and gender. However, as indicated by the municipality of Arnhem there was a certain sensitivity involved in maintaining data on ethnic origin. Disaggregation of data was also felt to be not relevant since ethnic composition is to a large extent determined by location of the activity and sector of intervention. Also gender specific data are not maintained.

MOZC impact cannot be analysed therefore as per segregated statistical data as per gender and ethnic origin. Interviews and project data suggest however that these facilities are well used and frequented and show a balanced participation in neighbourhoods with a mixed ethnic composition and clearly answer a demand for such facilities. These opinions were supported by interviews made during field visits to a selected number of such facilities.

As for the wider impact of the MOZC one of the questions would be what the effect has been on the position of women in terms of facilitation of entry into the labour market, extension of number of hours worked and better social/cultural integration of women from different ethnic origin.

In a recent study of the Social and Cultural Planning Office of the Netherlands on part-time work of women (2008), it was observed that the number of hours worked by women increased markedly in recent decades and more so in the Netherlands than in other European countries. The increase was due entirely to the growth in the number of women with a part-time job; there has been no change in the proportion of women with full-time jobs over the same period: in 2006, 20% of women aged 50-64 years were in full-time jobs, the same as in 1985.

A number of financial-and legal measures were responsible for the improved participation of women in the labour market. The effect was that child care became cheaper for especially the lower income groups and the number of facilities for child care increased substantially.

As for gender relations, Arnhem follows the same progressive trend as was observed for the Netherlands with a steady increase of the participation rate of women and narrowing of the gap between men and women as for differences in unemployment rate. An improved level of gender equality as suggested by these indicators is caused by a shift in cultural notions about the position of men and women in society and a consistent national and local policy of improving the legal possibilities for women to work and introducing a coherent set of subsidies and facilities for day-care of children. The Arnhem region, same as for the country, has a high percentage of women working part time only and an increase in the number of working hours is seen as a priority therefore. The second priority is to ensure a higher social participation of women from those ethnic minorities which have stayed behind in this respect. The latter is of particular relevance for the Malburgen district which has a larger share of ethnic minorities as compared to the city as a whole.

There are positive indications therefore that day-care / after-school facilities offered at the MOZC have a positive effect on higher participation rates of women in the labour process and extension of the number of hours worked, but they are not evidenced. There are no indications also to what extent it applies to women from ethnic minorities. A specific point of interest is to what extent the MOZC has been able to contribute to the SG(E)I aspect of non-discrimination. In the interviews it was emphasized that the wide range of activities offered at the MOZC have an appeal to different age groups, communities and social classes and brings people out of their social isolation. By having activities for the two schools together there is no longer fighting between children from the different schools. Children from different communities play now together and visit each other on birthdays. The Sunday club, A-salaam, has contributed to a much better understanding of each other's background and cultural identity. This includes the perceptions which migrant children have of their 'Dutch' neighbours.

For dealing with discrimination, linking the MOZC to a school complex has advantages and disadvantages. A positive factor is that outreach through school is much easier to achieve. A negative aspect is that with the Dutch schooling system of having separate schools for different cultural and religious identities (i/c. catholic, protestant, public and others) there is the risk of segregation of communities. Having one school in the neighbourhood to which all children go would be better in that respect.

- ***Efficiency and effectiveness in services delivery:*** the concentration, enhanced quality and increased capacity of community services at the MOZC facility supported social cohesion in the neighbourhood and a better reconciliation of work and family life. Linking services delivery with school facilities has contributed to higher efficiency and effectiveness in services delivery. Such arrangement replaced the hitherto fragmented and dispersed facilities offered at different localities in the district and preventing integrated services delivery.

19.5. Governance aspects

Responsibility for implementation of the project was with the Municipality of Arnhem as management authority for the OP Urban Areas the Netherlands 2000-2006 for the city of Arnhem.

For management of the MOZC a coordination structure was established of service providers. Initially, the management arrangement included local providers only. Later, for all similar facilities being established in the city of Arnhem with 8 new schools applying the same concept, an overall management structure of service providers was established with a Steering committee for coordination of activities. Responsibility for operation of the MOZC facility has been assumed by a Society established for management of all existing and newly planned school facilities. The management structure includes representatives of

organisations offering a wide range of educational facilities combined with Multi-functional community services. Each agency has an independent management structure and is largely subsidized by the municipality.

The MOZC has a high level of sustainability therefore, with the possible exception that it assumes that central government subsidies to child care facilities are continued at the same level and remain affordable to low-income households.

For operation of the MOZC in the Malburcht, a coordination team was formed, the Bos team. It meets once in the 6 weeks. Participants include the two primary schools located in the Malburcht. One is the Margarethaschool, in origin a catholic school, with 255 pupils. The second school is a public school, the Monchyschool with 160 pupils. Sportbedrijf Arnhem is a public/private agency providing sport facilities in the city and has a branch at the Malburcht. Rijnstad is also a public/private party and provides welfare and social support services in the municipality. It has a coordinator and several staff members for different types of activities organised at the Malburcht and there is participation of about 60 volunteers from different communities. SKAR is an organisation providing day care for children.

SG(E)I provision as per EU structural funding forms part of the overall public sector services provision and is therefore not distinct from other programmes. The role of the local/regional/national authority has remained the same but type of support has shifted from direct support to facilitation of economic development by creating the necessary conditions and structures.

In programme design, from policy formulation to project implementation, there have been extensive consultations of stakeholders. Management authorities also provide delegated responsibilities to intermediate (semi-public) institutions for programme development. Operation of SG(E)I facilities especially in the social sector is often the responsibility of specialized (semi-public) agencies but takes the form of handing over the responsibility from the public authority having created the facility to the operator as specialized agency after the facility has been created. Public/private partnership in terms of other parties making contributions to achieve overall results is a regular and established management model in SG(E)I provision in the Netherlands and as such not specific for support through structural funding. However, as per structural fund regulations, no direct support is provided to such parties.

Regular contracting arrangements were applied in the construction of MOZC facilities such as tendering and contract award. In handing over the facilities after establishment, operational contracts were drafted specifying role, contributions and responsibilities of each party.

One of the success factors of the MOZC has been the possibility of offering highly subsidized child care facilities. This was made possible by a national programme to promote the labour participation of women and was not specifically designed for the project facility.

How was these governance aspects influenced by Structural Funds' contribution?

Main influence of structural funding on SG(E)I provision has been the management model applied in structural funding. It concerns the formulation of SPDs to guide operations and its structure and arrangements for monitoring and evaluation and especially the ex-ante evaluation and emphasis on measuring outputs and results. Also the structure of inviting proposals from potential beneficiaries within a given framework and set of priorities has influenced governmental development programming.

19.6. Universality of access and affordability

This section discusses two main issues related to SG(E)I provision: the universality of access and the affordability

Universality of access

The MOZC facility offers access to all citizens, without any forms of limitations. To determine the universality of access it would be of interest to know the number of users of facilities as per ethnic origin and gender. However, as indicated by the municipality of Arnhem there was a certain sensitivity involved in maintaining data on ethnic origin. Also gender specific data are not maintained. MOZC use cannot be analysed therefore as per segregated statistical data as per gender and ethnic origin. Interviews and project data suggest however that these facilities are well used and frequented and show a balanced participation in neighbourhoods with a mixed ethnic composition and clearly answer a demand for such facilities. These opinions were supported by interviews made during field visits to a selected number of such facilities.

Initially the MOZC met with resistance from communities which were used to their own facility where they were used to meeting each other and could make their own arrangements. The shift from the familiar environment to a new 'school-like' facility was not appreciated by everyone. It has been one of the main reasons why it took time for activities to take off and get sufficient attention. Now, with a coordinator for the activities, staff and a structure it gets better every day and the MOZC gets better accepted now. The shift had also positive effects however by changing old habits and practices. The old neighbourhood centres were largely catering to their own communities with little integration between them. For the MOZC that is different with participation of all in the same place. The number of volunteers (60) is still less as compared to the old situation (100) but there is a much larger contribution of women from other ethnic communities and the number is growing again. Volunteers working together for a common purpose also results in a better understanding between communities.

It can be concluded therefore that after overcoming the initial resistance with communities, the MOZC has been able to provide access to people that otherwise would have been excluded from the provision of this kind of services or were constrained in getting access.

Affordability

Services offered at the MOZC in principle are not different from services offered elsewhere. Differences relate to synergy in services provision and higher effectiveness and efficiency resulting from operating from one building and coordination between service providers. Costs of services are comparable to elsewhere and the contribution of the SF did not make a difference in that respect.

19.7. Thematic focus

Ageing population and migrants

Through a combination of large scale investments, contributions of different stakeholders and social/cultural support measures, direct intervention took place in the demographic composition of the district in terms of income categories and ethnic composition. However, as indicated by NICIS (2008) there is the risk that inhabitants which are forced to leave because the apartment or house they live in is demolished, settle in neighbouring districts with a similar outlook and composition. The result could be that the receiving districts show further concentrations of in particular low-educated persons in relatively poor neighbourhoods. Problems faced in one particular urban district are after renewal transferred to the neighbouring district, the so-called 'waterbed' effect. The municipality of

Arnhem is trying to address this issue through providing social housing in different parts of the city. However, it was confirmed that citizens often give preference to the neighbouring district when they have to move.

Of particular interest is the question to what extent the MOZC makes a contribution to social cohesion in the neighbourhood and in particular the integration of the ageing population and migrants. As for the first category, facilities for the elderly did not form part of the project. However, it was observed in the discussions that offering services in the same locality helped the elderly in making them feel more part of the community.

As for the migrant population, it was found that an incremental approach of neighbourhood development with improvement of the old housing stock rather than applying an urban renewal approach, strengthens community sense and integration with large participation of citizens, but tends to exclude the migrant population. Those with a different background and culture, considered to be newcomers even if they stay already in the country for more than a generation, have difficulties getting accepted. The process works both ways. Ethnic minorities having their 'own' facilities do not mix with other communities and vice versa. The positive contribution of the MOZC is that it starts from a radical different perspective by offering a new facility and trying to bring together all communities at one location. The MOZC was reasonably successful in that with first a decline in participation of community volunteers and now with an increase in numbers again and a much better mix in ethnic background.

In a recent study of the Social and Cultural Planning Office of the Netherlands on part-time work of women (2008), it was observed that the number of hours worked by women increased markedly in recent decades and more so in the Netherlands than in other European countries. The increase was due entirely to the growth in the number of women with a part-time job; there has been no change in the proportion of women with full-time jobs over the same period: in 2006, 20% of women aged 50-64 years were in full-time jobs, the same as in 1985.

Hence, offering child care services to children at highly subsidized rates certainly had an impact on the position of women in terms of facilitation of entry into the labour market, extension of number of hours worked and better social/cultural integration of women from different ethnic origin. Child care became substantially cheaper for especially the lower income groups and the number of facilities for child care increased substantially. There are positive indications therefore that day-care / after-school facilities offered at the MOZC also had this effect, but they are not evidenced. There are no indications also to what extent it applies to women from ethnic minorities.

It can be concluded therefore that the MOZC measure increased women's inclusion in the labour market by reducing the amount of care activities they are usually in charge of. Progressive national policies for providing day care for children with subsidy levels reaching 90% of costs, the MOZC facility answers a high demand for such services.

19.8. Contribution to cohesion policy objectives

The MOZC facility supported social cohesion in the neighbourhood. Also, it can be argued that the measures increased women's inclusion in the labour market by reducing the amount of care activities they are usually in charge of. Progressive national policies for providing day care for children with subsidy levels reaching 90% of costs, ensures that the MOZC facility answers a high demand for such services.

Establishment of the MOZC facility being linked to school facilities and providing a wide range of day care facilities and social-and cultural activities, has made a large contribution to social inclusion and gender equality. Together with subsidized costs of day care facilities it is instrumental in providing women better access to the labour market. Wide use is made of the facility by different communities and it forms an important unifying factor in the neighbourhood.

The project was well integrated in the development framework at municipal level. Sustainability of the interventions was assured thereby and a framework was created of partnership between the municipality and public/private sectors, neighbourhood associations and private sector initiatives.

The MOZC investment formed part of a multi-year government driven investment programme offering a long-term development perspective of urban restructuring. Sustainability of the intervention was assured by a partnership approach of public sectors, local authorities, neighbourhood associations and private sector initiatives and the creation of a management structure of service providers for operation of the facility.

The MOZC was the first of its kind in Arnhem and provided important lessons to similar facilities created at a later stage and became a model and example for community development.

As overall conclusion we can state that the structural approach as applied to the Malburgen district is of particular relevance in this context. Through a combination of large scale investments, contributions of different stakeholders and social/cultural support measures, direct intervention takes place in the demographic composition of the district in terms of income categories and ethnic composition.

Of particular interest is the question to what extent the MOZC makes a contribution to social cohesion in the neighbourhood. Initial findings indicate that an incremental approach of neighbourhood development strengthens community sense and integration with large participation of citizens. However, newcomers with a different background and culture have difficulties getting accepted. The process works both ways. Ethnic minorities having their 'own' facilities do not mix with other communities and vice versa. The positive contribution of the MOZC is that it starts from a radical different perspective and tries to reach all communities. The MOZC was reasonably successful in that with first a decline in participation of community volunteers and now with an increase in numbers again and a much better mix in background.

The MOZC facility increases the attractiveness and liveability of Malburgen and contributes to making the life of especially children, women, ethnic minorities and the elderly more enjoyable by offering a wide range of high quality services in an attractive environment.

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- Elif Yalcimkaya, volunteer; Brede School Malburcht, Rijnstad.
- Mary Ekelmans, Coordinator; 'Brede school', de Malburcht, Rijnstad.
- Saskia Nout, staff member; Brede School Malburcht, Rijnstad.

20. Poland. Kleszczow-Sosnica

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PPMI, Public Policy and Management Institute

20.0. Background information

a) Country	Poland
b) Region	Silesia
c) Full Project Title	Construction of the KA4E section of the A4 motorway between Kleszczów-Sosnica-ISPA 2000/PL/16/P/PT/001
d) Duration	2000-2007
e) Programme	ISPA for Poland 2000-2004
f) Total Cost	EUR 100.5 million
g) EU Contribution	ISPA 75%
h) National Contribution	25%
i) Private Contribution	0%
j) Sector	Transport
k) Sub-Sector	Motorway
l) Beneficiary	Ministry of Infrastructure General Directorate for National Roads and Motorways
m) Implementing body	Ministry of Infrastructure (at the time of investment decision: Ministry of Transport and Sea Economics) General Directorate for National Roads and Motorways

20.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

Poland's economy is one of the CEE transition economies. As such, it suffers from all the deficiencies caused by centrally planned economy and, although enormous progress has been made in the past two decades in many spheres of activity, there are still areas in which Poland cannot be compared to EU-15. In the past years, the European Structural Funds (SF) have been, and still are, a great instrument to support transition. Among other applications, financing of infrastructure projects in all modes is becoming one of the most prioritized objectives.

The National Strategic Reference Framework (NSRF) does not refer directly to SG(E)I. The term is rather out of use in Poland and different wording is used to refer to social services. More often than not, what is called SG(E)I in EU-15 would be called "public services" in Poland. This is primarily due to the lack of a commonly accepted definition of SG(E)I in the EU and the resulting translation problems. Furthermore, any reference to "social services" so commonly used in the western EU is rather avoided in official documents as it sounds a bit too socialistic for the nation that has lived under a socialist regime for decades. SG(E)I are simply referred to as "public services" or "services of public use". In fact, like in other countries, the nature of an SG(E)I, and consequently of an SGEI, is defined by examples of practical use. In reality, any specific public service obligation might fall into this category.

The main areas (horizontal aims) in which the National Strategic Reference Framework refers to SG(E)I

In relation to transport infrastructure (as the centrepiece of this particular study), the following public-service-type actions could be identified²⁹⁴:

- connection of major economic areas in Poland with motorways and expressways, thus improving free movement of people, goods, and services;
- cohesion of rail and road infrastructure (better accessibility to transport networks, directness of travel, reduction of travel time);

²⁹⁴ National Strategic Reference Framework 2007-2013 in support of growth and jobs. National Cohesion Strategy, adopted by the EC on 7 May 2007, Ministry of Regional Development of the Republic of Poland, Warsaw 2007.

- further extension of the Trans-European Transport Network (TEN-T) infrastructure (linking with other countries-facilitating free movement of people and goods within the EU);
- urban infrastructure development (increased accessibility to markets, goods, culture, etc., and other than transport-oriented services);
- rural infrastructure development (reduction of peripherality, thus providing better access to non-transport services for people outside major cities or industrial centres).

In general, those aims are always directly or indirectly oriented towards better fulfilment of public obligations of the state. Although the density of Polish transport infrastructure is relatively high, its quality is rather poor. For example, there are only a few motorways, and the condition of roads is bad. The situation in the railway sector is similar: the ratio of the length of rail lines to the number of population in Poland is among the better ratios in the EU but the quality is bad and average speeds are low. Poor quality affects a number of SG(E)I obligations, such as the provision of road safety, accessibility to markets, travel length, mobility, traffic jams that reduce comfort, etc. These are not exclusively internal problems, but they also affect international travelling or working abroad and thus reduce tourism and economic activity due to insufficient inclusion of the national network to TEN-T. In general, much investment is needed and the financial resources available to the Polish Government are insufficient. Therefore, the Structural Funds play an important role in the provision of transport infrastructure. The total amount of funding for the 2007-2013 period is planned at EUR 67.3 billion. The majority of this amount (EUR 66.5 billion) will be allocated to the implementation of the EU cohesion objective.

The NSRF objectives are implemented via operational programmes.²⁹⁵ In relation to transport infrastructure, the most important programs include the Operational Programme 'Infrastructure and Environment' and 16 regional programmes. These programmes are run in 16 Polish voivodships (voivodship is NUTS2 territorial unit in Poland), and it is very likely that the majority of these funds will also be spent on the development of transport infrastructure. A significant share of transport investment will also be budgeted in the Operational Programme 'Development of Eastern Poland' aimed at levelling inequalities between better developed western and underdeveloped eastern regions. There might be small contributions to transport sector in other investment programmes but the majority of them will come from the three above-mentioned sources. The objectives set in the OPs are the following:

- improvement of technical infrastructure;
- revitalisation of cities and rural areas;
- better telecommunication and information systems;
- support to enterprises;
- increased tourism and culture;
- social infrastructure;
- human resources development.

²⁹⁵ For the programming period 2007-2013, the following programmes were established: Operational Programme 'Infrastructure and Environment', 41.9% of funding (EUR 27.9 billion from the ERDF and the Cohesion Fund), Regional Operational Programmes, 24.9% of funding (EUR 16.6 billion from the ERDF), Operational Programme 'Human Capital', 14.6% of funding (EUR 9.7 billion from the ESF), Operational Programme 'Innovative Economy', 12.4% of funding (EUR 8.3 billion from the ERDF), Operational Programme 'Development of Eastern Poland', 3.4% of funding (EUR 2.3 billion from the ERDF), Technical Operational Programme, 0.8% of funding (EUR 5 billion from the ERDF).

All those aims could be attributed to SG(E)I or SGEI obligations of the Government. What matters in the transport sector are actions aimed at improving infrastructure (as the majority of investment here will be transport-oriented) and revitalisation of cities (again the majority of actions will be aimed at new infrastructure in transport and in city commuter solutions). To some degree, transport will also be impacted by investment in the tourism and social infrastructure sectors.

The Operational Programme 'Infrastructure and Environment' seems to be the most important in relation to the transport sector. Its main aim is described as "improving attractiveness of Poland and its regions through development of infrastructure"²⁹⁶. Transport infrastructure is the leading theme in the following 3 out of 15 priority axes:

- VI-Road and air network within TEN-T (EUR 8 802.4 million from the Cohesion Fund). The main objective of this priority is to improve accessibility of Poland through the development of new motorways and air connections with an impact on throughput and the quality of service;
- VII-Environment-friendly transport (EUR 7 676 million from the Cohesion Fund). The main objective of this priority is to increase the share of environment-friendly modes in the overall transport system. Actions will be targeted at the development of railways and seaports. Additional objectives include greener transport in urban areas and improvement of inland waterborne transport;
- VIII-Safety and internal transport networks (EUR 945.5 million from the ERDF). The main objectives here are to enhance safety of road and air transport, improve the road network outside TEN-T, and develop intelligent transport systems.

The breakdown of funding among different modes of transport is given in Table 5 below.

Table 5: Breakdown of funds among different modes of transport in the 2007-2013 financial perspective

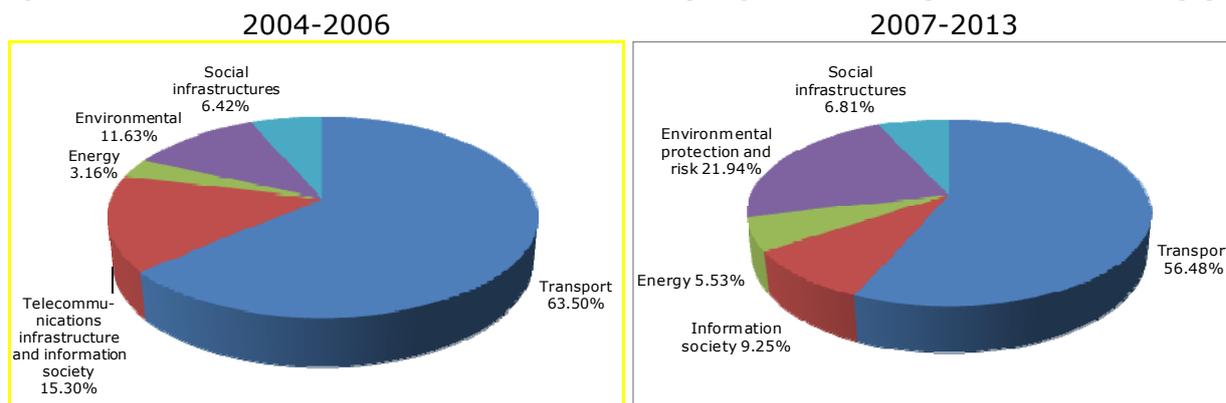
Sector	Funding in EUR million	Percentage share
Road	11 104.4	57.17%
Rail	4 863	25.04%
City transport	2 014	10.37%
Maritime	606.8	3.12%
Air	403.5	2.08%
Other	432	2.22%
Total	19 423.9	100%

Source: Operational Programme 'Infrastructure and Environment'

A comparison of the above-described priorities between the current programming period 2007-2013 and the previous programming period 2004-2006 shows the evolution of the role of SG(E)I in Poland. Transport is the top priority in both programming periods (see Figure 29).

²⁹⁶ Operational Programme 'Infrastructure and Environment' approved by the European Commission (Decision No. K(2007)6321 of 7 December 2007), Ministry of Regional Development of the Republic of Poland, Warsaw 2007.

Figure 29: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

20.2. National framework in the provision of SG(E)I

During the transition period (1990-present), the Polish Government has adopted a couple of general framework transport policies. The first policy documents were accepted by the Government in 1989, while the first formal plan for transport was developed in 1995. In 2000-2001, a new plan was adopted with the aim of joining the EU. It set out a perspective for 2001-2015. However, quickly changing priorities and eventual accession to the EU as well as new EU-level directives resulting from the adoption of the Lisbon Strategy necessitated an early review of the main policy directions. A new transport policy document was prepared under the title "National Transport Policy for 2006-2025"²⁹⁷.

The aims described in this document are supposed to fit into the future trends in transport and they include: reduction of negative environmental impacts of transport; faster and more reliable transport of higher quality; improvement of infrastructure in qualitative and quantitative terms; adoption of modern transport technologies and efficient organisational solutions.

Apart from the policy paper, there are a number of specific legal acts which lay down the legal framework specifically for the transport sector. Some of them concern a certain single aspect of transport or even activities of a single company. In regard to infrastructure investments, important are legal acts on public procurement and PPP.

In the general institutional set-up, the Ministry of Infrastructure bears the overall responsibility for the transport sector. But there are also a number of bodies under the Ministry to exercise powers in individual transport sectors. For example, responsibility for safety in road transport rests with the BRD (National Road Safety Council), while road transport cargo inspections are taken care of by the ITS (Inspection for Road Transport). A similar set-up of delegated responsibilities has been established for other modes, too.

All public roads in Poland are state-owned. Different types of roads are owned by different branches of government. Country-level roads (motorways, expressways, and designated major roads) are owned directly by the State. Other roads (voivodship-level and below) are owned by voivodships, gmina or powiat self-governments (these are all different-level administrative units in Poland). The organisation of the management function follows the ownership structure.

A formal organisation of infrastructure and operational management has been introduced in all branches of transport in Poland. The institutional set-up in regard to the management function in road transport leaves the major share of the road network to the administration

²⁹⁷ Polityka Transportowa Państwa na lata 2006-2025, Ministerstwo Infrastruktury, Warszawa 25 czerwca 2005.

of the Government through the Ministry of Infrastructure, which further delegates this task to the GDDKiA (General Directorate for Country Roads and Motorways). This body manages the network of country-level roads and also serves as an institutional investor of government-funded investments. The Directorate has multiple tasks and competences, such as the responsibility to conduct transport policy in the road sector, gather transport data (on the status of both infrastructure and traffic), control strategic functions of road infrastructure (e.g. for defence purposes), govern ADR transports, maintain contacts with foreign road administrations, cooperate with local self-governments, regulate traffic on country-level roads, coordinate investments, collect road charges, etc. The organisational set-up of the Directorate mirrors the territorial division of Poland, with a central unit in Warsaw and 16 voivodship units.

Other roads (outside the GDDKiA jurisdiction) are governed by local self-governments. For example, internal city roads fall under the competence of cities. Yet, the exact organisational form varies-the manager can have a legal status of a budgetary unit, a specially designated board, a municipal company, etc.

Special consideration should be given to toll motorways. The A4 motorway (the object of this case study) is supposed to be exclusively a toll motorway. Management and collection of tolls in certain sections of the motorway has been contracted to different companies. Other sections of the motorway are managed directly by the GDDKiA, and tolls collected are transferred to the National Road Fund (a fund established with the purpose of providing for national financial resources for infrastructure investments). The Sosnica-Kleszczow section is formally a toll section, but in practice, due to its role as a bypass of the city of Gliwice, the charge for this particular section is set at zero.

In the overall architecture of the transport services sector, there is a clear division of roles between the public and the private sectors. Firstly, it is believed that transport market should be open to free competition as the most efficient solution, but there are cases where public intervention (direct or in the form of regulation) is allowed. The rule of thumb here is that market intervention is acceptable if public interest is at stake. In other words, the Government has a right to step in if its intervention will result in better organisation of the provision of transport services. For example, during the recent construction of the A1 section Swierklany-Gorzyczki, the Government has revoked the concession won by one of the companies due to its poor performance.

Secondly, organisation of transport services on the regional level is a task of regions, the role of the central government being limited to co-funding this activity in the form of refunds or subsidies to local governments (mostly applied in the provision of passenger rail services) or by participation in equipment purchases or in infrastructure financing. Thirdly, any joint programmes and agreements between local self-governments and central authorities are welcome when it comes to co-financing infrastructure or equipment.

The task to finance transport infrastructure remains mainly a responsibility of the central government. Yet, there are situations when local authorities finance investments with their own resources (this is usually the case with those parts of infrastructure that are under the self-government's management, i.e. usually those located within the administrative boundaries of the city concerned), but otherwise the majority of key (or big) investments are financed from the central budget. Own financial resources of various branches of the government are supplemented by the EU Structural Funds and commercial loans. The official policy is to accept and welcome participation of private capital, but in practice there have been few cases of private capital involvement. Co-participation of private capital is achieved through the use of PPP schemes. For example, motorways have, to date, been constructed under both systems-PPP and traditional. However, there are currently no new plans for large PPP projects, as the ongoing schemes of that type have come out to be less than satisfactory. It is perceived that future investments like in peripheral road networks, bypasses, regional railways, safety improvements, will all be financed with public money

(including support from the SF). Evidence from all around the country clearly shows that only the most economically viable investments could be done under the PPP system, thus only strategically well-placed parts of motorways or bypasses qualify.

Investment plans in the road sector are set out in the Programme for Road Development for 2008-2012²⁹⁸ which describes all investments in which the Government is involved and gives a breakdown of allocations, including those from the Structural Funds under operational programmes. It also gives a list of all planned infrastructure investments and allocates funds for transport projects.

20.3. Project description

The main purpose of the governmental Programme of Construction of National Roads is the development of road infrastructure, complying with standards of the European Union.

The A4 motorway is the main axis joining Germany with Silesia, the industrial circle of southern Poland. This is one of the most important Polish roads and is a part of the Pan-European Corridor No. III running from the west to the east, from Dresden in Germany to Kiev in Ukraine. In Poland, it crosses the cities of Wrocław, Katowice, and Cracow. The objective of the project is to construct a new section of the A4 motorway between Kleszczów and Sośnica, bypassing the city of Gliwice. Under the project financed from ISPA, a two-lane motorway will be constructed (with a possibility of extension to 3 lanes without additional earth works) of the total length of 19.2 km.

This project, except for direct road lane works, includes the construction of bridge objects and facilities for the protection of the environment. The original modest investment plan has been later amended²⁹⁹. The amended plan provides for further investment in the construction of car parks along the Wrocław-Katowice section of the A4 motorway and in repairing the surface on interconnected national roads No 44 and No 88, as well as in elements of safety infrastructure. The final accepted version of the Project provides for several contracts.³⁰⁰ Under ISPA-financed contracts within the general contract for this section, the following investments have been made:

- construction of the road section Kleszczów-Sośnica-19.1 km (lanes and all related and necessary facilities);
- construction of 23 viaducts allowing for seamless junctions with the city internal transport system;
- construction of toll collection stations on both ends of the section A4 Kleszczow-Sosnica;
- construction of car parking lots in the specially designated areas for rest and passenger facilities, together with the repair of the surface on intersecting national roads No 44 and No 88. These investments were considered necessary for the motorway to function

²⁹⁸ Program budowy dróg krajowych na lata 2008-2012 adopted by the Government of the Republic of Poland on 17 October 2007.

²⁹⁹ For the provisions regarding the amended contract, see the Financial Memorandum between the Polish Government and the European Commission, Project No. 2000/PL/16/PT/001.

³⁰⁰ The main contract- ISPA 2000 / PL / 16 / P / PT / 001-01 Construction of road section Kleszczów-Sośnica. Supporting contracts- ISPA 2000 / PL / 16 / P / PT / 001-02 Management and supervision of construction of the highway A4, section Kleszczów-Sośnica; ISPA 2000 / PL / 16 / P / PT / 001-03 Building of car parking lots in the specially designated areas for rest and passenger facilities, together with the repair of the surface on intersecting national roads No 44 and No 88; ISPA 2000 / PL / 16 / P / PT / 001-04a Installation of traffic safety elements on the A4 highway (painting and reflective elements), ISPA 2000 / PL / 16 / P / PT / 001-04b Installation of traffic safety elements on the A4 highway (traffic monitoring stations, weather stations and elements of intelligent transport system).

as a bypass of the city as well as in order to ensure better accessibility to/from the city of Gliwice;

- installation of safety devices (painting and reflective elements);
- installation of other supporting devices (traffic monitoring stations, weather stations and elements of intelligent transport system);
- installation of environmental protection devices (noise screens and animal passes);
- installation of special devices: storm-protection installations - 21 km, road drainage - 19 km; installation works: gas pipe installation - 1 km, water-supply installation - 6 km, telecommunication lines - 17.2 km, lighting, drainage - 22 km.

Apart from physical objects, the investment covered management and supervision of the construction of the A4 highway, section Kleszczów-Sońnica. Prior to the construction, preparatory earthworks and obligatory excavations had been conducted-all under the motorway contract.

The economic benefits associated with the implementation of the Project will depend, to a large extent, on the intensity of traffic, construction costs and estimated time costs.³⁰¹

The connection of several regions is the main aim of the A4 motorway project. The transport needs are determined by activities of enterprises, cultural needs, social behaviours, needs of governmental and regional administrations, tourism activity within the Silesia region. In addition to purely transport-related aims, the investment is also aimed, as explicitly mentioned in investment documents, at:

- creating new jobs both during the construction and the operation phase;
- developing the regions of Upper and Lower Silesia;
- attracting investors and promoting investment in the vicinity of the A4 highway;
- improving safety on roads;
- reducing pollution of the natural environment.

The GDDKiA is the main institutional beneficiary of the Project. Additionally, the Project distinguishes between several other categories of users:

- individual users-passenger transportation;
- users of public passenger transport (on a commercial basis);
- users of commercial goods transport;
- users in transit from Germany to Ukraine;
- users in transit from western to eastern parts of Poland;
- inhabitants of the Silesia region.

The Gliwice area is home for over 200 thousand people, and the Silesia region has over 3 million potential users. Since the time of completion, the motorway section has been operating at an estimated throughput of 8-10 thousand passengers a day.

³⁰¹ These values were estimated by reference to the EU advised values (as researched in HEATCO project and further referenced to Polish conditions through research made by the Roads and Bridges Research Institute).

The main benefits of the Project for the target market as recognized so far are:

- increased transport affordability;
- increased mobility of local population;
- increased speed of movement;
- improved quality of services;
- job creation (300-500 new jobs);
- development of the regions of Upper and Lower Silesia (the Silesia region generates 14% of Poland's GDP);
- placement of new investments in the A4 highway (e.g. development of a special economic zone, a scientific-technological park, a centre for biotechnology);
- improved road safety;
- reduced level of pollution to the natural environment.

20.4. Specific aspects of SG(E)I affected by the project

Specific aspects/objectives of SG(E)I realised/enhanced with the Project

The Project contributed to the following specific aspects/ objectives:

- universal and continuous accessibility;
- territorial accessibility and regional cohesion;
- social affordability;
- efficiency and effectiveness;
- reliability, safety and security of supply;
- environment-friendliness thanks to reduced overall traffic pollution.

Main results of the Project (actual/expected)

- **Universal and continuous accessibility:** the extension of the A4 motorway, including inter-modal access and interconnections (e.g. the connection to the A1 motorway, connection with western/eastern and northern/southern parts of Poland, the beltway of Gliwice), is needed in order to facilitate continuous mobility and enhance, primarily, accessibility of the southern region of Poland. Currently, the toll-free section of the A4 motorway attracts additional users of transport, and the transit movement is expected to increase further. The Gliwice area is home to over 200 thousand people, and the Silesia region has over 3 million potential users. The estimated actual usage of the A4 motorway is 8-10 thousand passengers a day. In the coming spring and summer, a new survey will be conducted into the intensity of traffic there.
- **Territorial accessibility:** the project will help to improve the connection between the city and the Silesia region areas. The motorway is located near the city of Gliwice, near the Silesia region, and, in fact, will serve local population. There are a number of exits/entrance points, which means it could be used for local traffic-this will result in a higher impact of the motorway on the Silesia region and cities. This impact could be

particularly important in everyday life: trips for any kinds of formalities in offices, in medical rooms, schools, and also impact on tourism, consumption, better accessibility to cultural or sport events.

- **Social affordability:** for the time being, as the construction of the motorway has not yet been finished in full, it is hard to forecast the influence of the Project on the structural aspects and demographic trends in the society. But it could be said with a high degree of certainty that the Project will have a positive effect on the quality of living. The Project will contribute to the improvement of the quality of living through higher comfort of a trip, shorter time of a trip, and a reduced number of accidents (less injuries or deaths a year).
- **Efficiency and effectiveness:** the A4 motorway will radically improve the capacity and efficiency of the region's road network. The time of a trip to the centres of cities in the regions will be shorter and congestion will be reduced.
- **Reliability and long-term sustainability:** the motorway is perceived as a good of public use. The correct construction of the motorway, high quality materials and suitable technology used will guarantee a good quality and long lifetime of the motorway. The motorway will be upgraded to the technical standard of an A-class road (designation of the best quality of roads in Poland). The contract was concluded in accordance with the International Federation of Consulting Engineers (FIDIC) standard. A risk assessment and a feasibility study for the technical quality have been conducted. The construction materials used comply with the Polish technical norm which is stricter than EU regulation.
- **Safety and security of supply:** the Project will enhance safety on roads. Motorways in general have the lowest accident ratio in Poland. This will, in turn, contribute to the improvement of safety on the remaining roads in the region.
- **Environment-friendliness:** by diverting traffic from the existing transport systems that heavily harms the environment, the Project will reduce emissions of greenhouse gases and other air pollutants, but will also greatly reduce noise pollution.

The environmental impact assessment (EIA) of the Project gives information on the following elements which were included in the final technical design:

- acoustic screens to be placed in built-up areas in the vicinity of the inhabited strips of land near the motorway with a view to complying with national requirements concerning noise;
- passes for animals, including culverts and underpasses;
- devices to catch and remove water pollutants, to be situated between drain holes (with road drains) and equipped with outlet points (accompanying) to surface waters and soil. They include non-absorbents of oil, sand absorbents, and two kinds of joined ponds of compensatory/water storage containers-with water of the quality that can clean road sewers according to domestic norms;
- additional green zones, to reduce the scale of air pollution in residential areas.

Due to the planned diversion of up to 70% of road traffic from the existing national roads to the A4 motorway, the emission of NO_x nitric oxides on the new stretch of the motorway will certainly increase. But it will be more than balanced by reduction in pollutants' emissions on the old national roads due to traffic reduction (on which the current level of CO, CO₂ and NO_x emissions exceeds greatly the permissible norm).

Change in the approach to public service at regional and/or national level, stemming from the actual results of the Project

The expected success of the Project will increase-both in region of Silesia and cities of the Silesia region-the preference for road transport, as efficient design solutions will have been adopted. Road transport bears the highest external costs; therefore, further negative environmental impacts can be expected. However, one must remember that it is not, in fact, a choice between modes. Poland lacks motorways; therefore, regardless of investment in railways or other environment-friendly solutions, the motorway construction programme has to be completed anyway. The positive side of the Project is that it will certainly be utilized for urban and sub-urban connections, especially to link up, at sub-regional level, the main traffic flows and to meet the demand for commuting, thus reducing direct in-city congestion.

Changes in the use of the Structural Funds in the SG(E)I at regional and/or national level

In the future, the use of the Structural Funds in the transport sector, both at regional and national level, should be more concentrated on efficient and environment-friendly design solutions for urban and suburban transport, i.e. mainly railroad projects.

20.5. Governance aspects

The application was prepared by the Office of the Committee for European Integration (National ISPA Coordinator). The institution responsible for the implementation of the Project was the Ministry of Transport and Maritime Transport-now renamed as the Ministry of Infrastructure.

The Marshall Office of the Silesia Voivodship was responsible for governing the investment (supervision and control), while operational issues (investment management) were in the hands of the GDDKiA. This particular investment differed from a regular investment in the construction of a motorway section because it concerned not only the A4 section, but also a bypass through the Gliwice city. Therefore, the city was also involved in the planning stage in supportive role (consultancy, right to modify the Project to better serve the needs of the local transport network). The actual construction work was contracted to an external consortium of construction companies, selected by way of tender on the basis of the lowest price / highest quality ratio. On behalf of the Government, agreements with contractors were signed by the GDDKiA.

The main stakeholders involved in the Project were:

- the Polish Ministry of Regional Development, responsible for setting the main aims and directions for economic development of Polish regions, co-operating with regions with a view to enhancing their competitiveness, initiating, together with the Ministry of Infrastructure, projects co-funded by the EU;
- the Polish Ministry of Infrastructure, responsible for setting objectives and directions for the development of the transport policy. The Ministry of Infrastructure represents and acts on behalf of the Government of the Republic of Poland in all matters related to transport investments;
- the GDDKiA, the General Directorate for National Roads and Motorways-a governmental institution responsible for commissioning infrastructure investment projects (e.g. the A4 motorway). The GDDKiA acts on behalf of the Ministry of Infrastructure. The GDDKiA is also the manager of state-owned transport infrastructure (with the exception of infrastructure which has been municipalized);

- the Marshall Offices in Katowice and in Wrocław, responsible in the region for setting the legal and organisational framework of investment and for providing information to the public. They also propose development strategies for their regions to ministries, initiate and control the fulfilment of the principles governing the utilization of the European funds for the regions;
- cities and population of Kleszczów, Sośnica, Wrocław, and Katowice. In fact, Kleszczów and Sośnica are parts of the city of Gliwice. The cities have a role in determining infrastructure priorities, in the process of the initiation of developmental plans connected with their settlement function, internal city transport and spatial planning;
- the enterprises conducting investment, e.g. MSF-Moniz da Maia, Serra & Fortunato SA, Teodoro Gomes Alho & Fihos, LDA, WS Atkins-Poland, Grawil, Trax Elektronic;
- enterprises managing and supervising the construction of the motorway, e.g. DHV Consultants;
- the enterprise which has prepared the environmental impact assessment report, together with the Ministry of Environment which countersigned the report;
- the local community, though indirectly: people expressing support for the Project (or objecting to it), people employed for the Project or by other enterprises located near the project implementation site, people involved in activities at the operation phase (e.g. toll collectors).

Persons interested in the development of the region take part in the Project formally. Except for local entities, authorities representing the Government are the same institutions that are responsible for the development of transport in Poland; therefore, "country impact" is always taken into consideration. As to the relations between national and non-national institutions involved, they are governed by the EU law and the Polish national law, with a more detailed regulation set out in a special document signed on 22 September 2000. This document was the financial memorandum regarding acknowledgement of the European funds within the ISPA on the undertaking under the name "The construction of the section KA-4E highway A4 Kleszczów–Sośnica from the km 296 + 600 to km 315 + 700 (Project No. 2000/PL/16/PT/001)".

20.6. Universality of access and affordability

Universality of access

The Project promotes access to all citizens, without any form of limitation. The A4 highway on the section Kleszczów-Sośnica facilitates access to the centre of the Gliwice city, the Silesia region, and the Upper Silesia Metropolitan Area. Along the motorway within this Project, many supportive investments have been made-notably car parking lots and facilities for travellers (rest areas, petrol stations, etc.).

Affordability

The A4 motorway is designed as a fully toll motorway. Payment for the use of the section Cracow-Katowice is PLN 16 (c.a. EUR 4 depending on the exchange rate). Tolls are collected by the operator Stalexport on toll gates at Katowice and in Cracow. The section Kleszczów-Sośnica is, however, a special case-it is toll-exempt (as of February 2010). This solution was dictated by the need to improve internal city mobility as this particular section is a bypass of Gliwice. The adoption of this solution has necessitated changes in the original plan for the location of toll gates. There were also social reasons behind this solution-a free ride on the section Kleszczów-Sośnica is on the promotional package encouraging users to avoid crossing the city centre and being exposed to congestion, and is perceived as a tool

to move transit traffic out of Gliwice, which should reduce noise and environmental damage.

It will be possible to assess the benefit of the above solution only after (or if) the operator for the section is selected. This will not happen before the construction of the A4 motorway is completed from the western to eastern border. For the time being, further status of this section is not clear. Although the motorway section concerned is exempt from charges, it is still an integral part of the A4 motorway, which is generally a toll motorway, and the toll-charging system on other sections will anyway have an impact on users starting their journey from outside the exempt section.

The current toll-collection policy on the A4 motorway (section Cracow-Katowice-61km) is as follows::

- EUR 2 at each toll gate for Class 1 vehicles, i.e. motorbikes and two-axle cars;
- EUR 3.50 at each toll gate for Class 2 vehicles, with a discount, i.e.;
- two-axle vehicles, with at least one axle equipped with twin wheels, two-axle vehicles with trailers;
- three-axle vehicles and two-axle vehicles, with at least one axle equipped with twin wheels and vehicles with trailers;

Toll for Class 2 vehicles without discount is EUR 6 at each toll gate.

The above tolls are collected on every entrance/exit gate in Mysłowice-Brzęczkowice and in Balice, and they make up half of the total cost of a ride along the whole section A4 Katowice-Cracow. Vehicles which are part of the road payment (vignette) system are exempt from all tolls, because otherwise it would be double payment as ruled by the Supreme Court of Justice. The resulting loss for the operator of the motorway is compensated from the state budget. The fees are regulated by the Law on Paid Motorways and National Road Fund³⁰².

The form of payment accepted at toll gates is cash or electronic means³⁰³. Also, special discounts are applied for frequent users of the motorway, who can buy discount tickets at two rates.

At RATE 1, they purchase a block of 50 tickets. If they purchase 1-3 blocks, the price per block is EUR 95, if they purchase more than 4 block at a time, the price will be EUR 90.

At RATE 2, tickets are offered for Category 2 and Category 3 vehicles (as defined by the Ministry of Infrastructure³⁰⁴). The price is flat and is set at EUR 25 for a block of 25 tickets.

20.7. Thematic focus

Geographic remoteness is addressed to some degree by this Project. First of all, the Project is located in urban area and has therefore an impact on travel behaviours of local population. Secondly, it provides for better external accessibility of the city of Gliwice and beyond-the whole Upper Silesia Metropolitan Area. Improved directness of transport allows for easier access to market and facilitates industry placement. This particular section plays an important role in the overall Polish road network, as it is a part of the direct route east-west and, due to its proximity to the Sosnica junction, is a node collecting traffic from the

³⁰² Law on Paid Motorways and National Road Fund (22.05.2009) Dz.U. No. 86, 8.06.2006.

³⁰³ Payment options are as follows: payment in cash in one of the following currencies: PLN, EUR, USD; bank cards: VISA, MasterCard, Maestro (on specially designated gates); the card of the road payment (vignette).

³⁰⁴ Law on the Ministry of Infrastructure, 21.04.2004, Dz.U. No. 89

north-south axis. The most important contribution of the section to the overall transport network is the extension of a seamless travel option.

Geographical remoteness of Silesia is an issue when it comes to long distance travelling. Locally Silesia is well interconnected with nearby regions of Lower Silesia and Little Poland. However, as regards connection with other regions of Poland (peripheral and semi-peripheral alike, especially of Northern Poland), there are no seamless travel options using the road mode and the overall road trip takes long (often over 12 hours travel to Gdansk, if the traffic is heavy). Furthermore, talking about connection to other European regions and to the core region of the EU (the so-called Rhine triangle), the Kleszczow-Sosnica section has been a missing element in the European TEN-T network. Therefore, the construction of this section bridges the infrastructure gap and makes accessibility of Silesia from the West (and North through an intersection with A1) much easier.

An average annual daily traffic (AADT) indicator now stands at 28.7 thousand vehicles on the A4 section between Krakow and Katowice. This is a significant increase compared to the time when the first fragment of A4 was opened in 2000 (AADT of c.a. 20 thousand). Still, this is far from full capacity. After the motorway is fully completed, the traffic will increase. What is important is the potential of opportunities this motorway creates. Firstly, it facilitates movement of goods between two major regions in Poland (Silesia and Little Poland). Secondly, it has a positive impact on tourism. For example, Krakow has long been a tourist destination due to its unique architecture, but the condition of roads has reduced its attractiveness to foreign tourists. In fact, the majority of foreign visitors come to this area by air, resulting in a big share of Britons and surprisingly low attendance by tourists from the neighbouring Germany or the Czech Republic. The development of the A4 motorway is expected to change this pattern, as a direct access to both regions will be provided, and the geography of visitors is expected to cover the whole Southern Germany, the Czech Republic and even Northern Italy.

Another important factor reducing the geographic remoteness of the region is the possibility to save time owing to an uninterrupted flow of traffic due to the completion of the Sosnica-Kleszczow section-the last part of the motorway between Wroclaw-Katowice-Krakow. A trip from Wroclaw to Krakow (c.a. 250 km) should take approximately 110-120 minutes. Freight transport elasticity that is offered by road transport adds to the economic development of the region and, with the completion of the A4 eastern arm, it will facilitate stronger economic ties with Ukraine. On the European scale, the same will apply to EU forwarders who currently avoid transiting Poland.

Cross-border cooperation could be impacted indirectly by the Project. Firstly, it is a part of the east-west Pan-European Corridor III. Its construction facilitates a flow of goods between Germany, Poland, and Ukraine. Domestically, it will have an impact on the movement of both goods and people between upper and lower Silesia, but will also allow for easy access to many tourist destinations along the motorway (to name just a few: Krakow, Wieliczka, Wroclaw) for all population of Southern Poland and, combined with A1, of Northern Poland, too. This is possible thanks to the Sosnica junction at which A4 and A1 intersect, and this provides interconnection with the north-south axis (the A1 motorway). Thus, whole area gains easy access to mountain resorts and the seaboard of the northern part of Poland. From a commercial point of view, the direct motorway connection to Baltic ports of Gdansk and Gdynia cannot be disregarded (for the moment, however, it is still only a potentiality, as the A1 motorway has not been fully constructed). Accordingly to contractual arrangements between the Ministry of Infrastructure and construction companies, most of A1 should be ready by the end of 2012. There have been, however, some delays, and concessions for certain sections have been cancelled due to the failure to observe deadlines on the part of construction companies. For these reasons, it is likely that some parts of A1 will only be finished in 2013 or even 2014. The overall impact of A1 on the Sosnica-Kleszczow section and A4 in general is that freight carriage to/from Polish ports

will suffer unless A1 is fully operational. This, in turn, will have an impact on cohesion policy objectives of the EU level, as the important links between Scandinavia/Baltic States and Southern Europe will not be used at full potential. The overall situation is best illustrated in the map (see Figure 30).

Figure 30: Motorways and expressways in Poland



Notes: Black indicates completed sections, orange-under construction, green-currently under tender procedure, yellow-tenders are to be held by the end of 2010, white-future plans.

Source: GDDKiA

20.8. Contribution to cohesion policy objectives

The Project's geographical area is one of the most densely populated areas in Poland. The city of Gliwice is a part of the Upper Silesia Metropolitan Area. The Silesia (pol. Slaskie) voivodship has a population of c.a. 4.83 million. The investment location borders the Opolskie voivodship with a population of 1.04 million. Lower Silesia (pol. Dolnoslaskie) which also benefits strongly from the A4 motorway is home to 2.89 million people. In the east, the Silesia voivodship borders the Little Poland voivodship (pol. Malopolskie) with a population of about 3.28 million. Out of the four voivodships, the Silesia voivodship is the smallest in terms of territory and its urbanisation level is very high. All of the four voivodships benefit directly from this particular investment.

Being a part of the A4 motorway which is the main axis connecting Germany with Poland's southern industrial region and extending further to the Ukrainian border, the Sosnica-Kleszczow section is a vital international route. It's importance is further enhanced by the fact that it is also a part of the Third Pan-European Corridor. The investment targets the A4 section between the Silesian agglomeration (built around Katowice, so-called Upper Silesia Metropolitan Area) and Wrocław. This particular section also additionally functions as a bypass of Gliwice (city in the Silesian agglomeration).

Once road infrastructure is strengthened, the Silesia region will certainly attract investment. Silesia is a traditional centre of heavy industry (with important coal mines), but is struggling since the beginning of economic transformation to attract new enterprises. Its

efforts have, to some extent, been successful: car production, biotechnology and IT sectors invested in the area (notably Gliwice is a seat of the automotive industry-with GM factories). One should also remember that the Sosnica-Kleszczow section is, in fact, a big junction on which A1 and A4 interconnect, with a A8 planned nearby in the future, thus the impact area of the infrastructure is huge.

This particular investment has a significant impact on cohesion because it concerns the construction of the last missing section of the motorway between Wroclaw and Krakow, allowing for an uninterrupted trip of 290 km. Time savings due to the motorway section construction are significant. The Category A road standard (and the 115kN technical standard for bitumen pavement) as well as the possibility to lay an additional third lane turns this section into an object with an extended lifetime and usefulness. Possible future upgrades were taken into account at the time of construction.

This investment meets cohesion objectives on three levels: local (as a part of the Gliwice internal city network), national, and international. In the Polish national perspective, the road has a twofold functionality: it is a part of the Gliwice city road system and a part of the country's long-distance transport infrastructure. As regard the first function, it has to be mentioned that the construction of the section was accompanied by the construction of 23 parking lots along the motorway serving predominantly local population. As a supportive action, roads No 44 and No 88 were reconstructed, which has also improved the city transport system. The section plays an important role in enhancing local mobility, as it has three junctions: Ostropa, Bojkow and Sosnica, and 23 viaducts facilitating access to/from the city. Because the A4 was designed as a toll motorway, special solutions were proposed for this section because it also serves as a bypass of the city. For all trips between Sosnica and Kleszczow, vehicles are exempt from the toll, thus local mobility is ensured.

As a side note, it must be said that because the section is located within a highly urbanised area, a problem of negative environmental impacts has emerged. It has been solved by installing a number of noise screens and creating green strips along the motorway, and by imposing a special rate for polluting cars. A recent study concerning noise has confirmed that noise levels are within legislative limits.³⁰⁵

The national dimension allows for better accessibility to Krakow and Lower Silesia, while the pan-national role is fulfilled in the provision of links with the EU-wide transport system (the road is a part of TEN-T), especially with Germany. Extension of the A4 into the eastern part of Poland will finally connect this system to Ukraine. In the last capacity, it forms a part of the European "core network", being one of the transnational axes identified in TEN-T. The section could also be said to have an international dimension, by being part of the historical "Via Regia" connection between Paris and Kiev with its overriding economic, cultural, political and military importance.

The SF in the development of road infrastructure play (in the case of Poland) a crucial role in the provision of SG(E)I. Although road infrastructure is not prioritised under the Lisbon agenda, it has to be considered a primary objective in the transport sector in the case of new Member States. The question of replacing road transport with other, more environment-friendly modes could be only be discussed once the road network is fully developed. This is not the case of new Member States in general and Poland in particular. Therefore, the national policy gives equal, if not higher, priority to the construction of motorways as to the modernisation of railways. Road infrastructure in Poland is considered a means to provide better accessibility, facilitate economic growth, and increase mobility. It allows for the implementation of equity principles. In general, transport infrastructure itself (and motorways in particular) is considered to be SG(E)I, but it is also treated as a crucial element necessary for the provision of other types of SG(E)I. On the second thought, at the

³⁰⁵ Letter from the Ministry of Infrastructure to the GDDKiA on "Ex-post control of project FS 2000/PL/16/P/PT/001 "Budowa autostrady A4 , odcinek Kleszczow-Sosnica".

beginning of economic transformation there were barely any motorways in the country. Financial needs are so huge in this area that without the EU support it would be too much of a strain for the national budget to provide sufficient financing, thus the EU funds are therefore regarded as the single and the most influential factor in improving the level of provision of SG(E)I's in Poland. Use of the SF also has several additional positive impacts:

- investments have to be done in a structured way as demanded by the EU law. This has a positive impact on the Polish local-government accounting systems and transparency;
- projects must be co-financed with national financial resources. For this reason, Polish municipalities as well as government agencies were very active in raising capital;
- enhanced professionalism of local self-governments and central government branches, due to many formal demands on them resulting from the employment of the SF;
- better management skills and skills to apply formal procedures in every-day decision-making, acquired through participation in large-scale infrastructural projects;
- creation of new jobs during the construction of the motorway and later in the operation of the motorway.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Artur Mrugasiewicz, Information officer on the infrastructure investments, General Directorate for Roads and Motorways (GDDKiA).
- Marek Jarzębowski, Information officer on the project on the part of City of Gliwice.

21. Portugal. Socorridos Hydro Power Station

Authors: Andrès Faiña
Jesús Lopez Rodriguez
Jean Monnet Group on Competition and
Development, University of Coruña

21.0. Background information

a) Country	Portugal
b) Region	Autonomous Region of Madeira
c) Full Project Title	Optimisation of the Socorridos hydro power station for the permanent annual public water supply provision, water for irrigation and the production of electricity
d) Duration	19.05.2004-31.12.2007
e) Programme	Regional Operational Programme Objective 1 2000-2006
f) Total Cost	EUR 34 674 578.60
g) EU Contribution	ERDF 50%
h) National Contribution	50%
i) Private Contribution	0
j) Sector	Energy
k) Sub-Sector	Renewable resources
l) Beneficiary	EEM-Empresa de Electricidade da Madeira, SA
m) Implementing body	EEM-Empresa de Electricidade da Madeira, SA

21.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

In 2007 Portugal introduced substantial reform to the application of cohesion policy funding which contrasted sharply with the previous programming periods. Two of the major changes impacted significantly on SG(E)I: i) The concentration of the funding supply and ii) the objectives of the funding allocation. The former principle led to the curtailment of a 20 year period of vertical, sector-oriented operational programmes (OPs) In order to introduce a smaller number of, horizontal, multi-sectorial OPs. During the 2000-2006 programming cycle, there was one sectorial OP for transport, one for information society, one for environment, one for public health, one for employment and social care, along with seven other sectorial OPs. For various reasons, the Government found this fragmented arrangement a serious handicap to a regional policy that was effective at enhancing of competitiveness. Now, the investment projects in these sectors may be eligible for Structural Funds and Cohesion Fund support under one of the three thematic OPs ("human potential", "competitiveness factors" and "territorial enhancement"). These programmes are transversal and multisectorial in purpose and their funds are not earmarked for specific sectors in advance. Grants are allocated , much more on a competitive basis than they were in the past. With respect to the selectiveness of grant allocations, in contrast to previous programming periods, funding is allocated following an application contest or tender. Typically, each type of investment has two or three tenders per year. In the past, applications were considered on a first-come-first-served basis. In contrast to previous policy there is now an effective tool for assessing demand according to both absolute and relative merits. Moreover, some sources of investment are no longer eligible because, following principle i), the national endowment of EU funding must now be allocated to a narrower range of interventions.

The autonomous regions, Madeira and Azores, have their own Operational Programs (One ERDF and one ESF program each). Madeira and Azores ERDF and ESF programs are tailored to fit in with the overall strategy within the National Strategic Reference Framework (NSRF). However, structural fund expenditure on the three thematic OPs only applies to mainland Portugal and does not cover the autonomous territories of Madeira and the Azores (the only exception lies with the Cohesion Fund which, in joint of Madeira and the Azores, comes under the umbrella of the Territorial Enhancement, thematic OP).

Both Structural Funds and the Cohesion Funds still provide financing for the SG(E)I but the way in which this is administered has changed. The Firms and agencies belonging to these sectors may apply for funding if and when their investment or action projects are consistent with the selection rules. These criteria are no longer set on a sectoral basis; rather they are defined according to the economic purpose of the project. For example, if the applicant is a firm, it can apply, practically regardless of the sector in which it is active, just as long as the project contributes to the objectives of one of the three horizontal incentive systems: R&D, Innovation or Internationalization and the Qualification of SMEs. Given the concentration principle, there are specific activities undertaken by the SG(E)I agents which fall outside the NSRF fence. For example: all road network investment with the exceptions of certain urban roads and one motorway section, electrical production (despite the strength of the political commitment of the Portuguese government to renewable energies, they are not eligible for NSRF funding, except in the case of very small-scale initiatives, when there are demonstrable savings to be made such as energy efficiency in housing) and, major hospitals. There is still substantial funding for investment in water supplies sewerage and rail networks.

With respect to energy, the NSRF focuses on solving the problems of intensive usage of traditional energy sources. The main goals are promoting sustainability and renewable energies. The key initiatives are in the fields of 1) investments in energy networks (TEN-E, and improvement and completion of electricity and gas networks) in the eligible regions, 2) Promotion, development and use of renewable and alternative energies (especially wind, solar, biomass, micro-hydropower and geothermic based energies) and 3) improvements in the energy efficiency of buildings. However, it is worth pointing out that the largest increase in alternative and renewable energies, principally in wind based energy, took place outside the NSRF by cross-subsidizing the payments for these energies with the so called special regime (SR).

As far as energy and electricity are concerned, it is interesting to underline the apparent paradox of having no European Regional Development Fund (ERDF) or Cohesion Fund (CF) money to invest in electricity using alternative sources of power generation, and yet the country has clearly staked its future on the success of renewable energy sources. This is because the Portuguese Government felt that there were more suitable means of stimulating the environmental sustainability of its economy. First, the scale of investment that is needed is beyond the scope of the 2007-2013 NSRF endowment. The Madeira economy would have to divert funding from many other productive sources since investment in sustainable energy is generally capital-intensive and, to do so would leach some of the net social returns from the economy. Second, these sectors almost always provide an impulse to private sector interests regardless of public funding because they offer sound, long-term returns. Third, the possible external (social) benefits from private activity in this sector may be reason enough to justify alternative public interventions, such as:

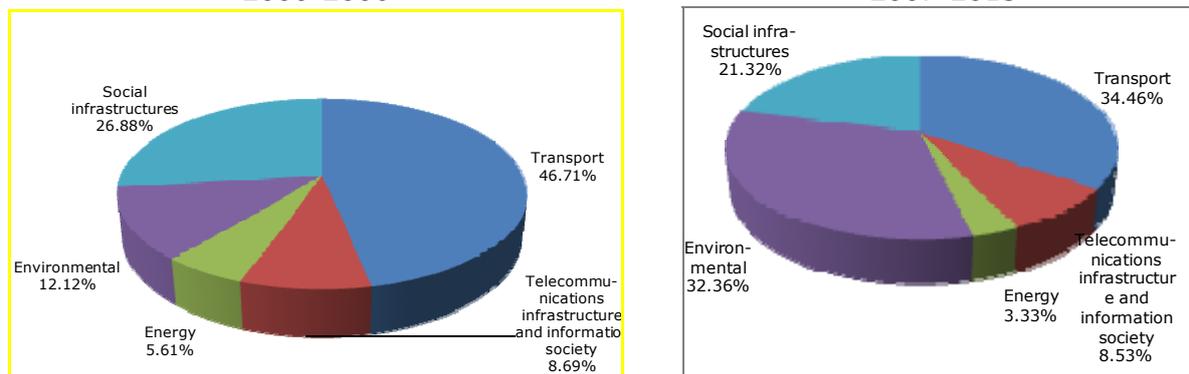
- the creation of market opportunities for renewable energy providers (by enforcing energy efficiency standards in buildings, promoting gas (combined cycles) energy plants or by auctioning new dam concessions to electricity producers);
- the use of subsidies and initiatives in order to regulate different kinds of demand for energy:
 - Bonuses being paid to the users of technologies which are still not fully mature (This strategy is currently being carried out with the help of money from Portuguese consumers rather than from Structural Funds);
 - The purchase of micro-generation power plants (for residential buildings, farming facilities, etc.), energy efficiency improvements by firms and households (through

income tax deductions; in Portugal, the NSRF allows funding for energy efficiency equipment in social housing provided the target buildings constitute part of a major urban renewal project).

With respect to telecommunications, it is worth noting that important efforts have been made by operators to cover the needs of low density territories. With the support of both the NSRF and the Rural Development Programme, almost half of the national territory is being supplied with optical fibre technology in preparation for the latest internet content. The other half of the territory is being supplied by the private sector. In remote areas, the market failures that occur due to ageing populations and the scarcity of resources are being overcome thanks to the stimulus of ERDF and EARDF.

Figure 31 shows the share of ERDF programmed expenditure in SG(E)I for different sectors in Portugal in the 2000-2006 and 2007-2013 programming periods. What stands out most are the changes in the ranking of priorities across sectors: Environmental protection and risk moves into second place and receives almost the same amount of programmed expenditure as Transport which maintains its position as the main priority in SG(E)I infrastructure expenditure in the current programming period but with a substantial reduction in its relative weight with respect to the 2000-2006 programming period. The share of the amount of programmed expenditure in infrastructures in the energy sector remains at the bottom of the ranking of priorities in both programming periods. However, in accordance with the strategic guide-lines laid down by the current NSRF, its share in SG(E)I programmed expenditure falls by almost half.

Figure 31: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

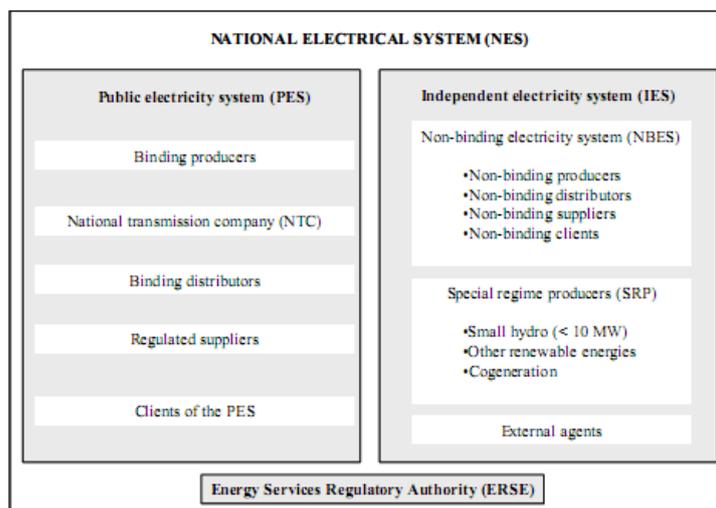
21.2. National framework in the provision of SG(E)I

In Portugal, the SG(E)I sectors, such as electricity, air and rail transport, roads, ports, and telecommunications were, for many years, run by public firms with a de facto monopoly. This was felt to be necessary given the need for large scale investments and because of the basic economic services they provide. After Portugal joined the European Union, these firms became quoted companies but were still fully owned by public entities. Finally during a third stage of change, the vast majority of these companies were privatised and their activities supervised by a regulatory body.

The organisation of the Portuguese electricity sector was defined by Decree-Law 182/95 to 187/95 and changed by Decree-Laws 56/97 and 198/2000. More recently, Decree-Laws 184/2003 and 185/2003 initiated a revision process of the National Electricity System (NES). These changes aim to make the Portuguese system compatible with the new Iberian electricity market (MIBEL).

The model is based on the existence of two sub-systems: the public electricity system (PES) and the independent electricity system (IES). Figure 32 represents the general structure of the Portuguese Electricity System.

Figure 32: National Electricity System in 2004



Source: ERSE web page, EDP, 2003 and 2005

The PES is obliged to ensure the supply of electricity to the mainland as part of a public service system. The whole of this service includes production activity, and the transportation and distribution networks. The producers are contractually bound to the National Transmission Company (NTC) by the terms of a long term exclusivity contract (PPA- Power Purchase Arrangement) and are obliged to supply only the PES.

The non-binding electricity system (NBES) and the special regime producers (SRP) form the IES. The NBES is organised as a non-regulated market system with free access to the production and medium voltage (MV) and High voltage (HV) distribution activities. It includes those producers, distributors, suppliers and clients which are not bound by long term contractual agreements.

The non-bound producers and clients may use the PES transmission and distribution grids on payment of a regulated tariff. The external agents are companies which are legally established in other EU countries and are entitled to buy or sell electricity. These agents, along with suppliers, may perform cross border commercial transactions using the interconnections of the transmission grid.

According to the European Union (EU) Directive 2003/54/EC, the member states had to make sure that all consumers were free to purchase electricity from the supplier of their choice (eligible consumers) after July 2007. Portuguese legislation is ahead of schedule. In fact, with the publication in August of Decree-law 192/2004, small electricity consumers also became eligible to do likewise. By law, all consumers on mainland Portugal may now have access to the NBES, meaning that they may choose their supplier and negotiate the terms of their agreement.

ERSE-Entidade Reguladora dos Serviços Energéticos, was created in 1997 with the aim of regulating the Portuguese energy and natural gas markets. One the main roles of this body is the regulation of the PES and its relationship with the NBES. Some of the generic areas of responsibility of the ERSE include setting tariffs, namely the electricity prices for final Low Voltage (LV) consumers, setting the prices for the services of the NTC Company and the bound distribution companies and issuing codes for commercial relations and grid access.

The liberalisation of the electricity market in Portugal followed a process which was similar to that which took place in most other countries in Europe. The process began by allowing the entry of independent power producers with long-term contracts. The creation of an active wholesale market and the opening of retailing to competition came at a later stage.

In 1991, Decree-Law 99/91 established the existence of the Public Electricity System along with the licensing system, thus preparing the way for full competition within the power generation sector. In 1995, Decree-Laws 182/95 to 187/95 reassessed Decree-Law 99/91, defining the bases of the Public and of the Independent Electricity Systems. The gradual opening up of the retail market followed, facilitated in 1995 and 2004 by Decree-Laws 182/95 and 192/2004.

As for the wholesale market, this has been prepared jointly with Spain. In January 2004, the Portuguese and Spanish governments signed an agreement to develop a common Iberian power market (MIBEL), approved by the Resolution of the Assembly of the Republic 33-A/2004. MIBEL is already up and running. Generally speaking, MIBEL works effectively most of the time. However, the capacity constraints in the interconnections between Spanish and Portuguese grids give rise to certain periods where wholesale prices can differ between the two countries.

In 2003, Decree-Laws 184/2003 and 185/2003 established the dispositions for the supply, and for import and export activities in the free Iberian market. Electricity is traded by means of bi-lateral contracts or on a specifically organised market. This effectively means that the PPA (Power Purchase Arrangement) will gradually tend to disappear. However, the anticipated curtailment of these contracts meant that the companies involved were entitled to receive economic compensation. Decree-Law 240/2004, published in December 2004, stipulates the maximum compensation values for the PES power plants.

In accordance with EU Directives in the electricity sector, the main Portuguese Operator, EDP (Electricidade de Portugal) was split up into three different companies, EDP-Gestão da Produção de Energia, S.A. (EDP Produção), EDP Comercial-Comercializacao de Energia, S.A. and EDP Distribuição which was appointed as the main supplier and the supplier of last resort.

The NTC (National Transmission Company) maintains the concession in order to be able to operate the transmission network exclusively held public service system. Rede Eléctrica Nacional, SA (REN) is presently the company responsible for the distribution of electricity in Portugal. The regulated suppliers are obliged to supply all the PES clients. Decree-Law 185/2003 appointed EDP Distribuição (Electricidade de Portugal Distribuição) as the regulated supplier and the supplier of last resort.

The liberalization of the electricity market in Portugal has meant that new firms have entered the power generation market. Policy support for renewable energies under the SRP has given rise to an increase in wind-based electricity generation, placing Spain and Portugal at the forefront of wind based energy. The issue of licences for gas-based power plants (Combined cycles) has also paved the way for a number of new competitors in the Portuguese electricity sector, including, TejoEnergia -a subsidiary of Endesa-, Galp Energia and Iberdrola. This process has led to important changes in the configuration of the energy industry in Portugal which, at this time (2010) obtains around 57% of its power generation in a liberalized market.

The combined effect of increased generation capacity and a shrinking consumer market, due to the economic recession, has been a source of difficulty for the Spanish-Portuguese wholesale electricity market (MIBEL). On various occasions, electricity wholesale prices have dipped to zero at certain hourly intervals on the spot market.

The above comments hold for the Portuguese mainland. The islands and overseas territories, (principally the Azores and Madeira Islands) are somewhat different, in that they are autonomous regions which have their own powers. In the case of Madeira, there is an incumbent electricity company, EEM (Empresa Electrica de Madeira). EEM is a state owned

company responsible for the production, transmission, distribution and sale of electricity according to the decree law nº12/74. In June of 1994, it became a Public Limited Company, fully owned by the Regional Government of Madeira. It continues to be a fully integrated company undertaking the production, transmission, distribution and sale of electricity in both islands of the Madeira archipelago. EEM enjoys a monopoly on all activities except production. The electrical company is responsible for managing, operating and monitoring the system under the supervision of the local authorities.

The regulation of the electricity market in Madeira began only in 1998. Until 1997, EEM activities were smoothly regulated by mainland entities, and the EEM was free to establish the energy tariffs for Madeira clients, without interference from the mainland Government. The Regional Government of Madeira was the only body responsible for setting electricity tariffs. The Regional Government of Madeira has made a huge effort in supporting the company in its quest to carry out its investment plan.

In 1998, the activities of the EEM began to be regulated under the supervision of a mainland entity, the DGE-Direcção Geral de Energia. The EEM was overseen by the DGE between 1998-2002. During this period, and in accordance with these regulations, the EEM started to decrease the price of energy in order to bring it in line with mainland energy prices. The main characteristics of the DGE supervision were the following: 1) The EEM had to reduce energy charges for its customers; 2) Madeira was made a benchmark of EEM performance for other comparable mainland regions; and 3) Annual production subsidies were awarded to the EEM in compensation for the consequent fall in energy revenues. The subsidies were paid directly from the Central Government Budget for the same years in which they were awarded. A model was set up in order to calculate the annual subsidies owed to the EEM. The DGE was responsible for the calculation of the exact amount payable to the EEM and for auditing the model itself.

For the first triennium of DGE regulation (1998-2000), the EEM had significantly reduced the energy tariffs, and in 2001/2002, the rhythm of the decrease in EEM energy prices slowed down.

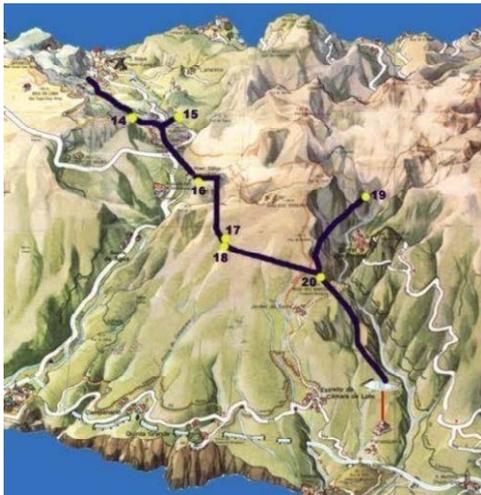
In 2002, decree law nº 69/2002 defined the extent and range of ERSE regulation with respect to Madeira and the Azores. The first EEM three-yearly period supervised by Erse was between 2003 and 2005 and the current one spans the years 2009-2011. The EEM needs to report to the ERSE every year with separate information for Production, Transport and Distribution and Commercialisation. After receiving the report, the ERSE analyses the information and publishes the EEM tariffs for the following year which are the same as the mainland tariffs.

21.3. Project description

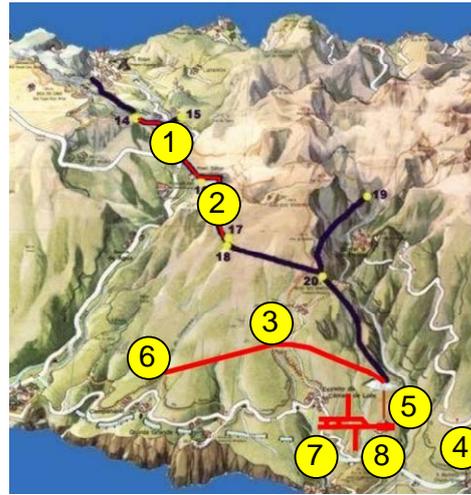
This project is based on the optimisation of the Socorridos Hydroelectric Power Station which has been in use since 1995. It is the largest and most important hydraulic system for public water supply, irrigation and hydro-electric energy in Madeira. The system is equipped with three groups of 8 MW generators and provides a maximum output of 24 MW. There are a number of tunnels that come to a length of 15.5 Km altogether and these are in the form of a combination of underground and open air canals which are connected to a hydroelectric power station.

The socorridos project has two objectives: the production of energy and the public supply of water and irrigation. The project has a hydro power pumping station which enables it to produce electricity all year around. It also has a storage device to redistribute power between peak and off-peak periods. Water is pumped back to reservoirs during off-peak periods so that it can be reused for electricity production during high demand periods. By reusing the water, hydro power electricity production can be ensured all year around.

BEFORE PROJECT



AFTER PROJECT



The main goals of the energy plant are: 1) to guarantee that 24 MW of maximum power and 44 MWh of power are available daily, 2) to reduce energy losses estimated to be in the region of 2.54 GWh per year, 3) to harvest an estimated 12 MW of wind power, and 4) to improve the management of hydroelectric resources.

The main goals with respect to water supply and irrigation are: 1) to increase the reliability of the water supply system to the cities of Funchal (Sta. Quitéria Water Treatment plant) and of Câmara de Lobos (Covão Water Treatment plant), 2) to deliver 65% of the irrigation water to the distribution infrastructure of Covão and Campanário, and 3) to minimize the estimated losses by about 1 300 m³/day in the Southern stretch of the Canal do Norte between the Serra de Água Power Station and Campanário.

The project consists of 4 main parts: 1) The Construction of the Covão tunnel, 2) The Construction of the Socorridos storage gallery/reservoir, 3) The Renovation of the Encumeada and Canal do Norte tunnels, and 4) A pumping station at Socorridos. The Covão tunnel is 5 243 meters long and 3 meters in diameter. It connects Covão and Campanário. The tunnel has a capacity of 32 500 m³ of water and is capable of supplying irrigation water for Covão and Campanário. Hence the tunnel fulfils two main objectives: To deliver water for irrigation at both ends of the tunnel and to make water storage and electricity production more reliable and efficient.

The Socorridos reservoir is an underground construction which can store 40 000 m³ of water and which houses the requisite pumping equipment. This capacity is equal to that of the Covão tunnel (32 500 m³) and a further 7 500 m³ for the loading chamber.

The renovation of the Encumeada and Canal do Norte tunnels has included the reinforcement of their structures and the installation of gates to regulate the flow of water. This allows 55 000 m³ of water to be stored. The gates mean that water can be sent to the water treatment plant to be processed for public supply and/or to be supplied for irrigation. Independently, the water needed for energy production can be sent to Socorridos.

The pumping system at Socorridos uses 3+1 pumps of 3.7 MW, 0.65 m³ s⁻¹ per pump, and has all of the electro-mechanical equipment needed to be fully operational.

The pumps are operational during the night thus facilitating the storage of water for use during peak hours during the day. The pumps also enable the optimization of wind power generation and usage, making it possible to produce more renewable energy during the night.

21.4. Specific aspects of SG(E)I affected by the project

The specific objectives of the project are:

- with respect to energy, to reduce fossil fuel based energy consumption and to improve the continuity, reliability and safety of service provision of renewable, making the service more affordable and more environmentally friendly;
- with respect to the water supply service; greater continuity and efficiency by improving the reliability of the water supply and ensuring the supply in dry weather conditions.

The main results of the project can be summarized as follows:

- Energy: a) 24 MW of power and 44 MWh of energy available daily; b) To reduce energy losses which are estimated to be 2.54 GWh per year and c) 12 MW of additional eolic power installed, contributing an average of 25 GWh in production per year. There are also positive externalities in the form of increased local employment opportunities.
- Water: a) Improvements in the safety of the water supply system and b) a reduction in estimated losses by about 1 300 m³/day in the southern stretch of the Canal do Norte, between the Serra de Água Power Station and Campanário.

One of the overall objectives of the regional strategy of Madeira is to create an environment of sustainable development, one which is capable of harmonizing the promotion of social and economic wellbeing jointly with the protection of the natural resources.

In short, the project, which has no significant negative environmental impact, aims to provide a fillip to the development of the Madeira economy by providing it with more, cleaner, cheaper energy and, in so doing, by fostering sustainable development.

Tourism is the largest economic sector in Madeira and most tourists come for the scenery and for walking holidays which often follow routes which are next to the irrigation canals. It was important, therefore, to build the system in such a way that it would not be environmentally intrusive. The project still channels irrigation water to the "Levadas" (levadas are small irrigation canals built in the 1940-50's) so that small farms and families can continue with their agricultural activities. This also means that the scenery is still pleasant for tourists and the canals remain a source of beauty for the region.

Thanks to the success of the Socorridos power station, the region will start work on converting the hydropower station in Calheta, which is much larger than Socorridos. Calheta will entail a reversible system and is expected to be ready in 2010. The impact of this investment will be comparable to that of Socorridos, although on a much larger scale, since the water storage capacity in Paúl da Serra will be about 1 000 000 m³.

For the region it will mean that there will be more water available for irrigation and for public use and a higher percentage of renewable energy. The project also allows off-peak electricity, which would otherwise be lost, to be retained (through water storage), and used at peak hours, when demand is higher.

The hydroelectric potential of the reversible system has made it necessary to develop a new strategy for the optimum generation distribution and exploitation of the available resources. At present, the constant availability of the power provided by the Socorridos hydroelectric system provides the installations with additional flexibility in terms of production and, therefore, reinforces its economic potential. In addition, with respect to public supply and irrigation, it has become possible to create an alternative to the existing system, increasing reliability and reducing losses.

There is no direct impact on the electricity price for consumers, due to the fact that Portugal has a fixed national tariff for electricity which is established by the regulatory entity.

21.5. Governance aspects

The Socorridos project was initially submitted for approval to the Regional Government of Madeira (the shareholder) after which the remaining Regional authorities and the Regulatory Agency "ERSE" were consulted. Once these approvals had been obtained, the EEM included the project in the investment plan which is financed by private company resources, bank lending, and European Union funds.

50% of the financing for the project was provided by European Union funds.

The greatest challenge currently faced by the Region is the quality level of those "services" which are related to the enhancement of infrastructures and equipment and, in particular, the efforts made in the sectors of Electrical Energy, Water Supply and water treatment sectors. Given the focus of the project (described in Section 21.3), the benefits for the region of Madeira are far-reaching, and impact positively upon all the citizens in the region, about 2.5% of the Portuguese population.

As stated above, the local, regional and national authorities were involved in the initial stages of the project but, it is the EEM which is wholly responsible for the management, operation and monitoring of the system. A public tender was launched at the construction stage and, at present, there are no other contractual agreements in place.

21.6. Universality of access and affordability

In the electricity sector, energy is put into the network and transmitted to final users. The efficiency gains (loss reduction) associated to the Socorridos project amounts around 2.5 GWh which represents about 3% of total Madeira electricity production.

In the second goal of the project, losses from irrigation are estimated to be reduced by 1 300 m³/day in the Canal do Norte, a figure which represents approximately a 3% of total daily consumption. This fact also means that there is additional capacity for water delivery.

There are no relevant disparities in the reliability of water supply depending on the geographical location of consumers; both urban and rural populations have the same supply conditions. Therefore, Structural Funds have helped to ensure easier access to water and power supplies for Madeira citizens, irrespective of their financial or social status.

The regulation of the electricity market in Madeira began in 1998. Until 1997, EEM activities were smoothly regulated by mainland entities, and the EEM could freely establish the energy tariffs for Madeira clients, with no intervention from the mainland Government. The Regional Government of Madeira has made a huge effort in supporting the company in order to carry out its investment plan.

ERSE regulation is set for three-year periods; the first took in the period 2003 to 2005. The current period covers the years 2009-2011. The EEM is obliged to report to the ERSE with an annual report which is broken down into different activities (Production, Transport and Distribution and Commercialisation). After receiving the reports, the ERSE analyses the information and publishes the EEM tariffs for the next year which are the same as the mainland tariffs.

Production is regulated through a cost plus/rate of return approach (i.e. costs are approved on an annual basis). The permissible revenues i.e. those that are stipulated by the regulation, are divided into different blocks of revenue: operating costs, value of fixed assets, depreciation, estimated fuel costs for electricity generation, etc.

On this basis, the cost of the Socorridos Project is reflected in the tariffs charged through the remuneration obtained from the net value assets (value of assets-depreciation and repayments) less the investment subsidies granted by European Union funds. The

maintenance and operating costs are subject to ERSE approval. This mechanism is exactly the same as that which is applied to other investments in production activities carried out by the EEM.

It can be concluded therefore, that Structural Funds have served to provide long-term cheaper energy. The subsidies are a way to reduce the capital costs that must be repaid through the tariffs. This was a prerequisite to the acceptance of the project imposed by the Regulator.

21.7. Thematic focus

The project has been highly relevant for the regional economy, particularly in view of the increasing demand for water for the general public, for agricultural irrigation and energy. Substantial improvements in these systems have been warranted, namely, the optimisation and rationalisation of their production processes, and quality assurance and reliability.

This investment has optimized both the generation and supply of power in the Socorridos Hydro Electrical Plant by efficiently regulating the output of the plant and the power demanded by the national grid during peak hours. The setting up of additional wind power capacity allows to pumping water up during off-peak periods and at the same time guarantees the availability of water supply both for agricultural irrigation systems and for industrial and household consumption.

The Socorridos project ensures that more water is available for irrigation, that the delivery systems are improved, and that there is more water available to supply populations in urban and rural areas. The coordination of these infrastructures allows transferring water collected in the northern part of the island (where the terrain is placed at higher altitude and there is more rainfall) to the southern part of the island.

The EEM (the public electricity company of Madeira) carried out the project which transformed the Socorridos Hydroelectric Power Station and created a reversible system which takes advantage of its power capacity at any time of the year, regardless of rainfall.

The SG(E)I guidelines/concerns/objectives have been very important for the EEM and for the project itself. The Socorridos project had a positive impact on local employment, not only during the construction period, but also throughout the life cycle of the project. The project has also been environmentally friendly in that it has been possible to create an additional 12 MW of wind power which provides an average of 25 GWh per year. This means an equivalent saving on fuel oil imports and a reduction in greenhouse emissions.

The island of Madeira is a mountainous region with a mixture of urban and rural areas together with an important natural park area. Tourism is one of the main economic sectors in Madeira. About 900 000 tourists bring in about EUR 250 million for the region per year and stay on average for about 6 and a half days (2005 data). The environmental conditions are highly favourable but the preservation of the region natural environment must be a priority if the delicate balance between the landscape and economic exigencies of tourism is to be maintained. The type of tourism offered is generally of high standard and, as a consequence, needs to be well supported in terms of adequate infrastructure, equipment and public services. This means that there must be qualitative improvements, which will also act as an efficient means of promoting customer fidelity. These improvements in tourist facilities therefore must include the upgrading and increased reliability of public services, particularly with respect to electrical energy, water supplies and water treatment.

One of the main attractions of tourism in Madeira is walking by the side of the "levadas" canals since they provide a connection with the area's natural greenery. The project therefore, was conceived with these factors in mind; to minimize negative interference in the water irrigation and consumption systems, to guarantee a reduction in the volume of the water lost and to provide new irrigation delivery points and to maintain the extension of cultivated land, thus acting as a boost to agriculture and tourism. Improving the energy and water supplies is crucial if the needs of both sectors are to be met.

21.8. Contribution to cohesion policy objectives

Besides having fairly obvious advantages for the environment, renewable energies also have an impact on the investments in the macro economies of small regions like Madeira. Moreover on account of Madeira outermost location it is very important to reduce high dependency on fuel oil imports.

Regional policy is in line with the European Union guidelines, considering that "the electricity sector can contribute to the development of a sustainable society by strengthening investment in energy infrastructure, using clean technologies, and by introducing increasingly efficient technologies for the use and production of energy.

The Production of electricity using renewable resources, allows replacing expenditure on fuel imports with regional domestic investment in renewable energy. This, in turn, has an endogenous multiplier effect on the regional economy, boosting both employment and aggregate demand, positively affecting Madeira's balance of payments and gross value added.

In fact, the effects of replacing foreign spending with domestic spending have far-ranging ramifications. Rather than paying foreign oil suppliers, payments will be made directly to domestic companies, a process which stimulates further economic growth, investment, technical know-how, greater employment opportunities, greater welfare, wealth etc. In practical terms, the project increases Madeira's GDP while ensuring a sustainable environmental policy and reducing greenhouse emissions.

These physical geographical conditions, including the region's insularity and the fact that the area is on the European periphery, lay down an unenviable set of constraints to the development of Madeira's economic activity. The main focus of developmental policy for Madeira's economy has been on increasing the region's endogenous potential, largely because of the region's isolation. It is not surprising therefore, that tourism has been a very important driver for growth in the islands.

Until now, efforts have focussed on obtaining levels of production and skill that are comparable with those that exist in other developed economies, and to increase the capacity of the island to continue to attract tourism and to obtain requisite levels of manpower. According to this, the Socorridos project which is an investment based on a natural resource, water, constitutes a key element for the integral development of the region.

Acknowledgements

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- Rui Baleiras, Universidade do Minho, Former Secretary of State for Regional Development in charge of negotiating NSRF 2007-2013.
- Rui Rebelo, Mário Jardim Fernandes and Agostinho Figueira, EEM-Empresa de Electricidade da Madeira, SA.

22. Romania.

Rehabilitation and modernization of the water-sewage system in Cluj

Author: Sorin Ioniță
PPMI, Public Policy and Management Institute

22.0. Background information

a) Country	Romania
b) Region	North West
c) Full Project Title	Rehabilitation and modernization of the water-sewage system in Cluj
d) Duration	2001-2009
e) Programme	ISPA Programme
f) Total Cost	EUR 61 178 813
g) EU Contribution	57.3% (ISPA) + 2.0% (PHARE) = 59.3%
h) National Contribution	0%
i) Private Contribution	40.7% of which 21.6% (The regional water-sewage operator's own revenues) 19.1% (Loan from the European Investment Bank (EIB) with sovereign guarantee)
j) Sector	Environment
k) Sub-Sector	Management and distribution of drinking water
l) Beneficiary	Compania de Apa SOMES SA (the regional water-sewage public company)
m) Implementing body	Compania de Apa SOMES SA (the regional water-sewage public company)

22.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

In 15 years before accession the EU has provided Romania with a total of about EUR 6.5 billion (ECU) through its main pre-accession instruments: PHARE, ISPA and SAPARD. The relative proportions of the three programs in the total assistance envelope were roughly 3:2:1, in this order. The Romanian public budgets (central and local) had to contribute over the same period with an additional sum estimated at over EUR 2.5 billion, used to cover eligible and non-eligible costs associated with the programs. The financial package for Romania and Bulgaria 2007-2013 was predefined by the European Commission in 2004 and represented the basis for the allocations included in the Accession Treaty. The total amount of the grant in Structural Funds is EUR 19.2 billion, to which an additional EUR 8 billion should be added for Agriculture.

Among the EU member countries, Romania chose to allocate the highest share of the financial assistance 2007-2013 predominantly to two sectors: Transportation and Environment combined have 86.2% of the funds available, which is the highest percentage in the EU (except Cyprus). And again, with the exception of Cyprus and Malta, Romania has allocated the highest proportion of the EU aid to investments in Environment (40.3%, see Figure 33).

This allocation of resources reveal an objective need to address the serious and specific problem of under-investment in the transportation, water-sewage and garbage collection infrastructures, which were neglected for decades during the Communist regime, more than in other Central and East European countries. There were even tensions between Bucharest and Brussels at various points during the programming stage: while the national decision-makers would have liked to use even more of the EU assistance for building physical infrastructure, the Commission was insisting that at least part of the ERDF money be spent on the priorities of the Lisbon Agenda, i.e. integrated projects and "wise growth". This partial cleavage of priorities is a reflection of the development gap-including in the endowment with basic infrastructure-between Romania and the average old member country.

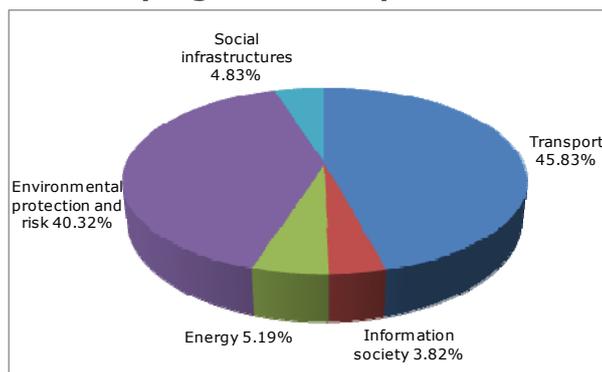
The result of the final allocation pattern is that most of the SGEI assisted with EU funds are concentrated in the Environment sector. Other ISPA/Cohesion grants finance mostly purely public infrastructure (roads) where no cost-recovery is envisaged at the project level, while the rest of the Structural assistance comes from the European Social Fund and hence does not go into SGEI. The Sectoral Operational Program-Environment 2007-2013 provides the maximum of financing for the Priority Axis 1, which consist of extension and modernization of water and wastewater infrastructure, with the general objectives to:

- provide adequate water and sewerage services, at accessible tariffs;
- provide adequate drinking water quality in all urban areas;
- improve the purity of watercourses;
- improve the level of WWTP sludge management;
- create innovative and efficient water management.

Regarding the water-sewage services, Romania did not have for a long period a proper strategy for water and sewage systems in the rural areas, a strategy that would have coordinated the individual investments under way in various programs: SAPARD (EU pre-accession grants in rural areas), World Bank's Rural Development Program, the national program for rural areas, SAMTID (EU pre-accession grants in small towns), etc. There was little coordination between large projects in ISPA and SAMTID, which were promoting associations and integrated regional operators, and the numerous small ones in SAPARD. Some villages may have been better and more cheaply served if they had been included in the catchment area of a larger water supply operator. But there was no way to send this institutional signal to local governments, who found it more convenient and faster to have their individual water wells with a small distribution system attached, even though in the long run the arrangement may be suboptimal.

The Ministry of Environment has finally produced a coordination strategy in 2008, but in practice it seems to be the market rather than this document which pushes towards integration: after such a small investment is completed, citizens sometimes find the service too expensive (especially in rural, poorer communities) and refuse to pay. As a result the service is cut (quantity; hours in operation) and mayors start to look for a bigger company nearby which may take over their service. The best solution in such cases is when the integrated operator can afford to incorporate inefficient segments, cross-subsidize it internally and still run at a profit (as in the case of Cluj). Sometimes however their financial balance is at the limit and they cannot do so (for instance, the similar operator in Dâmbovița county) without becoming ineligible for the co-financing loans.

Another shift in the strategy of the sector occurred before the moment of accession. In the early stages of EU assistance, the PHARE or SAPARD projects were financing predominantly water-treatment and running water services, because these were cheaper to build and most in demand from the population. Everybody wanted to have running water in their house, but there was little preoccupation for treating the used water. The effect was the proliferation of small and fragmented systems, mentioned above. Later, in parallel with submitting the ISPA and Cohesion projects for approval to the Commission, the standards and their enforcement have strengthened and the focus of the investments has shifted towards the environment component: sewage networks and purification plants. The indirect effect was to create a framework which is more stimulating for larger companies with economies of scale.

Figure 33: 2007-2013 ERDF programmed expenditure for SG(E)I

Source: Authors processing of DG Regio data

22.2. National framework in the provision of SG(E)I

Not being explicitly defined in the Treaty, the notions of Services of General Interest / Services of General Economic Interest (SG(E)I) sit rather oddly in the Romanian strategic documents or in legislation—a reflection of the fact that the concept is new and not yet fully absorbed by the administration. They were for the first time mentioned in 2001, in Romania's Medium-Term Economic Strategy, but from the context it is obvious the authorities had in mind mostly the subclass of SGEI.

The broader notion of SG(E)I has never been explicitly addressed in general strategic documents. This is understandable because, like the other Central and East European states, Romania has inherited from the Communist regime a rather extensive network of SG(E)I—education, health care, housing policies—which, at least nominally, were free and guaranteed universal coverage. The main priorities in the transition years were therefore to ensure they continued to operate, make them more efficient and, in some cases, when resources became scarce, reform them so as to target the service better towards the groups most in need. This was done through strategies and regulations which were always sector-specific (in education, health, social protection, etc) and made no reference to a unified SG(E)I framework. The involvement of private providers was accepted without much opposition—in the form of private schools, clinics—but also without much preoccupation to impose on them a specific social mandate (socially mixed recruitment, forms of mandatory health care provision, etc). However, the state and local governments continue to be by far the main providers of basic SG(E)I in terms of volume and clients served.

The situation is slightly different with those services which are economic in nature and there is more competition on their markets: SGEI. The National Strategic Reference Framework also mentions SGEI a few times, in the context of territorial cohesion, as a general aim that "an integrated approach between the Structural Instruments and the European Agricultural Fund for Rural Development and the European Fisheries Fund will provide a minimum level of access to services of general economic interest and connectivity"³⁰⁶. Little more in the way of specifics is provided by the Sectoral Operational Programme-Environment 2007-2013, which designates SGEI providers among its target beneficiaries, alongside the public authorities and NGOs³⁰⁷.

For a limited number of services (water-sewage, district heating, municipal transport and garbage collection) a framework was created through the Law 306/2006, governing the municipal public services, which establishes the National Authority for the Regulation of Communal Services (ANRSC) as a standard setter and price regulator. Universal coverage,

³⁰⁶ Romania's *National Strategic Reference Framework*, p. 101.

³⁰⁷ Romania's Sectoral Operational Programme-Environment 2007-2013, p. 100.

affordability and continuity of the service are among the principles laid as the basis of ANRSC's activity. However, other local utilities such as gas and electricity are covered by a different legislation (and regulatory authority), which makes little reference to the principles of SGEI, while still other (telecom) are not subject to ANRSC rules, but are regulated according to the EU acquis by a special Agency for Communications & IT. Railways are under the Ministry of Transportation who operates through *Regies autonomes* (municipal public companies, see description below) the infrastructure and the bits of the commercial operations which are least profitable (passengers).

A special situation is that of the Competition Council, which in a way or another has to deal explicitly with the regime of SGEI in the context of state aid. Not having at hand a unified national legislation or a long practice to rely on, the Council refers more often than not in its judgments to the European State aid rules which apply to state funding of economic activities. Article 86(2) is the normal means of approving aid to undertakings performing a SGEI for the Romanian Competition Council. Here, two possibilities exist: if the support meets the tests given in the Altmark judgment of the European Court³⁰⁸, the case will not be considered as one of State aid. These include whether there has been a tender for the aid and whether it is merely enough to cover the cost of performing the service with a reasonable profit. If it does not meet the terms of Altmark, then any grant or public support for such services must be notified under the terms of the SGEI Framework.

For example, in 2009 among the 28 state support measures approved by the Commission or the national Competition Council, there was one SGEI scheme covering 100 operators amounting to EUR 216.3 million. Most of this is related to the functioning of the district heating plants, which receive a cost subsidy from the municipalities or County Councils that own them. But the 26 water-sewage operators which benefit from EU grants are included here too.

Regarding water-sewage, there are three main forms of organising the service:

- *Regie autonome*, i.e. municipal or county public company fully own by, and integrated with the local or county councils. These tend to be the old style of organisation and most such *Regies autonomes* still functioning tend to be found in small localities or those where for various technical reasons the water-sewage service cannot operate alone in economic conditions.
- *Incorporated company*, the shares of which are owned 100% by the public authorities (local/county councils). These are usually the larger and most efficient operators, resulted from mergers and association contracts among local governments promoted with EU assistance, which in most cases run operational profits and hence can finance themselves independently on the market. This is the case with SC COMPANIA DE APA SOMES S.A., which is the beneficiary of the ISPA project described in this report.
- *Water-sewage services contracted with private operators*, such as in Bucharest or Timișoara (large city in W region), where 25-years concessions were given to ApaNova SA, a company owned 74% by the multinational *Veolia Eau-Compagnie Generale D'Eaux*, while the municipalities continue to own the infrastructure.

Once the private operators have entered the Romanian market in water-sewage service provision (see below), this market can be judged as open. All operators, large and small, public and private, are covered by quality regulation of ANRSC. The price of the service must also be submitted for approval to ANRSC, and is finally voted in the Local / County Councils from the serviced area.

³⁰⁸ European Court of Justice: Altmarkt decision (Case C-280/00, Judgement of 24 July 2003).

22.3. Project description

Included in the first wave of ISPA projects approved in 2001, this is a major investment in rehabilitating and expanding the water-sewage grid in the city of Cluj and the adjacent communes along the river Someş. The ISPA project was officially completed in December 2009 and was related naturally with two other interventions:

A smaller one that preceded it, financed by PHARE-ESC, which facilitated the creation of the integrated water-sewage operator in the Someş river basin, the same that eventually became the direct beneficiary and implementer of the ISPA operation: S.C. "Compania De Apa Somes" S.A. (the former municipal company, now turned into a regional operator). The smaller PHARE project which preceded ISPA (EUR 14 million, out of which: 38% PHARE, 12% national co-financing; 50% EBRD loan) covered areas ineligible under ISPA or Rural Development (i.e. small towns) and was aimed at modernizing and integrating the water services in seven towns from two adjacent counties: Cluj and Salaj. For all practical purposes, the PHARE and ISPA overlapped in creating and strengthening the regional water-sewage operator.

A bigger one which will succeed it, financed from the Cohesion fund, also carried out by Compania De Apa Somes S.A., with a total value of EUR 196.9 million (of which the ERDF grant is 74%) meant to consolidate the company as a truly regional water-sewage operator covering two counties³⁰⁹. Four work contracts were already signed in early 2010 under this new Cohesion project, which is the natural continuation of the ISPA intervention analyzed in this report.

The final goal of the whole effort is to create a modern integrated water-sewage operator in the Someş river valley, serving more effectively the population in the two counties (Cluj and Sălaj) and replacing the existing four local *Regies autonome* (municipal public companies) which lacked economies of scale.

The project was aimed to address four basic needs:

- improve the quality of service to existing clients in the Cluj municipality area and the neighbouring localities;
- extend the water-sewage network to keep up with the pace of urban development;
- update the infrastructure and procedures so as to include the latest environment-friendly and energy conservation technologies;
- consolidate the integrated regional water-sewage company.

The beneficiaries fall into three categories: (i) existing clients of the former Cluj municipal water-sewage service and of the other, smaller operations in towns and communes, before they were merged into COMPANIA DE APA SOMES S.A.; (ii) citizens who did not have access to modern water-sewage services before, mostly in remote rural areas or on newly developed plots; (iii) companies seeking to establish operations in the wider Cluj area, on plots designated for industrial development. Overall, the number of clients served increased from 320 000 to almost 520 000 for running water (jump from 69% to 96%); and from 240 000 to 420 000 for sewage services (from 45% to 79%).

The ISPA project consisted of the following operational steps:

- replacing the old water grid in the city of Cluj on a length of 32 km and extending it through a new investment with another 34 km;
- rehabilitate the wells and pumping stations in Cluj (272 units);

³⁰⁹ Out of Romania's 41 counties (*judeţ*), the second tier of elected local government.

- build a new sewage main in downtown Cluj on a length of 1.3 km;
- rehabilitate the existing sewage network in Cluj on a length of 24 km and extending it through a new investment with another 42 km;
- extending the sewage grid beyond the city of Cluj, in five rural communes upstream (34 km) and implementing a single tariff policy, which means cross-subsidization on tariff of the most remote (rural) areas;
- developing a new fresh water source, at Tarnița reservoir up in the mountains, from where water is brought through a 5 km main to the treatment plant;
- implement environment mitigation measures (energy conservation) by building renewable units for the internal use of the company:
 - a micro-hydro-power plant in connection with the fresh water adduction;
 - a biogas power unit at the purification plant, using the residual sludge resulted from its decantation basin.

All in all, 175 km of water-sewage grid, with the corresponding pumping stations and treatment / purification plants, were modernized or built in this project. COMPANIA DE APA SOMES S.A. was officially set up in 2006, after the reorganisation, being owned 99.7% by the Cluj County Council and 0.3% by the Salaj County Council and associated municipalities. The client base of the new company will be in the final stage (2013, a result of the succession of PHARE-ISPA-Cohesion investments) around 620 000, from eight cities and towns and 26 rural communes. At that moment the company will integrate 4 surface and 7 underground water sources, with 850km drinking water mains and 600 km sewage mains, 4 water treatment plants, 23 pumping stations and 8 sewage purification plants. Around 80% of the equipment existed before; the rest are new investments related to the grid extensions with ISPA and Cohesion resources.

22.4. Specific aspects of SG(E)I affected by the project

The project has contributed to substantial improvements of the situation as far as the following aspects are concerned:

- *Territorial accessibility*
 - Extend the area served by the integrated water-sewage operator in the Someș river basin, by including five rural communes in the network that so far was serving only the Cluj city (communes of Săvădisla, Vlaha, Someșul Rece, Florești and Luna);
 - Increase access to EU-standard running water mains of the population from the localities served, from 69% to 96%; and the access to sewage services from 45% to 79% (see Section 22.6);
- **Stability and affordability of the service:** the company provides non-interrupted service to its current client base of 540 000, and charge uniform and regulated tariffs which allows it to run operational profits, ensuring the economic viability of the enterprise and a stable stream of revenues based on which further investments can be planned. In 2009 the turnover of the company was approximately EUR 30 million and the operational profit around EUR 2 million, which allows the company to service the debt to EBRD and EIB. Affordability may be an issue, since the financial scheme of the investments requires a gradual increase in the price per m³ of water / sewage to the final client (see also Sections 22.6 and 22.8 below).
- **Efficiency / effectiveness:** the technological upgrade of the equipment reduces quantitative leakages from the mains and pipes by 10%, improves the quality of the

drinking water provided and reduces the energy consumption in the company by about 10%. In addition, the rate of individual client metering has increased from 92% to 100%, allowing the company to charge according to actual use.

- ***Environmental concerns:*** the most direct and important impact of the project was the rise of the percentage of used water treated, from 86% to 100%. The quality of the water in river Someş and its tributaries has improved spectacularly as a result, a development which is already noticeable in the flora and fauna of the river. The soil in the city of Cluj is also cleaner as there are now negligible leakages from the sewage mains, as opposed to 10-15% before (mainly due to frequent accidents, which led to costly repairs).

What is more, the water purification plant was substantially upgraded technologically and a biogas energy unit was added to process the sludge resulted in the process of purification. The electricity generated by this biogas unit covers about 30% of the consumption of the whole purification plant. The new fresh water adduction at the Tarnița reservoir was equipped with a micro-hydropower plant of 8 000 MW/year, which made the company an electricity provider to the national grid and gave it an extra source of revenues.

Finally, the tariff cross-subsidy water between the water and sewage operations will be eliminated by 2013 (see above). This will reflect the true cost of each component of the service, ensure the sustainability of the company and send the right economic signal about the cost of the environment policy to clients and investors.

- ***Changes in the approach to SGEI as the result of EU co-financing:*** the success of the intervention (this is among the few ISPA projects completed in Romania so far, and the largest) helped with the reorientation of policy in the water-sewage sector mentioned above, i.e. from small, fragmented operations towards integrated operators which are: (1) economically viable; (2) able to ensure quality and continuity of the service; (3) able to implement efficient and creative environment mitigation measures; (4) big enough to provide the service to large geographical regions at affordable price, by cross-subsidizing between densely and sparsely populated areas.

On environment mitigation, a better source of fresh water for the whole client base was developed, from a reservoir up in the mountains, to protect the existing underground sources. But the last aspect is especially important to the basic goal of SGEI. Without the strict scale, tariff schedule and environment-related conditionality incorporated into the ISPA grant (and the subsequent Cohesion grant), it is likely that short-termism would have continued and local authorities would have found it difficult to stand the public pressure to invest all the funds into piecemeal extensions of the running water grid, neglecting the environment component and the sustainability of the operation.

22.5. Governance aspects

The project governance is realized by the contribution of the following factors:

- the Ministry of Finance, which hosts the National Authority for the Coordination of Structural Instruments (ACIS, previously the ISPA implementation unit), the main body in charge with planning and disbursement of the EU assistance in Romania, covering also the issues of co-financing from national sources or foreign loans;
- the Ministry of Environment, which hosts the Management Authority for SOP-Environment, in charge with programming the investments in the sector and directly managing the ISPA (Cohesion) projects;
- SC Compania de Apa Someş SA, Cluj, an incorporated local public company, owned 99.7% by the Cluj County Council and 0.3% by the Salaj County Council and the

Association of communes currently served (Săvădisla, Vlaha, Someșul Rece, Florești and Luna);

- the County Council of Cluj, who was the initial promoter of the project, when Compania was still a county-level *Regie autonome*. After the company was incorporated the County Council behaves as a normal shareholder and is not directly involved in the current management of the ISPA project;
- the National Authority for the Regulation of Communal Services (ANRSC), the national quality and price regulator in the sector of municipal water-sewage services.

There was not much consultation with the potential clients (households / businesses) when the project was launched, as it was assumed the need to upgrade the water-sewage networks was obvious, and, moreover, there was a fierce competition between local governments (municipal and county level) to have their proposals included on the list approved by the MA in the Ministry in the first wave of ISPA projects (early 2000s). Once they secured a place on the list, local authorities were happy to take the back seat.

The Management Authority also contracted separately a Dutch engineering consultancy company (DHV) for technical assistance and works supervision for the whole ISPA project. They helped SC Compania de Apa Somes SA prepare the technical documentation for the tenders. There were two such tenders for the two work contracts included in the project, both made directly between SC Compania de Apa Somes SA and the works contractor: one for the new adduction of fresh water from the reservoir, and the other for the network rehabilitation and extension.

For the current operation of the company, the governing board (in which the Cluj County Council has a decisive voice) sets the strategic objectives and approves the annual business plans and budgets. In fact, there has been little strategic steering in the last years, and little change is expected at least until 2013, because the basic parameters of the Company's functioning are strictly defined in the ISPA grant contract (and the following Cohesion contract), including investments, volume of service and tariff policy.

The tariffs change according to the agreed schedule, as shown above: each year the company's management submits a request to ANRSC for checking the cost structure and issuing an approval. In the next step, the proposal cleared out by ANRSC is sent to the Association of municipalities served-inter-communal body set up in the first stage of the ISPA project to facilitate the creation of the integrated water-sewage operator. Finally, all Local Council must approve the decision made by the Association with the endorsement of the national regulator. So far there have been no cases of disagreement on this decision circuit and the pre-established tariff schedule was implemented.

22.6. Universality of access and affordability

Before the start of the project, the existing networks, stations and pumps were in poor technical condition and had to be replaced with new, more efficient equipment, to reduce the leaks and stop improperly treated water from flowing into the river. This was especially the case in the Cluj municipality, where the grid tended to be older. But some of the newer (and smaller) networks were also substandard, or were poorly maintained, especially in rural communes who at some point in the past won a project to finance the investment, but subsequently had less money to cover the operational costs.

This fragmentation of the service generated substantial differences in quality and price, with the rural areas usually suffering most on both counts (more expensive water; shorter hours of service) and some old neighbourhood of the Cluj city suffering on quality (substandard drinking water, leaks from sewage pipes into the ground). What is more, the rapid expansion of real-estate investments in the city of Cluj and the rural areas nearby

created an urgent drive for new investments in the utility infrastructure (among which the sewage grid is the most expensive to build) merely to keep up with the pace of urban sprawl. The integrated regional water-sewage operator is the modern solution ensuring universality of access and consistent quality of service for the whole client base. Once the final stage of the investment is realized (the large Cohesion project which is a follow up to the ISPA) the area of two counties will be covered by a public company with enough economies of scale to be sustainable.

The access into the network for clients is relatively simple in the area served: if a new building has all the permits and papers in order, the company (with a subsidy from the local government) covers the cost of the investment necessary to bring the water and sewage pipes "up to the fence of the private property" (if they are not there already). The actual connection works done on the property of the resident is paid by the owner of the land. The operator *Compania De Apa Someș S.A.* has licensed a whole list of private companies to perform such works. In general these contractors are reliable and the connecting tariffs are not as high as to be an obstacle for the clients: there is no long-term waiting list with requests for connection and no significant number of properties on the streets where sewage was introduced to turn down the offer to connect.

The uniform tariff charged-around 0.5 EUR/mc for running water and 0.27 EUR/mc for waste water in 2010-incorporates a mechanism of subsidizing the rural and more isolated areas for staying into the network and keeping up with the payments, as the true cost per mc is higher in such places. Since the population in villages tends to be also less well-off than in the city of Cluj, the tariff is equivalent to a social policy for ensuring equal access to SGEI. The tariffs are scheduled to go up slightly, according to a 7-years calendar agreed at the beginning of the project, so that in the year 2013 the target, cost-level prices are reached (0.6 EUR/mc of running water and 0.65 EUR/mc).

22.7. Thematic focus

Aging population or geographical remoteness are relevant dimensions in this project to some extent: the everyday life of older people from villages tends to become easier when they have access to running water in their house, instead of being forced to carry or pump it manually from wells. However, since Cluj county is a relatively developed region with little physical isolation even in its countryside, this type of improvement applies only to a small fraction of the client base: by the Company's estimate, less than 1%. Most often, people did have water sources in their households, just that these were inefficiently exploited and of uneven quality.

What is more important is that the people in villages, who in Romania tend to be older than the national average (and the more isolated the village, or the higher it is in the mountains, the older and sparser the population tends to be), do not have the means to invest in proper sewage systems by themselves, and no incentives to do so, especially in remote areas. This means that a better access of the older or isolated households to the services of the Company led in practice to a cleaner environment in these parts.

22.8. Contribution to cohesion policy objectives

Initially, both projects financed by the EU grants (PHARE and then ISPA) had a slow take-off. The learning curve at the level of local authorities and SC *Compania de Apa Someș SA* was not very steep and the relationship with the TA consultant was awkward. The engineers who ran the water-sewage operator understand and manage well their routine technical tasks, and think and report achievements in terms of physical indicators (km of pipe laid, pumps replaced, etc). However, they were-and to some extent, still are even after the completion of the ISPA project-less able to devise a proper development strategy, based on ultimate social goals, such as client needs, social accessibility and affordability.

The local governments too were not fully engaged in the project once it was approved for financing. Their main preoccupation was to issue work permits to the contractors and to speed up the works as much as possible, in order to minimize the discomfort to citizens and to show citizens that it is making efforts for meeting their needs. The reality on the ground was such that there was little scope for looking forward and strategically steering local development through such a large investment in infrastructure. On the contrary, the private development had been so rapid in Cluj and surrounding areas in the past six-seven years that the ISPA project was regarded mainly as a chance to make up for the time lost and fill in the existing infrastructure gaps. In other words, the attitude was rather reactive (a response to current urgent needs) than pro-active (forward-looking).

To some extent, it could have hardly been otherwise, since this infrastructure gap was indeed huge: the Communist regime ran a forced urbanization policy in the '70s and '80s which led to a rapid expansion of the cities, but the quality of the new buildings was poor and the utilities substandard. The urgency to close this infrastructure deficit as fast as possible has engaged the full attention of the local administration, with little capacity left for integrated development strategizing. In addition, the water-sewage operator had no previous experience in managing a large project and the relationship with a big, foreign contractor (SADE, a French-owned company) who had won the first tender for works.

Due to unsatisfactory work this contract was cancelled in 2007 and the tender repeated. The new company selected managed to complete the project on time (Dec 2009). While the main culprit appears to have been indeed the first contractor, a certain rigidity existed in SC Compania as well, which made the relationship tenser than it should have been. The market trends were also unfavourable at that time: the booming economy and real estate development had pushed up the prices of manpower and materials in the interval 2005-2007, so the project had been incurring permanent cost increases. By the time the new tender was held, the crisis was already changing the landscape: the would-be contractors became more numerous and "pliant", and as a result cost savings of about EUR 10 million were realized from bids only. This allowed SC Compania to increase the quantity of works contracted and build more water and sewage grids than originally planned.

While the experience was completely new and frustrating for both the operator and the local governments involved, it was also a necessary learning exercise in modern project management contracted out with private firms, under the strict supervision of national and EU authorities. It will serve them well for the new Cohesion project approved in 2008, in which the first four works contracts were already signed in early 2010. Local authorities have also learned the value of creating associations to address common needs and negotiating among themselves the distribution of costs and benefits over time: since not all investments can be done at once, some will inevitably benefit from a service improvement sooner than others, although all of them pay for the investment. The higher level of inter-institutional and inter-communal trust is a clear positive effect of the ISPA intervention.

An issue of concern remains the rate-of-recovery from current operations (i.e. payment of user charges), especially in those rural communities where charging for water and sewage services may be a novelty. In spite of the uniform tariff policy described before, which implicitly subsidizes rural households, the current level of payment arrears (20%, out of which around 11% long term arrears) is worrying. This problem cannot be addressed by the operator alone, who has its economic and investment targets to meet and is accustomed to think sectorally.

A greater leading role on this matter is expected from the elected local authorities (Local and County Councils), who are the only ones able to devise social policies and achieve a balance between development and social inclusion. There are signs that the Association of communes is prepared to make moves in this direction, by exploring a scheme of differentiated tariffs calibrated by means testing, which implies the local social inspection offices will have to enter the scene.

However, all these trends would not have been possible outside the framework created by the EU regional policy. As the largest ISPA project finalized in Romania, it generates a strong demonstration effect for the benefits of inter-communal cooperation and of modern, integrated solutions to the challenges of development and environment protection.

Acknowledgements

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- Dorin Ciatarâș, General Manager of SC Compania de Apa Someș SA, Cluj.
- Nicu Rozenberg, contact point of the Management Authority of SOP - Environment in the NW Region.
- Silviu Stoica, General Director in the Ministry of Environment, head of the Management Authority for SOP-Environment until 2009.
- Ștefan Ciobanu, General Director in the Ministry of Finance, the head of the National Authority for the Coordination of Structural Instruments (ACIS).
- Vasile Ciomoș, independent expert, water-sewage projects, Cluj.

23. Slovak Republic.

R1 Rudno nad Hronom-Žarnovica

Author: Martin Obuch
PPMI, Public Policy and Management Institute

23.0. Background information

a) Country	Slovak Republic
b) Region	Banská Bystrica
c) Full Project Title	R1 Rudno nad Hronom-Žarnovica
d) Duration	August 2004-October 2006
e) Programme	Regional Operational Programme Basic Infrastructure (Objective 1) 2000-2006
f) Total Cost	EUR 63 559 646.46
g) EU Contribution	ERDF 75%
h) National Contribution	0%
i) Private Contribution	25% (European Investment Bank, EIB)
j) Sector	Transport
k) Sub-Sector	Road
l) Beneficiary	Slovak Road Administration, since 19. October 2005 National Highway Company
m) Implementing body	Slovak Road Administration, since 19. October 2005 National Highway Company

23.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The critical role of modern transport infrastructure in support of sustainable economic development of regions on one side and limited capacity of existing transport infrastructure in the country on the other side have been properly reflected in strategic documents for use of Structural Funds and Cohesion Fund in the Slovak Republic. In both programme periods (2000-2006 and 2007-2013), there has been significant allocations of ERDF resources to transport in order to address insufficient capacity of the transport networks and missing motorway connection between west and east of the country. Although relative weight of the resources directed to transport infrastructure in 2000-2006 (59.50%) was higher than in 2007-2013 (45.83%), it remains the top funding priority among SG(E)I. The actual volume of SF and CF funding in current programme period, which fourteen times exceeds the 2000-2006 allocations, indicates that needs in the sector remain highly relevant. As a matter of fact, with rather limited SG(E)I funding in previous programming period it was not possible to make a major progress in addressing the identified needs of the transport infrastructure in Slovakia.

Functional road transport system is conditional to development of transport infrastructure that meets up-to-date technical and qualitative standards and provides related services. Accessibility of trans-European networks, transport corridors and intra-regional transport networks is considered to be one of key factors for competitiveness of Slovak regions and eliminating their disparities. While overall density of road network in Slovakia is comparable to EU average (363 km/1 000 km²), the problem is linked to low share of motorways and high-speed roads of international importance. According to the analysis presented in OP Transport "density of motorways in Slovakia in 2005 was 6.6 km/1 000 km² while EU-15 average is above 16 km/1 000 km²". This brings Slovakia among countries with the lowest density of motorways in the EU. The situation is unsatisfactory also in light of the overloading of international roads serving as important transit routes. Additionally, road networks not including motorways and high-speed roads do not meet the technical standards to ensure fast and safe transit transport by-passing towns and villages.

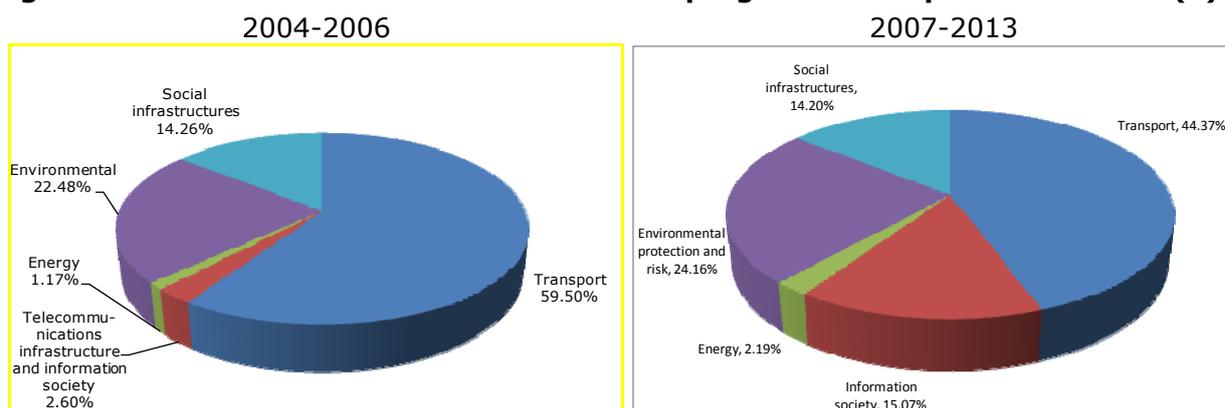
The National Strategic Reference Framework of the Slovak Republic (NSRF) covers the Convergence and Regional Competitiveness and Employment objectives and relevant

programmes. Transport sector is analysed under the heading Infrastructure and regional accessibility (together with environment and other public infrastructure), which at the same time constitutes one of the strategic priorities of NSRF. Quality and access to SG(E)I is not explicitly tackled in the analytical part of the strategic document. Instead, it identifies key disparities that indicate insufficiencies in provision of SG(E)I in transport sector. On contrary, the strategy of NSRF highlights the importance of availability of public infrastructure (also transport infrastructure) and related services in regions for increase in their economic performance and competitiveness. It argues that "efficiency of most economic activities performed within a territory is directly or indirectly influenced by the availability of public infrastructure (transport, environmental and civil infrastructure of towns/cities and municipalities)." Consequently, these types of SG(E)I form the strategic priority 1 Infrastructure and regional accessibility, which in line with the overall NSRF strategy represents a combination of thematic and geographic concentration of resources. Two operational programmes under the Convergence objective support interventions aiming at enhancement of road transport infrastructure in the Slovak Republic. OP Transport concentrates on the construction of new and modernisation of existing national road network in Slovakia managed by the central state administration. The interventions are implemented in line with the national strategic documents in the field of transport (Transport policy till 2015, Programme of preparation and construction of I. category road network 2007-2010). Further building of motorways (TEN-T) is financed from the Cohesion Fund (CF) under the Priority Axis 2 and high-speed roads and roads of I. category from European Regional Development Fund (ERDF) under the Priority Axis 5. The programme contains the indicative list of major projects that represent strategic actions for the programme period in the field of transport and are supposed to significantly improve the existing infrastructure.

Additionally to OP Transport, the Regional Development Programme (ROP) covers investments into road regional road infrastructure managed by the regional self-governments. The objective is to modernise the network of regional roads and reconstruct transport subsystems in order to increase transport, safety and environmental aspects. The financial allocation from ERDF to the Priority Axis 5 Regional Communications Ensuring Transport Serviceability of Regions will enable the eligible regions to reconstruct more than 600 kilometres of regional communications.

Slovak authorities have decided to use appropriate innovative financial instruments for provision of SG(E)I in the framework of the NSRF. Public-private partnership (PPP) is a new approach to providing services by public services. The Ministry of Finance adopted number of strategic and methodological documents regulating implementation of infrastructure projects in form of PPP. The ROP implementation and management system for programme period 2007-2013 also includes new approaches. It is the only programme, in which self-governing regions are directly involved and responsible for management and implementation of assistance to support SG(E)I. The Ministry of Construction and Regional Development acting as the Managing Authority has delegated responsibilities for the implementation of the Priority Axis 5 to self-governing regions under the Convergence objective. Previously, in the programme period 2000-2006, the regional governments were not involved in the management and implementation of Cohesion policy in Slovakia. In 2007-2013, regions act as Intermediate Bodies only under the ROP and for one Priority Axis³¹⁰. It is due to fact that regions have exclusive competences in provision of SG(E)I since they are responsible for development and management of regional road network on their territory.

³¹⁰ Under the Regional Competitiveness and Employment objective Bratislava self-governing region acts as Intermediate Body for the OP Bratislava Region.

Figure 34: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I

Source: Authors processing of DG Regio data

23.2. National framework in the provision of SG(E)I

The government strategic framework document on the Slovak policy in transport is the "Transport Policy of the Slovak Republic Until 2015 ('Transport Policy')"³¹¹. The Transport Policy is a basis for Strategies and Concepts of individual modes of transport in Slovakia until 2015 to be implemented by the state, state-established bodies and institutions, regional administrations, municipalities and transport service providers. In 1993, the Government of SR approved two fundamental documents Principles of State Transport Policy of the Slovak Republic (updated in 2000³¹²) and Concept of Transport Development of the Slovak Republic. The updated state transport policy was formulated into particular principles, the following implementation of which provided for a smooth integration of the Slovak Republic into European structures in the transport sector. Programming of transport infrastructure in Slovakia is done through: (i) the Scheme of Public Works Programmes³¹³, (ii) the Operational Programme Basic Infrastructure (2004-2006), Operational Programme Transport (2007-2013) funded by SF and Strategy for CF (2004-2006), and (iii) territorial planning documentation. The Sectoral Development Programme (SDP), annually developed by the line ministries, other central government bodies, self-government regions and municipalities, is one of instruments using which the Ministry of Transport, Post and Telecommunication of the Slovak Republic ('Ministry') exercises control and supervision over the technical preparation of public works³¹⁴ exceeding EUR 1 328 million. Road transportation is governed by the Road Act No. 135/1961 Coll. as amended, large number of technical implementing regulations, construction and development programmes. Special arrangement is provided by public private partnership agreements (PPP), providing concessions for projecting, financing, construction, operation and maintenance of (3) PPP projects.

The market liberalisation of transport sector as such is rather limited in respect of all key sector operators (undertakings). In the scope of the Ministry is 16 joint stock companies with the different state property participation, where 6 companies are 100%-state-owned, one company is 99.08% - state-owned and other companies report the state property

³¹¹ Approved by the Government Decree No. 445 of June 8, 2005.

³¹² Approved by the Government Decree No. 21/2000 as the basic systematic document for the transport sector

³¹³ Subject to Act 254/1998 on Public Works as amended. The Scheme is composed of : (i) the Public Works Sectoral Development Programme ("Sectoral Development Programme (SDP)"), (ii) the Public Works Regional Development Programme ("Regional Development Programme (SGRDP)"), (iii) the Public Works Summary Programme (PWSP), (iv) the Public Works Priorities Development Programme ("Priorities Development Programme (PDP)").

³¹⁴ Development works within all modes of transport in Slovakia, excluding constructions within telecommunication, combined transport and water transport in harbours, which will be founded from own sources or business entity.

participation of less than 36%. Within road transportation, road cargo is currently considerably liberalized in Slovakia and represents around 70% of total outputs in transport markets, with increasing tendency. Public personal transportation, mainly regular bus transportation, considerably contributes to improvement of population mobility.

Table 6: Ownership of road transport infrastructure and related administration subject to the Road Act No. 135/1961 Coll. as amended

Type of Roads		Road Infrastructure Ownership		Road Infrastructure Administration	
Motorways, high speed roads and roads of the I category		State		National Motorway Company (NMC) as the 100%-state-owned joint stock company and legal entities established by the state for this purpose (Slovak Road Administration for most roads of I category)	
their transit parts via customs space	their transit parts via municipalities			Respective customs bodies	NMC or respective legal entities established by the state for this purpose
Motorways, high speed roads and roads of the I category, where subject to the Concession Agreements the Contracting Authority is the Slovak Republic ("concession roads")		State		The concessionaire for the period limited in the concession agreement (max. 30 years)	
Roads of II and III category		Self-government regions (SGRs)		SGRs or legal entities established by SGRs for this purpose	
their transit parts via municipalities	their transit parts via customs space	SGRs	State		
Local road infrastructure		Municipalities		Municipalities or legal entities established by municipalities for this purpose	
Purpose-based road infrastructure		State or other legal entities or individuals		Legal entities using the related infrastructure	

Source: Case study report Author

Whereas administration of individual levels of road infrastructure is decentralized in Slovakia, it is necessary to assess financing possibilities at each level (i) motorways, high speed roads and certain roads of I category in state ownership and administration of the National Motorway Company is financed from state budget, EU funds (CF and ERDF), credits (EIB and commercial banks), fees for the road network usage, electronic toll collection and by PPP, (ii) roads of I category in state ownership and administration of the Slovak Road Administration is financed from state budget, EU funds (ERDF) and private sources (not used currently), (iii) roads of II and III category are financed from the regional budgets, taxation on motor vehicles, credits (EIB and commercial banks), EU funds

(ERDF) and by PPP, (iv) local road infrastructure is financed from municipal budgets, subventions provided by the Ministry, bank loans, EU funds (ERDF). Due to the long lasting problems with insufficient capacity of regional and municipal budgets, the significant source of financing prevails EU funding.

The SG(E)I within the road administration assigned to economic operators are currently mainly considered the PPP projects for motorways and high speed roads, and the electronic toll system. For operation of these services, public procurement for concessions of 3 PPP project packages as well as electronic toll system was announced and carried out. The competitive environment during procurement procedures evoked revision procedures and caused delays in launching projects. The same principle of competitiveness is applied in selecting and performing economic operators for SG(E)I at regional and municipal levels.

Liberalized market, mainly in the road transportation sector (construction of motorways and high speed roads and roads of I category) tends to establishment of oligopolies. Limited market of operators who are able of major investments in the SG(E)I sector predetermines oligopoly behaviour, including the oligopoly price for services provided, with increased demands on state budget.

23.3. Project description

Due to very limited progress in implementation of road infrastructure projects under the OP Transport and ROP in 2007-2013, the subject of the case study is a major project implemented in previous programme period under the Operational Programme Basic Infrastructure (OP Basic Infrastructure).

The global objective of OP Basic Infrastructure was to support the balanced regional development via increasing competitiveness of the regions. The programme focused on development of infrastructure in the regional and local centres that have specific importance for overall economic and social development. The programme covered following thematic areas (originally represented 3 operational programmes):

- Transport infrastructure;
- Environmental infrastructure;
- Civil infrastructure.

The priority 1 Transport infrastructure aimed at provision of accessibility of regions by improvement of transport infrastructure, primarily to complete a missing connection between western and eastern part of the country. At the same time more efficient and better transport system at national and regional level was expected to contribute to reduction of adverse impacts of transport on environment.

The overall project objective was to enhance connection between Bratislava (capital) and regions by building a new section of road between Rudno nad Hronom and Žarnovica. The road is part of main transport communication between Western and Eastern part of the country and international road network (E571). Construction of almost 10 kilometres of new road was supposed to significantly increase travel speed, safety, traffic flow and admissible traffic volume. Better capacity of the road and reduction of travel time should produce positive effects on regional economy and environment in the area concerned. The construction of new road between Rudno nad Hronom and Žarnovica was due its strategic importance planned by the Ministry of Transport, Telecommunications and Post (Slovak Road Administration) for several years. However, inclusion of the project into the project pipeline for co-financing from SF provided for faster implementation compared to financing it exclusively from national resources.

The overall insufficiency of road E/65 in the context of increasing traffic volumes resulted in various problems that were primarily addressed by the project:

- low safety standards and high number of accidents;
- reduced travel speed and traffic jams;
- negative impacts on environment and population.

The following final beneficiaries of the project R1 Rudno nad Hronom-Žarnovica:

- population of the Banská Bystrica region, in which the new road is located (653 697 in 2008³¹⁵);
- citizens as well as private operators from Slovakia and abroad using the road for transit.

The construction of the road was divided into two parts:

- 1st section: building 5 485 km of full four-lane profile;
- 2nd section: completing 4 470 km of existing road with full four-lane profile.

The main project activities can be summarised in the following way: i) construction/expanding of road, ii) building 7 bridges, iii) construction of parallel service roads, iv) adjustment of concerned farm and forest roads and v) building 6 retaining walls, 2 revetment walls.

23.4. Specific aspects of SG(E)I affected by the project

Specific aspect/objectives of SG(E)I realised/enhanced with the project

In our opinion, the project enhanced the following aspects/objectives:

- efficiency and/or effectiveness;
- safety and security of supply;
- environmental friendliness.

Main results of the project with reference to the specific aspect/objectives of SG(E)I

- **Efficiency and/or effectiveness:** the newly constructed road R1 Rudno nad Hronom-Žarnovica, which is a part of main route connecting western and eastern parts of Slovakia, contributed to improvement of quality of transport. Traffic volumes that considerably exceeded the capacity of old road caused regular traffic jams and low travel speed. Consequently, the travel time needed to pass the critical section of the route was rather high. Improvement of the capacity of the road by building four-lane profile practically removed traffic jams; moreover the travel time for private cars as well as freight has been reduced. The overall efficiency and effectiveness of provision of the service has enhanced by implementation of the project.
- **Safety and security of supply:** the traffic jams, low travel speed, high share of freight traffic and limited opportunities for overtaking caused high accident rate in the past. Parameters of new road that are adequate to current and future traffic volumes and reflect up-to-date standards have had positive impact on the safety of users.

³¹⁵ According to the Statistical Office of the Slovak Republic.

Regional and transit international transport can nowadays smoothly and safely pass the concerned area. The overall safety and security have increased considerably after the project completion and the accident rate on the new road is 40% lower compared to situation before 2006.

- **Environmental friendliness:** important aspect that was fully taken into account in project design was reduction of negative effects on environment. Higher travel speed and elimination of congestions reduced the fuel consumption of cars on the road. Additionally, the new road by-passes settlements, therefore population of municipalities in the area are not directly affected by negative impacts of the traffic. Higher safety and security of the road reduced a risk of polluting surrounding environment due to car accidents.

Change in approach to public service, at regional and/or national level, as a consequence of the expected result of the project

At national level, in 2007-2013 the emphasis has been given to completion of a network of motorways and high-speed roads in the Slovak Republic. Effective accessibility of regions is considered to be a critical factor for improvement of attractiveness and competitiveness of regions. Although the relative share of resources in transport compared to 2004-2006 period decreased, the absolute volume of investments to the sector increased 14 times.

Expected changes in the use of the Structural Funds in the SG(E)I, at regional and/or national level, as a consequence of the experience of the project co-financing by such funds

Financing of infrastructure projects in the field of transport from the Structural Funds/Cohesion Fund proved to be effective, however the public resources (national and EU) available are not sufficient in the framework of given objectives and targets. In the context of budgetary constraints, the Government has decided to partly support provision of SG(E)I through Public-private partnership.

23.5. Governance aspects

The project was designed, managed and implemented in line with national procedures for use of the Structural Funds and System of Financial Management of Structural Funds in Programme Period 2004-2006. The main stakeholders in the project were:

- Ministry of Construction and Regional Development: in function of the Managing Authority (MA) of the OP Basic Infrastructure responsible for overall management and coordination of the programme, communication with the European Commission (EC).
- Ministry of Transport, Telecommunications and Post: in function of the Intermediate Body having responsibility for submission of the major project application to the European Commission. Further it signed the contract with beneficiary, provided co-financing and performed monitoring of implementation of the project and financial control.
- Slovak Road Administration / National Motorway Company³¹⁶: beneficiary of the assistance from SF and national co-financing. In charge of project design and implementation after its approval.
- Ministry of Finance: in 2004-2006 acted as the Paying Authority for all SF programmes in Slovakia. Received payments from EC on separate budget and made transfers/payments to Paying units of MAs/ IBs.

³¹⁶ The National Motorway Company became new beneficiary in 2005.

- Government of the Slovak Republic: every major project before its submission to EC had to be approved by the Government.

The division of roles respected the overall implementation system of SF in Slovakia and competences of individual authorities in the process of preparation, submission, approval and implementation of the project.

The project was submitted and implemented by single entity, no partners were involved. The Ministry of Finance through its payment Unit provided the ERDF and national co-financing to the beneficiary and external companies were higher for expertise and works related to project implementation. End users, in this case citizens and companies did not have any specific role in the project³¹⁷.

It is important to highlight the change of the project beneficiary in 2005, which responded to overall changes in institutional changes in SG(E)I sector (transport) in Slovakia rather than to the system of SF implementation. The transfer of competencies in area of construction and maintenance of motorways and high-speed roads from the Slovak Road Administration (original beneficiary) to newly established National Motorway Company required modification of beneficiary. New beneficiary has a form of joint-stock company, 100% owned by the Ministry of Transport, Telecommunications and Posts. The National Motorway Company is after the completion of the project responsible for management, running and maintenance of the constructed road. The Ministry of Transport, Telecommunications and Posts, owner of the company, has overall control over the functioning of the company. Local and Regional authorities were not directly involved in the project design and implementation as partners, however some had a role during Environmental Impact Assessment of the project. Public-private partnership was not used in the preparation and execution of the project.

As mentioned above, the project was submitted to EC after its approval by the Slovak Government. Financing of the project from ERDF and state budget was based on the contract on provision of non-repayable grant between the Intermediate Body and the beneficiary. The contract, which was used for all SF financed projects, precisely stipulated the responsibility of the beneficiary towards the Ministry of Transport, Telecommunications and Post. Specific contractual arrangements that reflected financing from ERDF concerned the obligation of the beneficiary not to change the purpose of project outcomes and its ownership in next five years. No incentive schemes were applied.

23.6. Universality of access and affordability

The project, by its nature, declares the full universality of access and affordability to broad public, regardless of gender. It fluently, reliably and safely provides access to all kind of road transport (regional, supra-regional and transit international transport) across the related territory. The only limitation can be represented by the toll system: (i) the system of vignettes both for trucks and private cars since 1990's and (ii) the electronic toll system introduced since January 2010 for trucks (above 3.5 t). The system of vignettes has been well proved and affordable for broad public but not profitable enough to cover road administration, maintenance and investments. The newly introduced electronic toll system for trucks has been accompanied with serious problems causing, except others, mainly limited access (affordability) of the given service for small and medium transport operators. When first problems occurred, the Government introduced some measure, e.g. a decrease in excise duties, what finally resulted in a decrease in total costs for transit per km for the endangered groups of transport operators. The problems with the electronic toll system still persist and continue endangering competitiveness of certain categories of transport

³¹⁷ Citizens could take a part in the Environmental Impact Assessment of the project.

operators. The related service is located within the central region of Slovakia. The project made a significant impact on improvement of local transport system and mainly international transport networks across Slovakia such as E571 connection of an international importance West-East, connection of the Region of Bratislava to East Slovakia and North Slovakia. From this point of view, the service can be considered accessible to all population, leaving in urban and rural regions within the country. The ERDF support (75%) considerably enhanced the quality of the service provided and, in all indicators (.e.g. transport safety, transport density with shortened transport time, time savings for passengers, improved quality of leaving and environment in the populated related areas, etc.), contributed to an easier access to citizens and/or target group, and improved business opportunities.

The related service providers³¹⁸ were selected through the public procurement procedure³¹⁹. The selection was based on assessment of technical and financial offers of bidders. The economically most advantageous offer was selected and related bidder awarded the contract. In this respect and considering the successful project closure, the tendered price of the service can be considered proportional to the quantity and quality of service. Financial returns of the project represent returns derived from the toll system. Returns depend on density and kind of transport using the related part of the road. However, the toll rate does not depend on users' income; it depends on vehicles operating at the related part of the high speed road. The tolls (tariffs) were expected in tender documentation and were included in tendering cost-benefit analysis but, in fact, they did not finance the investment. Project funding was ensured independently from the generated project returns. The implied tariffs (vignettes and tolls) shall bring 2.7 times increased returns in 2010 against 2009. Along with expected increasing transport density returns shall slightly grow on annual basis. However, the proportion of tariffs to costs of running the service (Operation & Maintenance) is currently not accessible.

In setting the vignette and toll rates, the control mechanism has been applied and prices calculated and stipulated in the related legislative framework³²⁰ currently represent the relatively adequate but not entirely fair price system (not considering other costs incurred to users in respect of access to the service). The claims of the service users occurring since launching the electronic toll system force the Government to reassess and amend the price policy in order to be fair and effective for both sides of the service (providers, users). The Structural Funds support did not affect the set-up of the tariff system as it has been developed independently.

23.7. Contribution to cohesion policy objectives

The project R1 Rudno nad Hronom-Žarnovica was designed and implemented in line with the Transport policy of the Slovak Republic. Assistance from the Structural Funds and Cohesion Fund, in both programme periods (2004-2006 and 2007-2013), was in considerable extent allocated to overall enhancement of the transport system in the country. The project specifically responded to the fact that while overall density and length of the road network in Slovakia is comparable with EU average, the share of motorways and high-speed road is critically low.

The new high-speed road, which replaced one of the most problematic roads, is located in central part of Slovakia. It is actually a section of main route connecting western and eastern parts of the country and important international transport corridor. The road is placed on the territory of Banská Bystrica region (NUTS3), which has rural character. Its overall population is 650 000 inhabitants, out of which more than half lives in towns. The

³¹⁸ For construction and construction supervision, separately.

³¹⁹ Works and services based on the PRAG rules.

³²⁰ The national toll rates for vehicles above 3.5 t are applied subject to the Government Decree No. 350/2007 as amended.

region is rather sparsely populated: 69.1 persons per km². The road between the Rudno nad Hronom and Žarnovica not only represents the most important connection of surrounding municipalities with regional centres, but also has strategic importance in context of the regional and national transport system. The enhanced capacity of the road represents benefit for the citizens using the road as well as for the private sector. The improvement of quality of road network and increase of the capacity is expected to have positive effect on the regional economy that is facing structural problems. The problems resulted in overall low competitiveness of the regional economy and high unemployment rates. Despite the continuous growth of regional GDP per capita, the Banská Bystrica region is far below the national average (73% in 2006). Unfavourable structure of the regional economy and lack of modern transport infrastructure significantly contributed to its low attractiveness for domestic and foreign investors. Regional unemployment rate was the highest among the Slovak regions for several years and in some districts it was above the 20%. It is accompanied with the relatively low activity rate (59%) and outflow of young educated people to other regions with better work opportunities.

Efficient and safe road network is one of preconditions necessary for further economic development of the region. In this regard, the construction of new road with increased capacity can improve the productivity and movement of people and goods. Together with other investments aimed at enhancement of infrastructure and accessibility, Banská Bystrica region increased its attractiveness for investors. Incoming private and public investments have positive effects on the regional economy, however its multiplication effects will materialise in future. Providing stimulus to regional economy can in medium-term contribute to overcoming its structural problems and reduce regional disparities, which are significant these days.

Besides the economic benefits the induced effect will also have social dimension. New jobs created in the region and better mobility of people to find jobs even outside of the region will have positive impact on the social cohesion. According to statistical analysis, the regular income significantly reduces the risk of poverty. The unemployed persons and particularly long-term unemployed are exposed besides the risk of poverty to social exclusion. Sustainable economic growth will provide new opportunities for educated young people and partly eliminate their outflow to more attractive regions in the country or abroad. Better accessibility of one service, in this case transport infrastructure, at the same time enhances better access to other services of citizens and private companies.

Opening of four-lane road removed the regular traffic jams, allowed higher travel speed and increased the safety of all users. This aspect should be highlighted since it is a key feature of new transport systems supported by the Structural Funds/Cohesion Fund. After completion of the project, the accident rate on this section has fallen by 40%. The road is projected in a way that it should be able to absorb increased traffic volumes in future without affecting the quality and safety of the services. This facilitates the sustainable use of the road and sustainable development of the territory. The removal of traffic jams reduced negative impacts on the environment and inhabitants.

In terms of territorial cohesion, we can identify several dimensions. First of all, the road is effective instrument for connection of regional centres with rural hinterlands. The infrastructure is conditional to strengthening functional links between towns and rural surroundings. Being a part of the main route, the road has strategic role in interlinking the Banská Bystrica region with other regions. Enhanced connectivity and accessibility at regional level contribute to more cohesive territory. Last, but not least, the road being a part of international road network provides opportunities for better connection with neighbouring countries (regions).

The regional policy focuses on the complex development of defined territory and coordination of instruments/activities within the territory. In case of Slovakia and its regions due to insufficiencies of existing transport system, regional policy must encompass

the provision of related SG(E)I. The inclusion of transport sector into regional policy supports the fact that transport is one of necessary preconditions for sustainable economic development. Support of economic, social and territorial cohesion as the key objective of EU regional policy puts emphasis on ensuring accessibility and quality of SG(E)I to all citizens of EU. On the other hand, covering too many policies (SG(E)I) weakens the concentration of the regional policy and potential leverage effects. Therefore, it is necessary to identify limited number of priorities that are of strategic importance for EU. Transport infrastructure should definitely be one of the priorities as it is instrumental to actual promotion of economic, social and territorial cohesion.

The project responded to well known problem of the road network in Slovakia. Traffic jams, low travel speed and high accident rates have negative influence in the overall quality of SG(E)I. Therefore, addressing the insufficient capacity of the road, which had negative impact on regional and interregional transport, was very relevant. The relevance of this type of projects supports the orientation of Structural Funds/Cohesion Fund in the programme period 2007-2013.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

- Alexander Molnár, Project Manager, Ministry of Transport, Post and Telecommunications of the Slovak Republic.
- Veronika Čepková, Head of the Department for Programme Management, Ministry of Construction and Regional Development of the Slovak Republic.

24. Slovenia.

Wastewater treatment plant Celje

Authors: Marko Peterlin
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24.0. Background information

a) Country	Slovenia
b) Region	Savinjska region
c) Full Project Title	Wastewater treatment plant Celje
d) Duration	2000-2004
e) Programme	ISPA and Cohesion Fund Programme
f) Total Cost	EUR 16 776 300
g) EU Contribution	50.2% (of which 55.5% from ISPA and 44.5% from Cohesion Fund)
h) National Contribution	49.8% (of which 37.3% from national budget, 37.6% from environmental taxes (national) and 25.1% from the Municipality of Celje)
i) Private Contribution	0%
j) Sector	Environment
k) Sub-Sector	Water treatment
l) Beneficiary	Municipality of Celje
m) Implementing body	Ministry of Environment and Spatial Planning

24.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

Slovenia has been pursuing policy of polycentric regional development and public service provision from the 1970s. SG(E)I provision is however not explicitly addressed in the framework of Cohesion policy in Slovenia. Single Programming Document and National Strategic Reference Framework in Slovenia were prepared in line with guidelines of EU cohesion policy.

Wastewater treatment plant Celje was funded from pre-accession instrument ISPA, which was intended for major projects in the area of environment protection and transport infrastructure (see Section 24.3 for more details). ISPA has offered assistance to candidate countries in adopting and enforcing European Standards of environmental protection and investments in transport infrastructure to improve mobility and connectivity with Trans-European networks.

During the programming period 2007-2013 the Structural Funds are drawn on the basis of the operational programs of the European cohesion policy, which have strategic base in the National Strategic Reference Framework (NSRF). General orientation of the NSRF is to improve the welfare of the Slovenian citizens by promoting economic growth, job creation, strengthening of human capital and guaranteeing a balanced and harmonious development, in particular of the regions.

Specific thematic and territorial priorities that Slovenia will follow are thus as follows:

- promotion of entrepreneurship, innovation and technological development;
- improvement of the quality of educational and training systems as well as research-development activities;
- improved labour market flexibility along with guaranteeing employment security in particular by creation of jobs and the promotion of social inclusion;
- ensuring conditions for growth by providing sustainable mobility, improving quality of the environment and providing relevant/appropriate infrastructure;
- balanced regional development.

Slovenia will achieve the objectives of the NSRF with the implementation of the following operational programmes (OPs):

- OP for strengthening regional development potentials (European Regional Development Fund);
- OP for human resources development (European Social Fund);
- OP of the environmental and transport infrastructure development (Cohesion Fund and European Regional Development Fund);
- Cross-border operational programs.

Provision of SG(E)I is most widely supported in the OP of the environmental and transport infrastructure development. The goal of the operational programme is to ensure infrastructure in the field of environment and transport while at the same time this is related to promoting sustainable development and ensuring high quality of living to the inhabitants of the Slovenia.

Investments in the field of environment are based on the National Environment Protection Programme with the priority of improved supply of quality environment protection services by public utilities that are provided to the largest possible share of the population. The environmental field is divided into two main directions. The first are activities in connection with the construction of the public infrastructure for communal waste water management. The field of water thus covers water collection and treatment, potable water supply and protection against water damages.

The waste water collection and treatment is the basic area where Slovenia committed to be in compliance with the applicable EU legislation by 2015. The enforcement of the *acquis communautaire* in the area of urban waste water collection and treatment refers to the implementation of the Council Directive 91/271/EEC concerning urban waste water treatment and to the EU common positions on the negotiating positions in the environmental area (CONF_SI11/01). Therefore, the government already in 2004 adopted the national Operational Programme of Waste Water Collection and Treatment. The programme lists all the areas that in line with the time schedule need to be equipped with public sewage system and waste water treatment plants. By the provision of adequate equipment to all agglomerations the quality of living in Slovenia will improve as well as this will result the health status of the population and the environment. Thus Slovenia will be fully consistent with the directive regulating collecting systems and treatment of urban waste water.

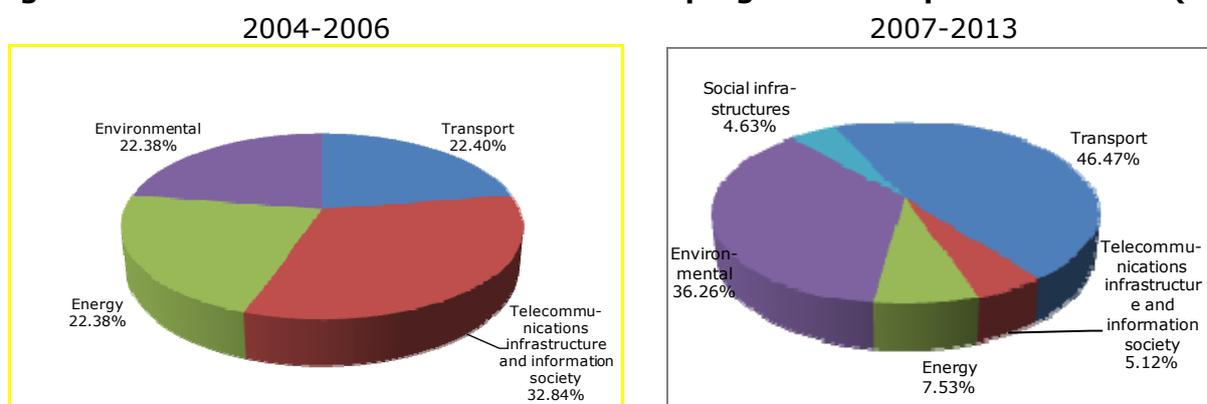
Notwithstanding the provisions of the Council Directive 91/271/EEC and the deadlines for harmonisation with this Directive to be met by the Republic of Slovenia, the measures for urban waste water collection and treatment have to meet also the following obligations arising directly from the Water Framework Directive 2000/60/EC of the European Parliament and of the Council and from the directives joined within its framework:

- fulfilment of the requirements concerning the achievement of good chemical status of surface water and groundwater by 2013;
- fulfilment of the requirements concerning the prescribed quality standards for surface water and groundwater, if these are intended for drinking water supply;
- prevention of surface water eutrophication in sensitive areas; and
- fulfilment of the requirements concerning environmental quality standards for surface water, which apply to bathing water.

OP for strengthening regional development potentials deals with projects of regional importance within the competence of the local communities. Eligible area is also environmental infrastructure which is not financed from the CF and is not included in the OP of the Environmental and Transport Infrastructure Development. In the area of waste water collection and treatment the construction of smaller waste water treatment plants will be justified in areas with low population density as well as draining of urban and precipitation waters.

Some differences occurred in Structural Funds programmed expenditure in SG(E)I between period 2004-2006 and 2007-2013 concerning environmental sector. In period 2004-2006 approximately 22.38% of investments went to the environmental projects, while largest share (32.84%) went to the telecommunication sector. In period 2007-2013 higher (36.26%) environmental and risk protection expenditure is planned compared to the previous financing period, but is not exceeding expenditures in transport sector (46.47%).

Figure 35: 2004-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

24.2. National framework in the provision of SG(E)I

In Slovenia, the functional concept of public service is enshrined in administrative law. Public service is an activity carried out in order to meet the needs of public interest under the authority of the State and the local and regional authorities. The legal system of public services is dominated by public law, and general interest prevails over specific interests. There is a distinction between non-economic public services and economic public services, and between public services placed under the responsibility of the State and those under the responsibility of local or regional authorities. There is no official list of activities included in the category of public services. However, there are certain services that the State or the local or regional authorities are obliged to provide, while others are optional.

Services of general (economic) interest govern several laws³²¹. Which specific activities are carried out as a public service, either commercial or non-commercial, is defined by the various laws or ordinances of municipalities. In the Public Utilities Act are defined different forms of providing SGEI services. The most common forms of SG(E)I implementation are currently public enterprises and concessionary services. Increasingly common forms of provision of both economic and social public services in Slovenia are becoming also different forms of public-private partnerships.

³²¹ Constitution of the Republic of Slovenia (points out certain activities which are provided as services of general interest), Institutes Act for services of general interest (systematic, overreaching law in this area, it provides the basic forms of implementation of public social services), Public Utilities Act (for services of general economic interest). Public-Private Partnership Act (defines different forms of public-private partnerships, where the concession is the most common form of partnership), different sectoral rules and laws.

As stated before there is a distinction between mandatory and optional public services. Discharge and treatment of wastewater and run-off rainwater services are defined in the Environment protection act as mandatory municipal public utility service. Municipality ensures the implementation of this public service in accordance with regulations governing economic public services. Public service shall be performed in the service unit, independent public service agency, public enterprise or as concessionary service:

- service unit for small scale services where it is uneconomical or irrational to set up a public enterprise or to grant a concession. Service unit is without legal entity and in practice is not widely enforced;
- independent public service agency is a special form of public utility set up by public entity. Private sector funding should not exceed 49%;
- public enterprise is set up by government or local community and is owned by the state or the local community. It can be established as a company with private capital inputs if it is not contrary to the public interest for which it is established. This kind of organisation is appropriate for providing one or more utilities of greater scope, which can be carried out also in a profitable way. Often this format is used when there is a natural monopoly for the implementation of certain public utilities. In Slovenia this form is currently the most common at the state level and at the level of the local communities;
- concessionary service is the only form of SGEI implementation provided by private entities, whose founder is not a public entity. Public utilities act specifies the content of the concession act, which is adopted by the government or representative body of the local community in a form of general act. This act defines content of public service and the way of the selection of the concessionaire.

The mandatory municipal wastewater treatment service is in Slovenia dominated by public enterprises, which is also the case of Celje wastewater treatment plant. Public enterprise of wastewater treatment service is set up and owned by the local community. It can be established as a company with private capital inputs if it is not contrary to the public interest for which it is established. Founder of the public enterprise defines special conditions for the implementation of activities and provision and use of public goods. It also decides on prices and tariffs for the use of public resources. In cases when prices of the service are not covering the costs of running, the difference is covered from budget or other sources specified by local community legislation.

The public service of disposal and treatment of wastewater in Slovenia is operated by more than 50 registered companies, of which are majority public enterprises owned by municipalities, few are companies are organised as a limited companies (party in the ownership of municipality, partly other owners), one company has signed a concession. Most of these companies conduct public services in several municipalities. In the last ten years there were established several new public enterprises, some municipalities have also set up service units, operating within municipal administration. Almost all companies also perform other public services, like drinking water supply and waste management.

Wastewater treatment services in comparison with other (local) economies demonstrate a number of specific features and characteristics. One of these features is a strong monopoly position, because in one settlement is normally only one sewer distribution system. This is objectively seen as an advantage of this economy-in terms of settlement enables more consistent development. Specific characteristic is also in a field of supply and demand. According to this, prices are not applied according to terms of normal and regular functioning of the market mechanism of supply and demand. Nevertheless, market mechanism of supply and demand is present at the creation and production of services

(purchase of reproductive material and equipment, construction and renovation of facilities).

The current structure of the wastewater treatment services and other environmental public services can be considered as not appropriate. This is reflected in irrational organisation and large number of companies, which mostly deal with public services but at the same time also with other profit-oriented services. This often means lack of transparency in the implementation of public services. Control over them is difficult-it is hard to identify the operating activities, profitability, economy of operation and the real costs of public services. The situation has worsened since the reform of local government, when some of the new municipalities began to establish their own local companies or service units. This situation has weakened professional position of companies, demolished pricing policy of the public companies services and worsened the access to the necessary investments in the urban infrastructure. Like any economic activity the implementation of environmental SG(E)I is also subordinated to the economic laws, including minimum thresholds of the economics of the operation. Experiences show that the effective and rational implementation is possible only in the case of relatively large extent of more specialised services in this area.

According to the Art.86 (2) of the EC Treaty economic operators engaged in the public service should have separate accounts and show the real costs. To guarantee SG(E)I's principles in the context of liberalisation the new Public-Private Partnership Act prescribes a public tender for selection of the contractor for public services. By adopting the Public-Private Partnership Act public bodies (especially state and municipalities) have attained the legal basis for the implementation of the projects in the field of providing SGEI/SG(E)I and public infrastructure necessary for implementation of SGEI/SG(E)I through public-private partnerships. This has opened doors that allow the private sector to play more active role. The purpose of the public-private partnership is to enable and promote private investment in SGEI/SG(E)I, to provide effective implementation of SGEI/SG(E)I and to facilitate the rational use, management or exploitation of natural assets and constructed public assets. The purpose of the public-private partnership is also to ensure transparency, competition, non-discrimination and fairness of the procedures of formation, conclusion and implementation of various forms of public-private partnership, to protect public interests and to ensure the implementation in the public interest.

24.3. Project description

Construction of a new wastewater treatment plant was part of the ten-year investment plan for the drinking water supply and drainage and wastewater treatment in the municipality of Celje. Programme for the construction of new wastewater treatment facilities, upgrading the primary and secondary collector, and upgrading the water supply network was adopted in 1998 by the municipality of Celje for the period 1998-2007. The main objectives of the investment programme were diminishing the consequences of the pollution of water which are caused by households, pre-treated industrial, hospital and other effluents.

Ministry of Environment and Spatial Planning of the Republic of Slovenia has prepared the Action Plan of Water Management on the Local Level (time period of implementation till 2006) and the National ISPA Strategy of the Republic of Slovenia: Environment Sector, dated October 1999. Both documents are based on Environmental Act and on the criteria, defined by the National Environmental Action Programme, National Programme for the Adoption of the *acquis communautaire* and the long terms goal of compliance with EU legislative requirements. Refer to defined criteria, introduced by the National Programme for the Adoption of the *acquis communautaire*, the sensitive and potential sensitive areas were proclaimed. The ISPA investment proposals in water sector were recognised as priority ones for implementation of the Urban Waste Water Directive on the sensitive and potential sensitive areas of the main River Basins.

The main objective of the investment is diminishing the consequences of the pollution of water which is caused by households, pre-treated industrial, hospital and other effluents, similar to the communal waste water. Project priorities are the construction of a new wastewater treatment plant, main sewer and upgrading the primary collectors in Celje municipality to meet the requirements of the EU Urban Waste Water Directive³²² and in addition Ground Water Directive. The wastewater treatment plant will reduce the impact of effluent discharges into the Savinja river which flows into the Sava river. On the Sava river a hydropower chain will be designed in the near future, in respect to this fact, this section of the Sava river is proclaimed as potentially sensitive area, which requires tertiary treatment. In the section of the Savinja to which the Celje effluents discharge, the Savinja will be improved from 3rd-4th quality class to 2nd quality class³²³.

The project contributed to the local community on the social, economic and environmental fields. In the social field, the main contribution was a general improvement in quality of life (health, protection of drinking water sources), in the economic field, the project contributed to the creation of better conditions for economic and tourist development, and in the field of environment, improving the quality of Savinja river, a major tributary of the Sava river, and improving conditions in the Savinja and Voglajna rivers for resettlement of better quality fish species were the main contributions.

Final beneficiaries of the project are households and industry in the city of Celje and some settlements in the area. Population number connected to the sewage system was 42 000 inhabitants (69%) before the investment, after the investment this number has risen to the 53 200 (90% of the population). After construction in the area of the municipality of Celje approximately 92% of the sold drinking water is connected to the sewerage system and approximately 87% of sold drinking water is treated in water treatment plant.

Project was implemented in two stages. In the first stage the construction of main sewer and central wastewater treatment plant was implemented. The size of the inlet collection pipe, forming the integral part of the facility, is 1 200 mm in diameter and 3 500 m in length.

Central Wastewater Treatment Plant has biological treatment of waste water with a suspension of biological sludge. With loads up to approx. 75 000 PE the plant is operating

³²² The Council Directive 91/271/EEC concerning urban waste-water treatment was adopted on 21 May 1991. Its objective is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors. Specifically the Directive requires:

collection and treatment of waste water in all agglomerations of >2 000 population equivalents (p.e.); secondary treatment of all discharges from agglomerations of > 2 000 p.e., and more advanced treatment for agglomerations >10 000 p.e. in designated sensitive areas and their catchments; a requirement for pre-authorisation of all discharges of urban wastewater, of discharges from the food-processing industry and of industrial discharges into urban wastewater collection systems; monitoring of the performance of treatment plants and receiving waters and controls of sewage sludge disposal and re-use, and treated waste water re-use whenever it is appropriate.

³²³ Classification of surface water quality:

Class 1 is extra clean fresh surface water resource used for conservation, not necessarily required to pass through water treatment process, and requiring only an ordinary process for pathogenic destruction and ecosystem conservation where basic organisms can breed naturally.

Class 2 is very clean fresh surface water resource used for consumption, which requires ordinary water treatment process before use, for aquatic organism of conservation, fisheries, and recreation.

Class 3 is medium clean fresh surface water resource used for consumption, but requires passing through an ordinary treatment process before use, for agriculture.

Class 4 is fairly clean fresh surface water resource used for consumption, but requires a special water treatment process before use, for industry.

Class 5 is the source which is not classified in class 1-4 and used only for navigation.

as a plant with aerobic stabilization of sludge (extended aeration), later when the final design capacity will be 85 000 PE, additional stabilization of sludge with dosing of calcium oxide to the already thickened sludge is foreseen. The plant consists of three phases of treatment: preliminary treatment, carbon treatment and nitrogen and phosphorus treatment.

The main investment in the second stage was upgrading the primary collectors. In order to organise the collection and treatment of waste waters upon the entire territory of the Municipality of Celje, as well as to provide the most rational operation of the future Wastewater Treatment Plant with its full capacity load, it was necessary to connect all urban areas in the territory of the Municipality to the primary sewage network in the shortest possible period. This required additional building and optimization of the inlet sewer network system by the construction of the following facilities:

- construction of primary collector (No. 2) in total length of 4 230 m;
- construction of primary collector (No. 10) in total length of 3 500 m;
- construction of 5 retainer tanks with total volume of 1 800 m³;
- construction of 6 pump stations with total capacity of 8 000 l/s.

24.4. Specific aspects of SG(E)I affected by the project

The following specific aspects/objectives are enhanced with the project:

- ***Protection of water bodies and the improvement of the environmental parameters:*** formerly, all the wastewater that was produced in Celje flowed into the regional sewage system that discharged more than 4 500 cubic metres of untreated water per day directly into the Savinja river. The quality of the water in this river was rated as 3rd to 4th class, in accordance with the EU fresh water classification scale, and naturally, the effluent from Celje flowed on to contaminate the purity of water in the Sava river.

After the investment, the main objective of the project-improvement of Savinja river and Voglajna river-is achieved and there are no direct discharges into the rivers. The study of the quality of the Savinja river showed significant improvement (2nd class) in quality downstream from the city of Celje. In the municipality of Celje approximately 92% of the sold drinking water is connected to the sewerage system and 87% of sold drinking water is treated in wastewater treatment plant. As a consequence the higher-quality fish species were introduced in the Savinja river.

- ***Quality of the drinking water, preservation of the natural water resources:*** abandoning of cesspools, extension of the sewage system and building of the wastewater treatment plant has positive impacts on the protection of drinking water sources. Improving the quality of Savinja river, which is a major tributary of the Sava river has also positive impact in neighbouring Croatia, where Sava river is used as a source of underground drinking water.
- ***Extension of the sewer and purification service:*** formerly, the sewage system has contained around 200 km of sewers with belonging revision collectors, overload pools, delay pools, siphons and pumping area. The users were mainly connected to the sewage system with cesspools or septic tanks. The number of the registered cesspools was around 9 000. Approximately 42 000 inhabitants (69% of total population) were connected to the sewage system.

The project of Celje wastewater treatment plant was implemented in two phases. Objective of the phase I was upgrading of the primary collector of wastewater and then the treatment plant was built, which has the capacity to handle output from the

equivalent of 85 000 inhabitants. In phase II, additional collectors of a total length of 7.7 kilometres were installed and six pumping stations and five retention tanks were constructed along the Savinja river. The plant consists of three phases of treatment: preliminary treatment, carbon treatment and nitrogen and phosphorus treatment. The wastewater is mechanically and biologically purified and it refines household and pre-treated industrial and hospital effluents. The final products are cleansed water, which flows into the Savinja river, and sludge that has been dehydrated and can then be used as manure on farmland. After the building of planned sewage system more than 90% of total population is connected to the sewage system and Celje wastewater treatment plant.

- **Social benefits:** the social benefit is demonstrated by the fact that Celje has become the fastest developing city in the country with favourable conditions for investment in various activities. The important growing area with some major projects has become the field of tourism. All this has positive effect of an increase of employment in the Municipality of Celje.

Contribution of pre-accession aid ISPA has contributed significantly to the realization of the project. The results of the project did not have any significant effects to the approach to the public services at the regional or national level. This project was one of the first ISPA projects, so the application form was not fully defined yet at the time of the application. Application for assistance of the project was taken as a sample for other applicants.

24.5. Governance aspects

The main stakeholders and partners involved in the project were Municipality of Celje in the role of investor and body responsible for operation, public company and service provider Vodovod-Kanalizacija Ltd and Ministry of Environment and Spatial Planning, national authority in the role of body responsible for implementation of the project, project management and supervision during construction.

Besides the above mentioned bodies two other national authorities-Ministry of Finance (Central Financial and Contracting Unit), a body to which payments are to be made, and Government office for European Affairs as central co-ordinating body responsible for the implementation of the programme, were also involved in the project. The main expertise providers were Ecological Engineering Institute Ltd, who prepared the investment documentation and Razvojni center Inženiringi Celje Ltd, who made financial and economic analysis.

The Mayor of the Municipality of Celje has founded a Committee for the Construction of the Wastewater Treatment Plant with the task of monitoring and supervising the activities, coordination with the City Council, and communication with media. To ensure the execution of public services, municipality of Celje accepted the Act of establishing of public companies under which public company Vodovod-Kanalizacija Ltd. was established. Its main tasks are:

- drinking water supply;
- conducting of storm water and treatment of communal waste water;
- maintenance of the net of infrastructure building and devices;
- wastewater treatment plants;
- measuring-controlling stations;
- executing of the connection to public network of infrastructure buildings and devices;
- production and maintenance of the equipment for execution of public services;

- engineering service at construction of buildings and designing the buildings of communal use; and
- executing the tasks on behalf of municipality (development, issue of allowances).

In accordance with Public Utilities Act and Companies Act is Vodovod-Kanalizacija Ltd organised as a public company in a form of a limited liability company. Owners of the company are municipality of Celje (97.7% share), municipality of Vojnik (5.2% share), municipality of Štore (2.7% share) and municipality of Dobrna (1.4% share).

Investment was not implemented through any kind of public-private partnership and did not foresee any incentive scheme. Structural Funds contribution has significantly accelerated the implementation of the project but did not affect the structure of governance and organisation of partnership.

24.6. Universality of access and affordability

Universality of access

Service provision depends on the existence of the sewage system and is available for all population regardless to any social or economic characteristics or sex. In some areas, mostly sparsely populated rural areas, building of sewage system is not economical. Limitations in accessing the service of wastewater treatment exist for business or industry according to the type of their wastewaters.

Number of the population connected to the sewage system before the investment was 42 027 inhabitants (69% of total population). After building Celje sewage system more than 90% of total population is connected to the sewage system and Celje wastewater treatment plant.

Structural Funds support played important role in building the wastewater treatment plant. It made possible the timely implementation of the project and extended the access to wastewater treatment to the greater number of citizens and households.

Affordability

The tariff was defined in the investment program before the building of waste water treatment plant started. It is based on different predictions and estimations. The selling price for services of waste water treatment is built from:

- material consumption and services (direct costs of material and services) which arises from project of chosen technology;
- costs for sludge handling;
- depreciation;
- costs of working force;
- operating costs of the sewage system;
- estimated level of profit which will be used for further development of sewage system;
- administrative tax for pollution.

Price of the service is proportional to the quantity and quality of the service. The operating costs, including maintenance and depreciation are completely covered by the price of waste water treatment plant. The price of the service is partly subsidised to ensure affordable level. Diversification of the tariff depending on the category of users supplied (low/high

income) is not relevant. Prices for the discharging of waste water for households, social activities and other consumption are of two types:

- waste waters that flow into sewers and are not cleaned in the wastewater treatment plant: 0.21 EUR/m³ for use of sewage system, 0.48 EUR/m³ for environmental tax, 0.195 EUR/m³ for water pollution fee;
- waste waters that flow into sewers and are cleaned in the wastewater treatment plant: 0.21 EUR/m³ for use of sewage system, 0.60 EUR/m³ for wastewater purification, 0.033 EUR/m³ for environmental tax, 0.013 EUR/m³ for water pollution fee.

As we can see the overall tariff is slightly higher for those users who are not connected to the wastewater treatment plant. In the near future is for the first time planned the increase of tariff for use of sewage system because the current price is not covering all costs. Costs are rising due to intensive investments in the sewage system. Effects of these investments are primary higher costs of electricity, fuel, material, rentals and major maintenance. New investments are not new connections, which in turn mean that the operator revenue is not growing despite the rise of mentioned costs. New tariff of the service will be partly subsidised. 13% increase of tariff for use of sewage system is planned, which means that the increase of final price for average user will not exceed 2%. Calculations show that in order to cover all operating costs the tariff for use of sewage system must be increased for 43%.

The Structural Funds support helped in providing service on an affordable tariff. Among the main financing sources for investment was also tax for water polluters (administrative tax) which are reserved sources from state budget and water polluting charge (charge for waste) of municipality of Celje.

24.7. Thematic focus

Although the project has significant cross-border effects, improving the quality of Savinja river, a major tributary of the Sava river, which is used in neighbouring Croatia as a source of drinking water, the project itself was not implemented in the framework of cross-border cooperation. After crossing the border with Republic of Croatia the Sava river is an important source of groundwater in the neighbourhood of Zagreb, the metropolitan area with around a million inhabitants. The quality of groundwater used as the most important source of potable water for Zagreb is poor, especially the amount of nitrates.

Similarly, aging population and geographic remoteness are not very relevant dimensions for the project analysed. Municipality of Celje is located in the middle of Slovenia by Savinja and Voglajna river. City of Celje is the third largest city in Slovenia and it is well connected with other parts of Slovenia. Urban hinterland is mostly hilly, where small rural settlements without connection to the wastewater treatment plant prevail.

The area, which is covered by wastewater treatment plant, is spread on 230.3 km² with almost 61 000 inhabitants (municipality of Celje around 48 800). There are 264 inhabitants living per km², 514 inhabitants living per km² in the municipality of Celje. 42 027 inhabitants are connected to public sewage system of the municipality of Celje and settlement Levec.

24.8. Contribution to cohesion policy objectives

Main direct effects of the project are in the field of environment-improving the quality of the Savinja river, a major tributary of the Sava river, and improving conditions in the Savinja and Voglajna rivers for resettlement of better quality fish species were the main contributions. But there is not much doubt that the project contributed also to economic, social and territorial cohesion at different levels. In the economic field, the project

contributed to the creation of better conditions for economic and tourist development. It thus helped to economic convergence between the regions in Slovenia. In the social field, the main contribution was a general improvement in the quality of life (health, protection of drinking water sources), in this way improving the attractiveness of the city of Celje and the whole region for younger people, helping to slow down ageing. From the point of view of territorial cohesion, the wastewater treatment plant definitely contributed to integrated planning not only within the municipality and in cooperation with the neighbouring municipalities, but also along the whole Sava river basin, which includes also cross-border cooperation with Croatia. Also, the availability of EU funding for the project helped to implement the project significantly earlier than it would have been the case if national and municipal sources would be the only public funding available.

Nevertheless, it has to be emphasized that contribution to the objectives of Cohesion Policy was not the starting point of the project. Rather it was the result of consistent national and local policies with regard to environment as well as regional development. Although it can be said that the national regional development policy was re-invented with the adoption of the Regional Development Act in 1999, Slovenia has been pursuing a long-term policy of polycentric spatial and regional development since the late 1960s. Investments in SG(E)I in the regions have thus been consistently financed mostly from the national sources. The objectives of this long-term polycentric regional policy are largely consistent with Cohesion Policy at the EU level, so it is difficult to distinguish to which objectives a certain project contributes.

A serious thought is therefore needed before concluding that the provision of SG(E)I should be supported at the EU level and reinforced in the framework of the EU regional policy. First, actors at local, regional and national levels are probably more aware of the actual needs with regard to the provision of SG(E)I. Second, if cohesion policy is to be based on the territorial potentials of specific areas, as the concept of territorial cohesion suggests, the provision of SG(E)I should support different potentials in different areas. What is perfectly clear is that uniform level of services would not be appropriate for all areas and regions, rather the level of services should be based on the specific needs and potentials of each region. Particular care should be taken in the cases when EU cohesion policy supports investments in the services, which are not economically viable and would never have been implemented without the EU support.

Acknowledgements

The content of this case study derives also from interviews of the responsible experts listed below, which the author takes this opportunity to thank. The author is fully responsible for the content of the study.

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- Peter Wostner, Deputy Director of the Government Office for Local Self-government and Regional Policy.
- Roman Kramer, Project Manager, later Director of the Vodovod-Kanalizacija public company, now Head of the Department for Environment, Spatial Planning and Public Utilities at the Municipality of Celje.

25. Spain. Complex for treatment of urban waste in Zaragoza

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25.0. Background information

a) Country	Spain
b) Region	Aragón
c) Full Project Title	Complex for Treatment of Urban Waste in Zaragoza
d) Duration	2005 -2008 ³²⁴
e) Programme	Cohesion Fund (2005 ES.16C.PE.003)
f) Total Cost	EUR 42 276 969
g) EU Contribution	Cohesion Fund 72.1% (Decision C82005 1571 20/05/2005) 325
h) National Contribution	27.9% (Local contribution: Municipality of Zaragoza)
i) Private Contribution	0%
j) Sector	Environment
k) Sub-Sector	Urban and industrial waste management
l) Beneficiary	Total population of Zaragoza Council (750 000 inhabitants)
m) Implementing body	UTE EBRO (URBASER-VERTRESA) ³²⁶

25.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The important growth rates of the Spanish economy in the last decades has found expression in a widespread rise of *per capita* income, in major urban development and in an increase of population principally through immigration. In spite of their effect on the environment, during the last years Spain has increased the sustainability of its development with the support of the Structural Funds, especially in infrastructures for the management of waste water and solid urban residues (inter-territorial cohesion). However, there are still significant deficiencies in certain fundamental aspects such as the availability in quantity and quality of water resources, waste management and the prevention of natural risks (in particular those related to the prevention and control of flood hazard, forest fires and polluting sites).

As laid down in the Spanish National Support Reference Framework, the main environmental strategic objectives of the Structural Funds in the period 2007-2013 are: (i) to develop environmental³²⁷ and transport infrastructures³²⁸, especially taking in account the dynamism of demographic projections, and (ii) to consolidate the synergies between the protection of the environment and the economic growth. The quantitative importance of these strategic objectives is estimated in the Figure 36.

³²⁴ The technical specifications for the tender were elaborated in March 2001 and the contract was bidden in 2002. Due to problems of urban development type (non-availability of land) construction began on 13 January, 2005; the receipt of the work and the final delivery date, with a planned experimental testing period of 4 months, was 29 December, 2008. Effective start-up was delayed until 1 February 2009 because of problems in the biogas tanks.

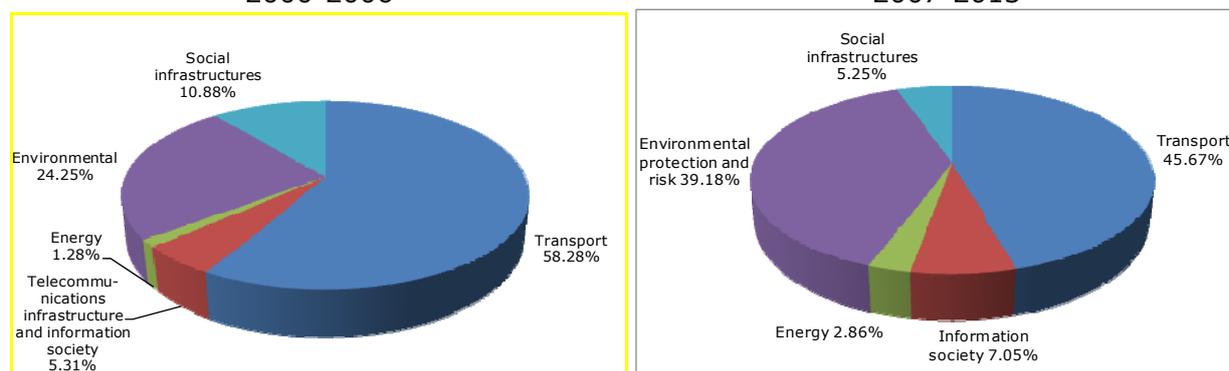
³²⁵ The maximum amount eligible was EUR 38 076 237 (80%). Although there is a modified decision C (2009) 4063 of 15/05/2009, the maximum amount from the Cohesion Fund does not vary in relation to the approved initial decision and the Municipality of Zaragoza assumes the entire cost difference produced.

³²⁶ UTE EBRO is a joint venture between two private Spanish companies: 95% URBASER S.A. (a company belonging to the ACS group) and 5% VERTRESA (Vertederos de Residuos S.A. a company belonging to the FCC group).

³²⁷ Second Integrated National Plan of Residues (PNIR 2008-2015) and Programme of Actions for the Management and Use of Water (A.G.U.A.).

³²⁸ Strategic Plan of Infrastructure and Transport (PEIT 2005-2020).

Figure 36: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

The expenditures of ERDF allocated to environmental and risk prevention projects increase 15 points (from 24.00% to 39.18% in relative terms), with priority in water and waste management. The aids to transport still absorbing almost the half of the European expenditures (45.67%), with priority to TEN-T projects (highway and high-speed train), Motorways of the Sea and unimodal transport. The Spanish bet also stands out for the development of renewable energies³²⁹ as way of diminishing the high foreign energy dependence (which aids double in size). On other hand, investments in social infrastructures are relegated (they account for only 5% of the current programmed expenditures).

The horizontal principle of sustainability can be found in the Spanish NSRF across a specific axis directed to promoting the sustainability of the Spanish development model through improvement of the environment. The priority is set on infrastructures of urban waste and waste water treatment, the supply of drinking water, the management of natural resources and biodiversity, the decontamination of land to develop new economic activities, and protection against specific environmental risks (desertification, drought, fire and floods).

The Spanish National Support Reference Framework therefore provided the European strategic guidelines relating to the provision of environmental services³³⁰ In addition, the NSRF has obvious synergies with the National Plan of Reforms in the environmental field³³¹. Under the NSRF the Spanish environmental actions must be focused on the global management of water, which is far from being sustainable to this day, and in the management of urban and hazardous waste, which is inadequate in many municipalities. The Spanish Framework also includes measures of prevention, which should be directed to increase the efficient use of water and the waste recycling rate.

In relation to the waste sector, efforts are focused on the prevention, reduction and treatment of residues and their harmful effects³³². The priority of these performances depends on each region. So, the Convergence regions present a major delay in waste management and require the development of basic infrastructure of local waste disposal. For their part, Competitiveness regions can only develop environmental infrastructure aimed at the prevention of risks or incorporate new technologies and good practices.

The strategic environmental objective is to increase significantly the percentage of selective collected waste in relation to the total collected waste from 30% in 2004 to 50% in 2010

³²⁹ Savings and Energy Efficiency Strategy (2004-2012).

³³⁰ Objective O.1., Measure O.1.2: "To reinforce the synergies between protection of the environment and growth".

³³¹ Axis 2 of the Plan integrated Directives 11 and 16 and is associated with the Axis 3 of ERDF Convergence, Axis 2 of Competitiveness and Axis 2 and 3 of Cohesion Fund

³³² Category of expenditure 44: Management of domestic and industrial residues.

and 64% in 2013. In general, the internalisation of external environmental costs is partial. Each municipality decides how to organise and finance the collection, treatment and disposal of waste, and normally the waste tax paid by citizens fails to cover full costs of these services.

The degree of integration of the projects for 2000-2006 with regard to the environmental guidelines is positive. Nevertheless, it is necessary to advance in the reduction of urban and toxic residues, in technological efficient innovations in waste management and in the campaigns to raise public awareness (training and social participation). In relation with the Spanish current situation, it is necessary to emphasise three important aspects: (i) the opportunity of the measures, explained by the great environmental potential, still remains; (ii) the principal weakness is the insufficient capacity of treatment of the urban residues due to both the increase of population and more restrictive legal regulations³³³; (iii) the main strength is the increased environmental awareness as a horizontal priority³³⁴.

For 2007-2013 the importance of the provision of environmental services has been reinforced. In the Convergence regions infrastructures continue to have significant weight and, in the Competitiveness regions aids are directed towards a major specialisation (technological innovation). The priorities are focused on integrated projects, selected through competition, of local character (municipalities or groups of municipalities of small and medium size-between 20 000 and 50 000 inhabitants), with potential creation of employment. The coordination will be observed especially by the regional authorities in order to avoid overlapping and to guarantee the necessary coordination of actions financed by the various European Funds. Finally, the role of the partnership is reinforced in the selection of projects, coordination among administrations (state, regional and local), and the strengthening of the networks.

25.2. National framework in the provision of SG(E)I

The most relevant regulation frameworks concerning the management and treatment of waste are:

- the Local Regime Law (*Ley 7/1985, de Bases de Régimen Local*) defining the competence of the waste treatment to municipalities;
- the Residues Law (*Ley 10/1998, de Residuos*) is the legal framework on production and management of the two types of waste (domestic and hazardous) and establishes the obligation to adopt national waste plans, which are elaborated by integration of the respective regional plans, which should be reviewed in periods of time not exceeding four years;
- the Packaging and Packaging waste Law (*Ley 11/97, de Envases y Residuos de Envases*) and the legislation for its development and implementation (RD 782/1998);
- the Second Integrated National Plan of Residues (PNIR) 2008-2015³³⁵ was approved 26 December 2008 by the Council of Ministries with a EUR 23 million budget and three main priorities (to reduce, to re-use and to recycle). It provides guidelines and the main measures to be implemented, which are developed in thirteen specific plans for each type of waste (domestics, hazardous, tyres, sludges, batteries);

³³³ This is the case of regions under the Convergence objective, such as Andalucía, Galicia, Murcia and Ceuta and regions under the Competitiveness and Employment objectives, such as Aragon, Baleares, Cantabria, Castilla y León, Cataluña, Comunidad Valenciana y La Rioja.

³³⁴ Especially in the regions of Andalucía, Baleares, Castilla y León, Cataluña, Extremadura, Galicia, La Rioja, Madrid and País Vasco.

³³⁵ The first National Plan for Residues (I PNIR) covered the years 2000-2006.

- other regulatory rules are: Incineration Act (*RD 653/2003, sobre Incineración de Residuos*); Elimination of waste by the Landfill Act (*RD 1481/2001, sobre Eliminación de Residuos mediante Vertedero*);
- in recent years the Autonomous Communities have also developed and approved strategic waste plans based on their own policies and competences (in this case *Decreto 72/1998, Plan de Ordenación de Gestión de los Residuos Sólidos Urbanos de la Comunidad de Aragón*). Some municipalities have also established programmes and goals to improve waste management, dealing mostly with household waste.

All the different levels of Spanish Administrations (national, regional and local) have competence in the waste sector. The Environment Ministry (MARM) elaborates the national plans and carries out the authorisation and inspection of residues in/out EU countries. The Autonomous Communities elaborate the strategic plans for residues, and attend to the authorisation, inspection and sanction of waste production and management activities. The municipalities are responsible for the management of urban residues (domestic, trades, offices and services).

In the case of Spain the municipalities, large or small, play an important role in the provision of waste services: the councils are responsible for the majority of waste process phases (refuse collection, treatment and elimination), and each of them decides how to provide and to finance the services with total independence. The councils have a wide margin of flexibility to choose the mode and characteristics of supply: each municipality decides the modality of management and the financial instruments. According to the law, municipalities can be grouped to optimise the management of services.

All waste from homes, shops, offices and services activities put out in the street to be collected and transported for disposal or treatment plants is owned by the City Council. In addition, regardless of the form of waste management, the service and equipment are always the property of the councils. The construction and financing of investments (facilities, trucks, workshops) is realised by the service-providers for the duration of the concession. Once ended, the contract and the assets are transferred to the municipality.

The temporary evolution of waste management in Spain reflects a trend of decrease of direct management in favour of indirect management modalities. Nowadays, Spain is characterised by a very high level of subcontracting of waste services to private or mixed companies: 76% of refuse collection services and 79% of treatment and disposal services were indirect management by private companies in the form of temporary concession under international public tender. The private refuse collection and treatment markets are shared among three highly specialised high-technology private companies of international standing. The share in refuse collection is Fomento de Construcciones y Contratas S.A. (FCC group) 40% of private market, URBASER S.A. (Actividades de Construcción y Servicios S.A. group) 18% and CESPAS S.A. (Ferroviario group) 14% while the share in treatment and elimination is URBASER (26%), FCC (16%) and CESPAS (12%).

In the case of indirect management, the plenary of the Council has to approve the administrative and technical rules of the tender, such as routes, technical innovations, frequency and quality of the services, financial resources and obligations stipulated by contract, and must survey the development of the service. The tenderers must design the services (according to the municipality requirements), to evaluate the service costs and to define how to reassess the annual cost of the services during the contract in a sealed bid. However, these aspects are not regulated when the service is offered through direct management.

The tenders are for periods between 8-10 years in refuse collection and between 10-30 years in the case of treatment and elimination services. The municipality fixes the services featured in the specifications act for an annual operation fee. The contractors must (i)

design the services, (ii) value the costs and (iii) give an economic offer for the whole period of concession. In addition, the initial investment (machinery and fixed installations) is assumed by the contractor, who has sole economic control of the whole operation during the time of the concession. Consequently, the providers effect the payments, manage the labour costs, engage in collective bargaining, implement the services, negotiate the financial aspects and invoice the services to the municipality and develop technological improvements. The production costs offered will only be checked by increase of population, of the services and of the labour costs. The energy costs will be reviewed according to the official price indexes.

The preference for indirect management arises from various reasons: (i) it limits the indebtedness of the municipalities, (ii) it increases competition, (iii) it requires a meticulous draft of the contract, and (iv) it requires a precise delimitation of the liabilities of the operator. At the same time, it reinforces the capacity of control of management and transparency in the decision-making process.

Spain is now one of the European countries with the most private contracting in waste public services with a very competitive market in waste sector. The requirements imposed by tenders have a positive repercussion on costs, quality and technological development in household waste services. The main barriers to entry in the waste sector are the necessary level of experience and the high investments required for implementation of the services. To take advantage of synergies, tenderers operate individually or in joint ventures, or through public-private capital entities.

25.3. Project description

The Complex for Treatment of Urban Waste in Zaragoza is one of the most important Spanish all-round centres for the treatment and recycling of waste. It will serve the city of Zaragoza and 60 neighbouring municipalities (total population about 750 000 inhabitants) for approximately the next fifteen years and is expected to recycle two thirds of the urban waste generated. There is no private contribution to the implementation of the project. However, the contractor has management of the operation of the plant for 15 years, in return for which the municipality of Zaragoza pays an annual tariff.

The centre is equipped with notable advances in the treatment of waste and it allows the handling of up to 465 000 tonnes of waste per year. Paper, cardboard and glass are selectively collected by private companies contracted by the administration. The rest of household waste collected by the municipal services (about 270 000 tonnes in 2009 is collected in street and in civic amenities sites of which 15% packaging and 85% unsorted waste goes to the plant. 45% is the maximum rate of refuse, that is, the percentage of waste to plant and to final landfill.

The main objective is the maximum recovery of waste by-products in development of compost, in recovered and packaging materials and generating electricity using the best available techniques. One of the most important aspects to take into account is the flexibility of the centre to be adapted to the new forms of refuse collection which will be implemented through treatment lines operating independently (organic fraction, packaging fraction, final landfills).

The complex is an all-round centre for waste management (treatment and recycling) and incorporates the following activities:

- Weighbridge Area: quantity and nature of waste collected.
- Primary Treatment Area (waste reception hopper with four treatment lines and unit capacity of 25 tonnes per hour): separation of bulky waste and organic matter, then

selection of recycled by-products (paper and cardboard, plastics, bricks and ferrous or aluminium materials).

- Biomethanisation Area (biogas is transformed into electrical energy for consumption on the plant and for the electricity network): total production will be 10 million m³ biogas per year and 24 million kilowatts per hour per year.
- Composting Area (generation of quality compost): the matter obtained through the biomethanisation process is dehydrated and mixed with the vegetable fraction to undergo a process of maturation of 14 days; this area will produce 20 000 tonnes per year of high-quality compost, earmarked mainly for agriculture.
- Classification Plant (separation of packaging): selection of waste lightweight containers in all regions, controlled storage of waste (2 900 000 cubic metres capacity).
- Bulky Treatment Area: classification of furniture and utensils.
- Lixivated Treatment Area: the process involves four stages with a processing capacity of 270 m³ per day.
- Air Treatment Area: the aspirated air plant deodorises through acid rain, humidification and biological filter.
- Domestic Animals Refuse Treatment Area: crematorium oven with static total oxidation at temperatures over 1 000 °C.
- Controlled waste landfill: the final landfill complies with the European ground waterproofing rules and has three separate cells, each of which is sealed after exhaustion; the refuse in the treatment plant is compacted to a density of nearly 900 kg/m³ 10)
- General Services: the centre also has laboratories, offices, dressing rooms, environmental awareness rooms, didactic gateway and control areas.

The Complex for Treatment of Urban Waste in Zaragoza is designed for a planned minimum 15 000 tonnes per year of low density materials and 450 000 tonnes per year of unsorted household waste that will be treated in daily shifts for 363 days of the year (excluding 24 and 31 December). It is expected that the waste centre will receive annually about 275 000 tonnes of household waste and produce some 30 000 tonnes of recovered materials (15 830 t paper and cardboard, 10 460 t lighter packaging, 3 210 t metals, 150 t glass and 700 t other white line products). The energy produced by the biomethanisation plant should be enough to supply a town of 20 000 inhabitants and represent energy savings equivalent to the consumption of 26 000 t of coal or 6 500 t of fuel-oil a year. The final landfill has the capacity to accommodate the collected municipal waste for more than 20 years with a minimum by-product recycling rate of 55%, allowing the prevention of discharge of more than 150 000 tonnes of domestic waste per year.

The centre is equipped with the latest equipment for the treatment of waste, enabling it to handle up to 465 000 tonnes of waste per year and, in particular, allows the recovery of a large part of the waste materials and produces compost and electricity. The **most important aspects** of the project are the biomethanisation and composting processes to avoid incineration of the remains and, therefore, to reduce the emission of harmful gases to the atmosphere in order to meet the environmental objectives of the EU Directives and the Kyoto Protocol. In this sense, the reduction of emissions into the atmosphere is estimated approximately at 283 000 tonnes CO₂ per year, which is a clear commitment from the city of Zaragoza to the strategy on climate change.

Objectives achieved: (i) to provide correct management of urban waste, (ii) to equip the facilities necessary to reduce the amount of waste destined for controlled municipality discharge, (iii) to prevent illegal landfills and thereby improve valleys and riverbeds, (iv) to develop a process for composting for agricultural applications and to reduce the use of chemical fertilisers, (v) to reduce water consumption, as well as lower environmental impact from the production of lixiviated material, and (vi) to promote the use of renewable energy sources. In the construction phase, 102 direct jobs and 10 indirect jobs (during 39 months) were generated and in the current exploitation phase there are 99 direct jobs and 52 indirect jobs.

In sum, the project has positive environmental impacts as well as other social benefits, such as employment and the increased popular awareness of recycling of products. It contributes efficiently to the principles of sustainable development, preventive action and shared responsibility. The "polluter pays" principle is fulfilled through the municipal waste taxes that the citizens pay, with a blocks tariff system that penalises the highest consumptions.

25.4. Specific aspects of SG(E)I affected by the project

Specific aspect/objectives of SG(E)I realised/enhanced with the project

The project contributes very effectively to the objectives and principles of sustainable development, preventive action and shared responsibility. The following specific aspects are enhanced in the project:

- universal accessibility;
- continuity;
- social affordability;
- efficiency and effectiveness;
- reliability, safety and quality of supply;
- improvement of environmental parameters/indicators.

Main expected results of the project with reference to the specific aspect/objectives of SG(E)I

- **Universal accessibility:** the project ensures a complete territorial coverage of the overall citizens in the area of Zaragoza. The complex provides service to Zaragoza's municipality (680 000 inhabitants) and 61 smaller municipalities with low density of population in order to optimize the facilities of waste management. The total served population is estimated nearly 750 000 persons and the total capacity of the facilities is 465 000 tonnes, equivalent to 581 kilograms per capita per year (now with an entering amount of 275 000 tonnes). In addition, the complex supports only household waste collected by the municipal services and inert residues deposited at clean points.
- **Continuity:** the service is provided uninterrupted. The complex is open 24 hours per day to allow the waste trucks to download residues in the selection plant (four lines of treatment with unitary capacity of 25 tonnes per hour). This allows to address an uninterrupted collection of waste in each municipality with subsequent cost saving.
- **Social affordability:** the waste tax includes reductions for unemployed, pensioners and low income people, as well as economic activities affected by municipal works. Also, the polluter-pays principle is observed so to develop a system of waste tax by increments in order to penalize the highest rates of waste generation.

- **Efficiency and effectiveness:** the project clearly improves the services of treatment and waste disposal for the next 15 years. Firstly, the subsequent awareness campaigns have increased the rate of recycling at households with a very good quality of packing fraction (although the rate of recycling can still improve, 80% of the products of the "yellow bag" are directly recyclable), so that the residues are collected separately to facilitate recovery with a high level of resource efficiency (the final objective will be recycle two third parts of the urban residues generated and get more than 30 000 tonnes of recovered materials). Secondly, the project has provided a complete and adequate infrastructure to enable a modern waste management near the place it has been generated in accordance with the principles of self-sufficiency and proximity (the recycling complex is in Zaragoza's urban area six kilometres away from the city centre). Thirdly, the facilities introduce important technological innovations in the treatment of waste (it is one of the most important Spanish overall centre of treatment and recycling waste) and the complex in joint venture with a public research centre has developed techniques of gasification for energy diversification and electric power generation processes. Fourthly, the project increases the energy recovery through both a biomethanisation process to transform the biogas into electrical energy for consumption on the plant and for the network (the production will be 24 megawatts hour per year) and a composting plant (20 000 tonnes of high-quality compost for agriculture use). Fifthly, it reduces the rejections to the landfill (maximum rate of 45% of entries) with capacity for the rejections of the city for more than 20 years (2 900 000 cubic metres). And, sixthly, the construction of the recycling centre eliminates the existence of illegal landfills therefore improving the quality of the landscape and the slopes of the rivers.
- **Reliability, safety and quality of supply:** the project was awarded through an international public tender which allowed access to the most advanced technologies available. The developed technology ensures a high level service; reliability and safety are guaranteed with labour risk prevention plans elaborated by the contractor (Industrial safety, Preventive maintenance and Quality control) and the environment monitoring plan. In addition, the facilities shall be subject to periodic inspections by the municipality authority to cover the origin, nature, quantity and destination of the waste collected and transported.
- **Improvement of environmental parameters:** the location of the complex in a recycling technologic park reduces its adverse effects on the landscape. The energy recovery, the reuse and material recycling are ecological options, as well as the safe disposal operations for the protection of human health and the environment (noise reduction, odours and use of artificial fertilizers). In this regard, as an example, the electricity generated from the biomethanisation plant is enough to supply a town of 20 000 inhabitants and represents savings of energy equivalent to the consumption of 26 000 t of coal or 6 500 t of fuel-oil per year; 9 000 t of recycled plastic will save 10 000 t of fuel-oil and 360 tonnes of recycled aluminium could be reverted in 26 million cans or 45 000 bicycles. Therefore, the process of biomethanisation and composting will avoid the emission of 283 000 t of CO₂ to the atmosphere per year and the reduction in the volume of rejections will prevent the discharge of more than 150 000 tonnes of residues per year, in order to the environmental objectives of EU Directives and the Kyoto Protocol.

Improvement of public service approach, at regional and/or national level, as a consequence of the expected results of the project

Funding from the Cohesion Fund has allowed a treatment of urban waste environmentally correct, efficient and socially acceptable. The new issues introduced in the process of

recycling, energy recovery and disposal are applicable in other local and regional centres. In this sense, the cooperation between municipalities as regards disposal facilities is necessary for efficiency reasons, taking into account geographical circumstances (size of municipalities, density of population, rural or urban areas...) and the technical feasibility and economic viability. The project also contributes to reduce unemployment in the area with nearly 100 direct jobs and 50 indirect jobs during the period of exploitation.

The location of the centre of treatment and disposal of waste near the served population optimizes and improves both costs of transport and, consequently, costs of collection. At the same time, the proximity raises awareness to the people on the environmental aspects (www.zaragozarecicla.org). In short, the project contributes to the care of the environment and improves citizens' quality of life.

Expected changes in the use of the Structural Funds in the SG(E)I, at regional and/or national level, as a consequence of the experience of the project co-financing by such funds

The contribution of the Cohesion Fund has made possible the financing and the implementation of the project. For the future, the use of Structural Funds in the waste sector is absolutely necessary to promote self-sufficiency in waste disposal and in recovery of mixed municipal waste collected from households. This would contribute to reducing the greenhouse gas emissions produced by waste disposal on landfills, to facilitate the selective waste collection and to increase the energy recovery from waste.

It will advance the improvement of technologies of energy recovery (incineration, gasification and pyrolysis), in particular on the criteria of dimension (maximum capacity of the facilities and treated waste volume) and the use of the fuels derived from the processing of rejections.

25.5. Governance aspects

The phases of the project were: (i) the Ministry of Economy processed the subsidy and monitors the project; (ii) the Spanish Federation of Municipalities and Provinces established the conditions to access the European subsidies; (iii) General Government of Aragon implemented the regional waste framework and (iv) the Municipality of Zaragoza in partnership with a further 61 small municipalities (less than 15 000 inhabitants each) tendered for service delivery, financed the construction and operation of the installations, and developed the inspection functions. It also involved several Integrated Waste Management Systems, such as the companies ECOEMBES³³⁶ and ECOVIDRIO³³⁷ (paper, cardboard and glass recycling) and CENTRICA (independent electricity company), that buy the recycled by-products obtained in the centre.

The strategy foreseen in the project Complex for Treatment of Urban Waste in Zaragoza is based on the Fifth European Environmental Action Programme ("Towards a Sustainable Development"). The centre is an essential part of the infrastructure needed to achieve the objectives set out in the Spanish Integrated National Plan of Residues and in Regional Waste Management Plans.

On the other hand, according to the local financing agreement between the Ministry of the Economy and the Spanish Federation of Municipalities and Provinces, councils with over 50 000 inhabitants may submit projects to be financed by the Cohesion Fund for the period 2000-2006. The maximum amount of subsidy from the Cohesion Fund was set at EUR 8 400 *per capita*. However, the financing of projects should include the sectors of pest

³³⁶ Ecoembalajes España, S.A. is a non-profit-company whose purpose is the design and organisation of an Integrated Management System (IMS), directed to the selective collection and recovery of waste packaging for later processing, recycling and reuse.

³³⁷ Ecovidrio is a non-profit association in charge of the management of recycling of glass waste generated in Spain.

control, waste management, water supply and sanitation. Spain has accorded top priority to the waste sector.

Provision of the service is realised through indirect management by international competition in the form of administrative concession tendering. The tenderer submits a technical and economic offer, executes the project assuming all costs (urbanisation and land-at least 200 access hectares, civil engineering, installation of machinery and equipment, auxiliary elements, accesses and complementary equipment) and carries out the exploitation of the installations during 15 years for a fee. At the end of concession the installations will revert free of charges and in a perfect operational state to the Municipality of Zaragoza. The new contractor will be subrogated in the obligations laid down in Directive 99/31/EC in relation with landfills.

The tenderers should prove technical and professional solvency in management of waste services (especially in the exploitation on the installations), providing certification for at least the three last years on: (i) facilities and treatment of urban waste, (ii) installation of waste treatment, (iii) academic qualifications and degree of experience of the team and total staff of the company and (iv) the environmental technology developed.

The contract was awarded to a joint venture between two private companies, URBASER and VERTRESA, based on the proposals submitted by tenderers in accordance with the following evaluation criteria: technical aspects maximum 35 points; improvement on the municipal proposal maximum 5 points; environmental quality maximum 5 points; operation plan maximum 5 points; execution and start-up maximum 5 points; and economic offer maximum 45 points (investment 10 points and running costs 35 points). The highest score is obtained by the least expensive offer, while the rest of the offers are awarded proportionally.

The service-provider bears full responsibility for the management of installations during the concession time: all costs arising from operation (supplies, labour, machinery, taxes) and the expected revenues come from 50% of the annual tariff paid the Municipality, 25% from sales of recycled by-products and the other 25% from sales of electricity generated by biogas. The contractor must also prepare an annual report on the management of the services provided and the situation of the centre.

Cleaning Public Municipal Inspection Services will check the correct operation of the installations in order to guarantee compliance with European, Spanish and regional environment regulations.

The project did not foresee any incentive scheme. The role of the Structural Funds was essential since, without financing from the Cohesion Fund, construction of the centre would not have been possible by the Municipality of Zaragoza and/or by the Autonomous Community of Aragón, given the high level of investment required. With a 5% discount rate and a "life expectancy" of 15 years, the internal return rate is estimated at 8.95% and the profit/cost ratio at 1.14 (net present value of revenues EUR 117 569 713; the present net value of costs is EUR 102 701 672).

25.6. Universality of access and affordability

Citizens do not have any limitation of access to the waste service as it is a universal service (rate of coverage: 100% of population). In Spain there are no disparities of access to the services between population living in urban and rural regions; nevertheless, in some rural isolated zones there may be different frequencies and technical forms of the developed services.

Collection and transport of household waste are performed in Spain according to location: household waste is collected for each housing building (called door-to-door) in standard dustbins of different volume and in large-capacity containers in the streets or in isolated zones called civic amenities sites (mainly selective waste collection and also in some small places without previous waste selection). Anyone may deposit waste in any of these points.

The support of the Fund of Cohesion has enabled better access to the waste services, particularly with regard to the treatment and recycling of residues. Access to the European funds has also allowed to develop and to use important technological innovations in the waste sector with subsequent impact on the environmental aspects.

The construction of the Complex for Treatment of Urban Waste in Zaragoza was financed by the Cohesion Fund (72.05%, EUR 30 460 990.00) and Municipality of Zaragoza (27.95%, EUR 11 815 979). The running of the centre is financed as follows: 50% of an annual tariff paid by the Municipality of Zaragoza, which amount is between EUR 9 and 10 million per year depending on the amount of certified tonnes of incoming waste in the centre, 25% for sales of recycled products and 25% for sales of electricity.

The price is proportional to the cost and quality of services provided (form and frequency of refuse collection, reductions of pollutants and noise emissions, machinery with new technologies). All tender specifications set assessment and their weighting criteria and will be used by companies to make their economic offer. There is no rule or standardised price-money relationship in the waste sector; a reference guide can be supplied by the Spanish Federation of Municipalities and Provinces, but in any case each municipality has absolute legal authority and has competent staff in order to adopt technical decisions. In the case of Zaragoza, every year the municipality makes a service cost study and sets the amount of taxes that citizens should pay for such public services. The goal is that taxes should cover these costs. The urban waste coverage rate (revenue of waste tax among costs of waste service) is approximately 66%.

In the municipality of Zaragoza, the amount of taxes by services of waste, drinking water and sewer network and treatment of water are calculated separately, but their payment is integrated in a single. The quantity of the tax rate is fixed with a small diversification depending on the nature of users supplied but not on income directly: housing (based on water consumption), shops (volume of generated waste), markets (per stand) or ashes (according to type of boiler)³³⁸.

The Structural Funds have thrown up indirect forms of tariff fixing: if the Municipality had to finance the construction of the treatment and elimination installations, the quantity of the debt to finance would demand major taxes from the citizens. Otherwise the project would not have been carried out. So due to the large investments needed for the environmental projects the Structural Funds must direct to improve waste collection.

25.7. Contribution to cohesion policy objectives

From a viewpoint of environmental protection the project carried out contributes efficiently to the objectives and principles of sustainable development, preventive action and shared responsibility. Regional policy was therefore appropriate to strengthen the provision of the SGEI from the perspective of the European Union for the following reasons: (i) it promotes the conservation of natural resources and saving of raw materials (sustainable management), (ii) it reduces the volume of residues to landfills through recycling and recovery (reduced pollution), (iii) it leverages the power caused by the decomposition of waste (reduces consumption of non-renewable energy), (iv) it promotes the reduction, reuse and recycling of waste (increases public awareness).

The Urban Waste Treatment Complex in Zaragoza makes use of technological innovations in the treatment of waste. The pre-treatment process is fully automatic separation of fractions, with the addition of optical separation of plastics in rolling; the organic fraction is automatically without inert fraction; there is a waste compaction process for the production

³³⁸ For example, household tax rates on 2010: EUR 31.53 p/a if water consumption \leq 0.283 m³/day and EUR 34.72 p/a if water consumption $>$ 0.283 m³/day, and business tax rates: EUR 84.61 EUR p/a for every 80 litres or part thereof for volumes of residues between 80 and 240 litres, EUR 334.50 p/a for every 80 litres or part thereof for volumes of residues between 240 and 800 litres and EUR 487.70 p/a for every 80 litres or par thereof for volumes of residues greater than 800 litres.

of bullets in order to reduce volatile matter. The biomethanisation process incorporates a new model that allows quick access for an annual clean of the digester (avoiding long outage and lengthening its service life) and there are more safety devices and valves to avoid accumulation of biogas.

Possible future innovations might be considered to improve treatment of the urban waste cycle: the separation of inert fraction by X-ray and utilisation of covers for installation of solar panels. The construction of an incineration plant would allow reduction of the volume of waste that goes to landfill but, in this case, it would be necessary to analyse first the cost and second the environmental balance between the benefits derived from the use of energy from combustion for the generation of electricity and the costs produced by the emission of pollutant particles to the atmosphere.

The project contributes to the objectives of cohesion policy in several ways:

- Local development: the companies subcontracted in the civil and assembly works and in the plant machinery are local (central office in the city of Zaragoza).
- Creation of employment: 102 direct jobs 10 indirect jobs were created during the construction phase, whereas in the current operation phase the centre occupies 150 persons directly and 52 persons indirectly (98% residing in Zaragoza). The activity of the centre also generates employment in other auxiliary companies (recycling products, transport).
- Generation of investment: the created infrastructures revert to the municipality of Zaragoza at the end of the concession. The construction of the waste treatment plant has improved access to the zone from adjacent municipalities and from Castellón province, as well as the services of the industrial estate in that located in the centre, which will affect its future development.
- Production of renewable energy: the energy generated by the biomethanisation process is expected to be 10 million m³ biogas per year and 24 million kilowatts per hour per year. This energy is enough to supply a town of 20 000 inhabitants and represents energy savings equivalent to the consumption of 26 000 tonnes of coal per year or 6 500 tonnes of fuel-oil.
- More efficient use of natural resources: the use of the compost generated by the decomposition of organic matter in farming reduces the need for artificial fertilisers. The good quality of the obtained compost allows sales to the farmers of the region at very competitive prices. However, the rate of waste will be 45% maximum when the centre is running at full capacity, which supposes avoiding waste of more than 150 000 tonnes per year.
- Environmental awareness: the municipal leaders think that the advertising campaigns have helped to improve the responsibility of citizens with respect to the generation of waste and gave contributed to increasing the rate of recycling.
- Research and development: inside the Complex for Treatment of Urban Waste in Zaragoza, a Centre of Investment, Development and Innovation (I+D+i) was developed in order to take advantage of the technological synergies. In this centre new technologies are tested, such as the constructive improvement of the digestors and research on organic materials. These advances seek to increase the production of biogas, to achieve an advanced system of air cleanliness and to develop a modern new composting tunnel and new plants of treatment of biomass.

From the viewpoint of the strategic importance of the subject of the project, the centre treats and eliminates residues generated by 77.3% of the inhabitants of the province of Zaragoza (55.7% of the inhabitants of the region of Aragon). This is significant, since the

old landfill was saturated. In this case the Structural Funds have made it possible to undertake important investment in infrastructures that make their presence felt in the environment, at the same time as contributing to the economic, social and territorial cohesion for the reasons explained in previous pages.

To conclude, the project has positive environmental impacts and other social benefits, such as the creation of jobs created and an increased awareness among citizens of the recycling of products. As explained in the description of the project, one of the most important aspects of the project is the reduction of emissions of harmful gases into the atmosphere in order to meet the environmental objectives of EU Directives and the Kyoto Protocol. In this sense, the reduction of emissions into the atmosphere is estimated at approximately 283 000 tonnes of CO₂ per year, which is a clear commitment from the city of Zaragoza to the strategy on climate change.

Acknowledgements

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26. Sweden. Enterprise development and broadband of the future

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26.0. Background information

a) Country	Sweden
b) Region	Mid North Sweden
c) Full Project Title	Enterprise development by broadband of the future
d) Duration	23.03.2008 – 28.03.2011
e) Programme	Operational Programme Mid North Sweden 2007-2013 Water regional competitiveness and employment aspects
f) Total Cost	EUR 8 804 270
g) EU Contribution	ERDF: 45.4%
h) National Contribution	45.4%
i) Private Contribution	9.3%
j) Sector	Telecommunications
k) Sub-Sector	ICT
l) Beneficiary	Jämtkraft AB (public company)
m) Implementing body	Jämtkraft A

26.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

The term SG(E)I-the concept of general interest-is not often used in the Swedish vocabulary while those interests are regulated in the law and meant for everybody within the framework of the Swedish model. There is a clear distinction between public services paid for by consumers themselves, such as water and drainage, electricity, telephony, communications, etc, and the public services paid for by municipalities and county councils, such as schools and health and social services. These latter services come under clear political control, which means that there must be a responsibility for distribution of resources. Politically elected representatives, who can be held accountable for their actions by citizens, must set priorities.

The national strategy for regional competitiveness, entrepreneurship and employment 2007-2013 (the Swedish National Strategic Reference Framework) should help to create competitive regions and individuals in Sweden. The government has identified the following national priorities for regional competitiveness, entrepreneurship and employment 2007-2013: Innovation and renewal, Skills supply and improved workforce supply, Accessibility and Strategic cross-border cooperation. In addition, attention must be paid to territorial circumstances in general. Particular attention should be paid to areas such as the sparsely-populated areas in Northern Sweden and the cities.

SG(E)I is not mentioned as a term, nor as a concept in the Swedish National Strategic Reference Framework. This is however explained by the above introduction, which states that the concept of SG(E)I is not often used in Sweden. Transport, telecommunication and from 2007 also energy investments are large and important components according to the Swedish National Strategic Reference Framework and to some less extent also environment, social and public health care.

Global accessibility, and to a certain degree European accessibility, is naturally low for a peripheral country such as Sweden, despite an extensive transport system. Thereby it has a high priority in the national strategy.³³⁹

The European Regional Development Fund (ERDF) has been, and still is of great importance for investments in ICT in Sweden. Figure 37 below shows that ICT's share in the previous programming period amounts to almost 50% and in this period to well over 40%. ICT is foremost attended under the priority of accessibility. ICT and information society are

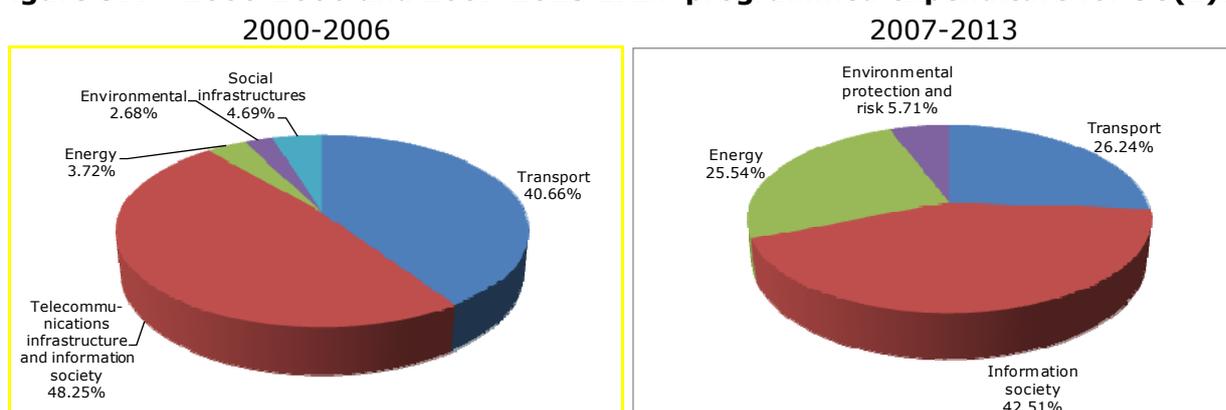
³³⁹ The national strategy for regional competitiveness, entrepreneurship and employment 2007-2013 should help to create competitive regions and individuals in Sweden

envisaged in NSRF as fundamentals for development of all Swedish regions and particular for the more sparsely populated regions.

The development of the information society means that people can work, use public and private services and otherwise participate in society, regardless of where they live. This requires an advanced information society in all parts of the country, as well as a strong domestic market with skilled buyers and IT users. The use and development of products and content-based services requires an effective and secure IT infrastructure with high data transfer capacity to all parts of the country.³⁴⁰

An accessible information society with modern infrastructure and IT services which are of benefit to society can simplify everyday life and improve the quality of life of women and men, young and old in all parts of the country. An effective, secure IT infrastructure promotes regional development by, for example, creating the right circumstances for sustainable growth throughout the country. A successful IT infrastructure is essential for business and for living in sparsely populated and rural areas. For certain parts of the country, increased use of IT solutions can sometimes compensate for the remoteness from services or the market.³⁴¹ IT infrastructure expansion with high data transfer capacity is essential in order to achieve greater accessibility. Broadband networks within a town or municipality, which are often owned by the municipality or a municipal company, are often called town networks. These networks have been expanded in recent years, giving users better access to electronic services. The fact that municipalities are increasingly starting to see IT and broadband issues as an integral feature of community planning and community development creates essential conditions for the ongoing development and expansion of the IT infrastructure and the use of IT operations.³⁴² The development conditions in the northern parts of Sweden are unique. The combination of extremely sparse population, long distances and cold climate affect opportunities for creating dynamic industry and competitiveness in these regions. One consequence of the long distances is in many cases geographically large local labour market regions with low population density, which entails for example additional costs in order to provide a good level of service and maintain accessibility through an effective transport network.³⁴³

Figure 37: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

Figure 37 shows a high share of ERDF programmed expenditure in the telecommunication sector and in the transport sector. In the period 2000-2006 telecommunication and transport composed nearly 90% of total spending with telecommunication summed up to

³⁴⁰ Ibid.

³⁴¹ Ibid.

³⁴² Ibid.

³⁴³ Ibid.

48% and transport to 40%. Energy, environmental and social infrastructure only made up for around 3% each. The allocation has changed quite a lot in the period 2007-2013. Telecommunication has still by far the largest share, 42.51%. The second most significant programmed expenditure in this period is still transport, 26%. This can be seen as a direct effect from the current environment and climate crisis. A major shift has occurred in public spending, which also affects the use of ERDF. The last 5.71% is spent on the environmental sector. The environmental sector receives the smallest cut and social infrastructure has received no spending during this period.

26.2. National framework in the provision of SG(E)I

The SG(E)I and the telecommunication sector in Sweden is EC legally regulated, both by sector-specific regulation and partly by general regulation such as the EC rules on state aid and competition. Swedish national law, regulations and administrative provisions of the Post and Telecom Agency (PTS) define further regulation. The PTS is the sectoral and regulatory authority. They issue regulations and decisions that affect actors in the market, though the vast majority of decisions can be appealed to court.

In most cases, the law (2003/389) regarding electronic communication³⁴⁴ is the national framework. It came into effect in July of 2003. This new regulation covers all types of electronic communications including telecommunications networks, broadband networks and networks for broadcasting. Through the law a uniform and technology-neutral legislation for all electronic communication was created, based on the insight that products and services in this area are becoming more independent of the platform. One of the objectives of the legal review has been to adapt existing legislation to a more competitive market.

However, when the Structural Funds are the tools for funding for an investment in the SG(E)I sector, the Swedish National Strategic Reference Framework defines the final framework³⁴⁵. It is based on EU-regulation and national law but also adds additional criteria for implementation formulated at the regional office for the Structural fund.

The telecommunications sector in Sweden has a relatively high degree of vertical integration, i.e. network owners are also selling services to end-users. Legislation and subsequent administrative decisions provide for equal treatment, access control (network access), etc. to reduce network owners' advantages. Furthermore, the relationship between public authorities and providers of SG(E)I is strictly commercial. It is however regulated by e.g. public procurement and state aid.

The Swedish telecommunication market was deregulated in 1997 in order to increase competition and affordability. Before this Sweden used a "de facto monopoly" and has since gone to a relatively diversified market and now to a market of an oligopoly nature. The market is fully liberalized and the state is responsible for the accessibility for all citizens. When the liberalisation was realized in 1997 Sweden also established an industry body, which now possess all authority from the former monopolist Telia Sonera, currently the largest operator in Sweden and partly state-owned³⁴⁶. Overall in Europe, as in Sweden, there has been a consolidation of the market in which the major network owner operators are competing with each other, but where there is little room for challengers or service providers without networks.

As a result of the liberalisation of the sector no companies have special or exclusive rights in the sector at the national level. Art. 86(2) does thereby not apply in those cases. What

³⁴⁴ Lag (2003:389) om elektronisk kommunikation (The law on electronic communications). This replaced Telelagen (the law on telecommunications) and Lagen om radiokommunikation (the law on radio communication).

³⁴⁵ Adapted at the regional level through 8 regional reference programmes

we see is that on the municipal or county-level there may be public actors who can get benefits of its sales operations to private operators. Also in some cases, a private operator may take advantages or receive exclusive arrangements within a given municipality for broadband networks. This issue is raised in the government's recent broadband policy (Ministry of Industry). Such conduct does distort competition and affect consumers at risk of higher prices and less choice of services-the classic effects of a lack of competition, as Art.86 (2) is intended to counteract.

26.3. Project description

In Sweden, the European Regional Development Fund is divided into eight Regional Operational Programmes. Each region has been allocated its share from the ERDF according to specific criteria like population, unemployment rate, employment rate, education level, population density and GDP. The NUTS2 region SE07 Mid-North Sweden, that comprises the counties Jämtland and Västernorrland with together 15 municipalities has been allocated additional funds from the ERDF (together with the Upper Norrland region) as the region complies with the criteria for sparsely population, long distances and cold climate.

The County of Jämtland (Jämtlands län) has about 127 000 inhabitants. The majority of them, 58 000 live within the municipality of Östersund. Jämtland (49 444 km²) is located in the middle of Sweden with over 50% of its territory covered by forests and lakes, representing 12% of Sweden's total area. It is the third largest county in Sweden but home only to 1.5% of the Swedish population. Small businesses dominate the local industry. Only some 50 of the 7 000 companies in the county have more than 50 employees. Tourism accounts for a turnover of about EUR 2.6 billion every year. Considering this socio-geographical context, broadband communication is particularly important to connect people and businesses, in order to support the economic activity in this county (especially in the wintertime, 7-8 months per year).

On 9 August 2007, the European Commission approved a Regional Operational Programme for the region of Mid-North Sweden for the 2007-2013 period. The Operational Programme falls within the Regional Competitiveness and Employment Objective framework and has a budget of around EUR 353 million. Community investment through the European Regional Development Fund (ERDF) amounts to some EUR 177 million, which represents approximately 9.3% of the total EU investment in Sweden under the Cohesion Policy for 2007-2013. The main goal of the Regional Operational Programme is to create 1 400 new businesses per year, of which women will own 40%, as well as to create 4 500 new jobs for both men and women. The Programme will establish ten (10) new strategic networks among businesses, and between businesses and research institutions.

The regional programmes are divided into different overarching priority areas. The Operational Programme for the Mid North Sweden region focuses on: 1) Renewal of industry, energy and environment-driven development (approx. 73.9% of total funding), 2) Accessibility and attractiveness (approx. 22.1% of total funding), 3) Technical assistance (approx. 4.0% of total funding)

The project "Enterprise development by broadband of the future" was submitted and approved within the ERDF programme in the region of Mid North Sweden, priority area 2 accessibility and attractiveness and the Sub-Priority Area 2.2 information technology-structure and applications. The objectives within Priority Area 2.2 are to improve access to broadband network, to increase knowledge about IT applications in companies, to create new electronic services and to improve geographic coverage of the mobile telephone network.

The overall objective of the project is to increase the number of enterprises and of employment in particular in the municipalities of Östersund, Åre, Krokoms and in parts of Bergs municipality, by creating access to a competitively neutral IT-infrastructure with broadband speed.

Needs addressed by the project:

- provision of access to IT-infrastructure in sparsely populated areas and geographic areas not yet covered due to long distances;
- creation of equal conditions for access (e.g. fees, speed, quality) even in remote areas;
- increasing the capacity of the network infrastructure, in order to guarantee for future broadband services;
- increasing accessibility to broadband services for SME in rural towns and villages;
- to establish competition and suppress monopoly by development of a network infrastructure that is open to all at equal conditions;

Final beneficiaries of the project are primarily the industry and public sector organisations, secondary the private households. The project is targeted towards enterprise development but not to a specific population group. The project leader estimates that with the realisation of this project, there will be approximately 8 000 more units getting access to broadband. This corresponds to an increase of 10% of the population in the respective geographic areas getting broadband access.

The project foresees major network infrastructure investments in fiber optic cable and complementary equipment. There will be investments in ground installation of 540 km fiber optic cable and in air installations for 30 km fiber optic cable, which includes the installation of masts and of base station equipment. The budget for investments of a volume of EUR 5 826 636 (56 746 250 SEK) relates to 66.2% of the total project budget. Additionally the project budget provides for EUR 2 406 072 (23 433 000 SEK) of services (27.3%) and for EUR 571 561 (5 566 500 SEK) (6.5%) of staff costs. The total project budget amounts to EUR 8 804 270 (85 745 750 SEK).

Following activities will be realised in the project period from 29.03.2008 until 28.03.2011:

- project start-up and planning phase;
- project development and implementation;
- infrastructure works (digging, welding, fiber injection, installation);
- lifting of masts;
- follow-up of base station equipment;
- activation and set into operation of broadband network;
- Documentation;
- dissemination of information about the project and its results;
- project evaluation and final reporting.

As mentioned before, the major share of the project budget will be applied for investments and for infrastructure works. The project staff will organise and coordinate the project activities and be responsible for project development and implementation, as well as documentation and reporting activities and dissemination of information about the project and its results to the public.

26.4. Specific aspects of SG(E)I affected by the project

The project provides fibre optic connections thus facilitating the availability of public telecommunication and Internet services in the participating municipalities bridging the

digital divide in sparsely populated areas. The specific aspects of SG(E)I that are enhanced through the project are accessibility and relative affordability through a flexible funding scheme. The aspect of accessibility of the service is due to the fact that the expansion of the fibre optics net could make benefit of the previous or on-going work of weatherproofing the electric mains, thereby reducing the costs and the possibility to reach out to far-away parts of the region. Also, the conditions for receiving funding through the ERDF include the aspect of accessibility of the project.

In addition, customers have free choice of service providers as Jämtkraft, the lead partner, only extends the actual fibre optics network in the project, and is not the solely available service provider, further increasing the accessibility of the service. The relative affordability was increased as a result of the financing provided from the Structural Funds, and the aforementioned weatherproofing of the main electric net, as an expansion of broadband access had not been possible by market incentives alone.

The main (expected) results of the project relate to the aims of the structural fund with the creation of 250 job opportunities, 60 businesses and that 350 jobs will be maintained. However, the aim of the project is directly related to key aspects of provision of SG(E)I as an expansion of the fibre optics net in the region will increase the accessibility to telecommunication services in areas where it has previously not been economically possible. Expanding Internet access in the municipalities could help facilitate the use of e-services for the public and private sector, though mostly requested by latter in regard to this project. At this stage in the project it is hard to tell whether or not e-governance will be expanded as a direct result of this project. In Sweden, public services in the fields of education, health, social services and so forth are already becoming increasingly accessible through the Internet. Therefore, the project may not be the leader of this development, but could help citizens and businesses to make further use of these readily available services. Any effect it might have would mainly be seen at the regional level.

As regards the possibility of policy changes due to expected results the project follows the general development of service provision in Sweden. Markets are opening and consumers are given the choice of which service provider to choose. The changes that might occur due to the project results will not be fundamental, but projects such as "Enterprise development by broadband of the future" could help speed up this development in rural areas as it could serve as a good practice example for other projects.

26.5. Governance aspects

Members of the partnership are decision-makers from the public, private and non-governmental sector, important and influential actors in the region, though the partnership does not include the end-users of the service. The steering group of the project consists of Jämtkraft Elnät AB (a public-privately owned net provider), Jämtkraft Telecom AB (a service provider) and Nordisk Mobiltelefon i Sverige AB. The members of the steering group also make up the project partnership, with Jämtkraft Elnät AB as the public co-funder, and Jämtkraft Telecom AB and Nordisk Mobiltelefon i Sverige AB as private funding providers. By involving a public partner the focus on accessibility was further strengthened, as public services need to benefit all citizens. However, the framework of the Structural Funds guided the partnership for the most part.

The project reference group includes representatives from the municipalities of Östersund, Krokom, Berg and Åre, representatives from the tourism organisation for Jämtland-Härjedalen, the unit for reindeer keeping at Jämtland County Board, the Federation for Swedish Farmers, the business organisation in Jämtland, and the Jämtland County Council. The purpose of the reference group is to spread support for the project in the community and influence the project development. Jämtland County Board, the Federation for Swedish Farmers, the business organisation in Jämtland, and the Jämtland County Council

participated in the project reference group both as representatives for and as end-users, and as expertise providers.

The incentives for partners to participate in the reference group of a project for expansion of the regional fibre optics net is that they have the possibility to affect where to the net will be extended and timeframes according to their interests. Project partners are participating throughout the entire project period and can watch their interests as well.

The institutional framework of the SG(E)I sector influenced the project design and realisation fundamentally as the prerequisite for being granted funds from the Structural Funds was that the net would be open, meaning that Jämtkraft provides access to the net but does not provide services in the net. This is due to the deregulation of the telecommunications market with the main purpose of increasing competition and improves the choice and pricing for the consumer. The Swedish Post and Telecom Agency (PTS), the managing authority for this sector, is very clear on the point that in the future open nets with service provision from different actors and not the net owner will be standard. In other parts of the country competition is limited as the consumer only has access to one broadband provider. Competition must be free in order to create a broad supply of service provider. This will become reality, as the expansion of the net will be open and free to all providers to enter.

An open net means that:

- each individual user will be able to freely choose their service provider;
- the technical infrastructure does not stop any service provider from marketing and delivering its services to the entire expansion area;
- individual users will not be faced with obstacles in form of any additional cost when switching service providers after a limited contract;
- no service provider will be prevented from marketing and delivering its services over the net;
- a prerequisite for service competition is the possibility for operators, other than the fibre net-controlling operator, to gain non-discriminating access to the net in order to offer end-users broadband services. The fibre optics net will therefore be open on an infrastructural level.

26.6. Universality of access and affordability

During 2008 and 2009 has approximately 400 customers been connected and more than 400 km of fibre optics cable been distributed. The fibre optics net that is developed through the project is open to paying customers and does not discriminate to access based on gender, ethnicity, social background or locality. In this particular project it has turned out that access in rural areas have almost been easier, as there are more (physical) obstacles for putting down fibre optics in the ground in urban areas. A well-developed IT infrastructure gives better access to broadband services of high quality for women and men alike. This ensures that both women and men get increased opportunities for finding employment and that further education is facilitated. The only limitation that exists in accessing the service is an initial (non-diversified) tariff for connecting your home to the fibre optics net. Financing of the investment is covered through this tariff and the support from the Structural Funds. An additional monthly cost covers the running of the service (operation and maintenance), which is not provided by this project.

The Structural Funds support helps to overcome the limitation incurred by the tariff, as the support has halved the consumer price of connecting to the net, thus making it affordable. When comparing to other alternatives for Internet access the price becomes even more

cost effective in a price to quality ratio. Furthermore, households have the possibility of choosing only a passive connection to the net at half the cost where the physical fibre optics are put in the ground, but the household cannot access services through the net without paying the remainder of the tariff.

However, the fact that many customers have chosen this option has caused for the project to have a lower rate of cost recovery at this stage. In comparison to other alternatives on the market (ADSL or 3G) the price of the service is cheaper and the quality higher, which ensures a very good proportionality to the quantity and quality of the service. Support from the Structural Funds has been crucial for expanding the broadband net in the region. The development of the fibre optics net has been realised in connection with the weather proofing of the electric mains, but without the support from the Regional Development Fund the ducting for the electric mains could not have been filled with fibre optics. To some extent, other state subsidies have also been helpful, as they have supported investments that have affected the work of the project.

26.7. Thematic focus

The work of the project was mainly conducted in rural areas with woodland, arable land, and to some extent urban and mountain areas. The municipalities of Östersund, Krokom, Åre and Berg are covered by the project, and theoretically a majority of this territory is addressed by the expansion of the fibre optics net. However, it is not economically or commercially possible to extend the fibre optics net to the most sparsely populated areas with a high degree of depopulation. Yet it has often proven to be less costly to conduct the actual work (i.e. putting fibre optics in the ground) in rural areas. In towns and urban areas additional costs are added to the digging process due to the asphalt on the streets, pipes and cables in the ground. On the other hand, long distances in rural areas pose a different kind of problem regarding cost-efficiency. Another factor that limits the coverage of the new fibre optics net is that an ADSL connection has previously been provided in the area, thus some possible end-users are already gaining access to Internet through broadband. It should be added, that the ADSL connection does not provide the same high level of transfer speed that is found in the fibre optics net. The possibility for consumers to switch broadband providers remains.

Internet access, and broadband access especially, is gaining an increasingly important role in society today. Research shows that, among other things, broadband access promotes economic growth through the creation of new services and the opening of new investment and job opportunities. There is however a number of geographical areas in Sweden that lacks IT infrastructure that allows for high capacity broadband access. Access to IT-infrastructure is an important and perhaps even crucial factor for developing a business at its location. The same is true when deciding where to establish a new business. For this specific project extended (high quality) Internet access has been a request from the regional tourism organisation and businesses as a means for maintaining and promoting employment. The tourism sector is especially important for the region of Jämtland and its trade and industry. Jämtland is a popular location to visit in both winter and summer time, and a substantial part of its economy is based on the regional hospitality industry. Therefore Internet access is important for marketing offers and needs and to provide services to visitors.

Further on the project may take on certain cross-border dimensions, as there have been discussions on a possible future project with extension of the fibre optics net into Norway.

26.8. Contribution to cohesion policy objectives

This project contributes to European cohesion between regions in that it can strengthen the business climate in a rural region. Wealth is not equally distributed throughout Europe, or even in Sweden, thus cohesion serves to reduce territorial disparities and imbalances in terms of location of economic activity. Increased (high quality) Internet access is a key factor to improve the regional competitiveness and attractiveness for businesses in all sectors. For the region of Jämtland, where the Swedish example project takes place, tourism is especially important, but also other sectors (e.g. communications, education services) that address markets outside the local vicinity are positively affected. Thus, the question of localisation becomes less important for economic growth. This is especially important in Sweden where depopulation in rural areas still pose an issue. Expansion of telecommunication services in these areas help to maintain a living countryside.

Project support via ERDF in a project like this may not be described as "social cement". It is mainly a project carried out by the SG(E)I partner directly linked to the public authority and the private partners. The individual approach to the project is better described in an indirect way, via the services made possible through the project as such.

SG(E)I via this project support the convergence between the Swedish regions in a direct way. It brings the communication precondition for broadband access and the requirements for fast Internet communication nationally to a more equal level. And therefore it will as well support and strengthening the competitiveness of the Jämtland-region from a European perspective. A well-developed communication infrastructure as well as network services are necessary if the geographical characteristics are so fundamental as it is in the Mid North Sweden region and the Northern part of Sweden.

There is a limited use of funding from the Structural Funds supporting SG(E)I as the Operational Programme is not directly addressing the support of SG(E)I. However, the ERDF supporting SG(E)I is an advantage considering the requirement of public co-financing that stimulates projects with broad cooperation between different sectors and stakeholders. Public involvement in such projects gives good transparency to public stakeholders in the provision of SG(E)I, which serves the interest of citizens. Furthermore, there is an increased guarantee that the prices for such services will be affordable, accessible and open to a wide public.

The project Enterprise development by broadband of the future is an important project for the region of Mid North Sweden as it replies to a big need in the provision of hi-speed broadband access in the municipalities and rural areas covered by the project. It assures a more even distribution of broadband access in the region of Jämtland. The expansion of the broadband network increases the number and type of services that can be provided regardless of location. New services will be developed and may even reach into sparsely populated in the same way as these services will connect to the outside world. In this aspect it will assist the tourism sector and other industries to find new markets for their products and services. The general development in Sweden also calls for better Internet access as many public authorities are becoming more and more centralised in the provision of SG(E)I by applying new forms of e-governance.

Acknowledgements

The SERUS team would in particular like to express our greatest gratitude's for the support with this study to the Mayor of Östersund Mr. Jens Nilsson and to the team at Jämtkraft. We have ourselves learnt a lot and it has given us great insights in a very interesting project which will enable broadband to the vast majority of the citizens in Östersund, Krokom and Åre.

27. United Kingdom. Infrastructure Investment-Northern Ireland Natural Gas project

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27.0. Background information

a) Country	United Kingdom
b) Region	Northern Ireland
c) Full Project Title	Infrastructure Investment- Northern Ireland Natural Gas Project- Gas Pipelines from Gormanstown (Republic of Ireland) to Antrim and from Carrickfergus to Londonderry
d) Duration	2001-2007
e) Programme	ERDF
f) Total Cost	EUR 192 000 000
g) EU Contribution	ERDF 8.4%
h) National Contribution	24% - Northern Ireland Executive EUR 46 million (including Irish Government EUR 12.7 million)
i) Private Contribution	67.6%
j) Sector	Energy
k) Sub-Sector	Electricity, gas, petrol, solid fuel
l) Beneficiary	Firmus energy/ BGE (Northern Ireland)
m) Implementing body	BGE

27.1. National approach to SG(E)I and the support of the Structural Funds to SG(E)I provision

In the Republic of Ireland and the United Kingdom, there is a tradition of national planning which has incorporated Structural and Cohesion Funds into the development of a National Development Plan (Ireland) and specific regional plans for Northern Ireland. Energy features in both the National Strategic Reference Framework (NSRF) for Ireland and the United Kingdom National Strategic Reference Framework (NSRF), which has a specific section for Northern Ireland, for both the periods 2000-2006 and 2007-2013. Although energy features in plans for both time periods, there have been some changes in the way in which energy has been addressed during these two planning periods. These changes focus on the move from the development of energy infrastructure to developing alternative and sustainable sources of energy.

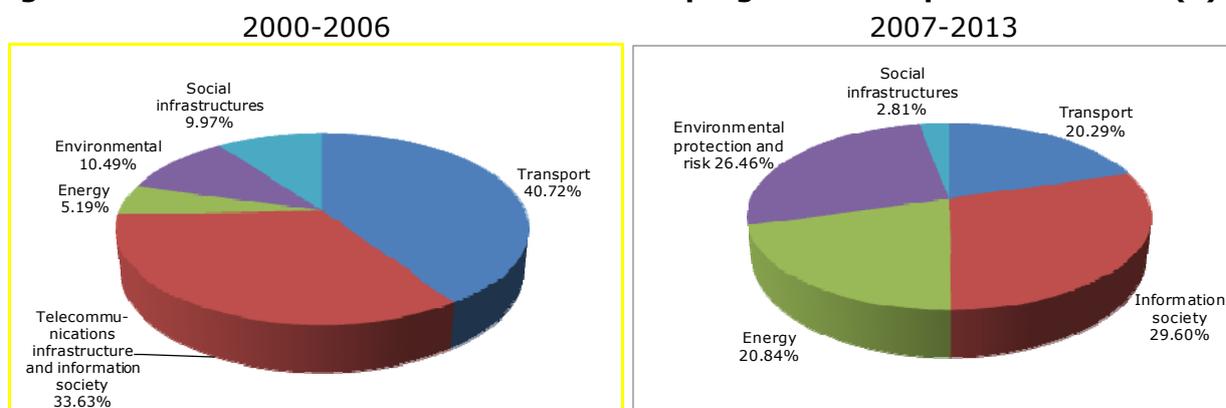
Planning documents in the period 2000-2006, including the National Strategic Reference Frameworks, highlight the need to develop and build new energy infrastructure. Energy features in the economic strategy for Northern Ireland 'Economic Vision for Northern Ireland'. The 'Investment Strategy for Northern Ireland' (2005) includes energy infrastructure, which is part of a ten year strategy to improve public infrastructure, seen as essential for economic growth and environmental benefits. The development of a natural gas network was part of a National Spatial Strategy (2002) for the Republic of Ireland, which aimed to strengthen energy networks for the benefit of both the Republic of Ireland and Northern Ireland, an example of cross-border planning.

The Strategic Energy Strategy for Northern Ireland was published in 2004. This was followed by the 'All-Island Energy Market Development Framework' in 2004, which built on liberalisation policies, which started in 1992. The 2004 Energy Act based on the Department of Trade and Industry (UK) White Paper 'Our Energy Future: Creating a Low Carbon Economy' had three policy goals: to reduce carbon emissions, maintain reliable energy supplies and update energy infrastructure. The Strategic Energy Framework for Northern Ireland reflected these goals as well as aiming to reduce energy costs relative to other UK/EU regions.

The overall approach to energy as a SG(E)I, in both the Republic of Ireland and Northern Ireland is focused on the creation of competition and economic effectiveness. However, energy, as an SG(E)I, is recognised as having the potential to strengthen the relationships

between the Republic of Ireland and Northern Ireland. This has been a major policy influence since 1998, when the conflict in Northern Ireland was, to a certain extent, resolved through a political agreement, called the Multi-Party or Good Friday agreement. In the period 2007-2013, Northern Ireland has become eligible for funding under the Competitiveness and Employment Objective.

Figure 38: 2000-2006 and 2007-2013 ERDF programmed expenditure for SG(E)I



Source: Authors processing of DG Regio data

There was a significant change in the Structural Funds expenditure for the Energy sector between the two programme periods of 2000-2006 and 2007-2013. Energy expenditure increased from 5.19% of total ERDF programmed expenditure in the period 2000-2006 to 20.29% in the period 2007-2013. This can be explained by the greater emphasis that was given in the UK Strategic Reference Framework (2007-2013) to “innovation and adaptability in the use of natural resources and promote low carbon energy efficiency” as well as supporting the objectives of the “UK Climate Change Programme, which emphasises the need for carbon reduction to go hand in hand with increased competitiveness and economic growth”.

27.2. National framework in the provision of SG(E)I

In Europe, the liberalisation of the natural gas industry has been led by three European Parliament Directives, which set out how each Member state should re-organise its domestic gas industry in order to introduce competition. The Directive 98/30/EC (22 June 1998) set out the basic rules and principles necessary to establish a European internal market for natural gas. Directive 2003/55/EC set out the framework for the complete opening of national gas markets to internal market competition, which requires Member States to establish ‘common rules for the internal market in natural gas’ and establishing ‘an open and competitive market’ in gas by 2007. This gives potential suppliers of natural gas the right to ‘non-discriminatory access to transmission and distribution systems and to liquefied natural gas (LNG) facilities. System operators of the transmission systems, which deal with the operation, maintenance and development of transmission and distribution and storage of natural gas, must guarantee non-discriminatory and transparent access to the system for all users. Access must therefore be based on fair tariffs that are applied objectively.

System operators must not favour certain companies. In order to ensure impartial treatment, vertically integrated companies have to be re-organised so that the transmission and distribution activities are legally and functionally separate from other activities, such as production and supply. However, one company may still have ownership of these two functions even if they are legally separate functions.

In the Republic of Ireland, the second EU Directive led to new legislation that outlined the separation of functions of the state enterprise, Bord Gais Eireann (BGE), responsible for natural gas transportation systems (BGE). BGE was required to set up a subsidiary company, responsible for the natural gas transmission and distribution system which would be able to make decisions independently from BGE. The licence, which had been given to BGE under section 16 of the Gas (Interim)(Regulation) Act 2002, to operate a natural gas transmission system and a natural gas distribution system, was transferred to the subsidiary company in 2005 (S.I. No. 760 of 2005 European Communities (Internal Market in Natural Gas) (BGÉ) Regulations 2005). This new subsidiary was called Bord Gais Networks, and was responsible for construction, operation, maintenance and developing commercial arrangements for the use of the natural gas network in the Republic of Ireland. The Electricity Regulation Act, 1999, in the Republic of Ireland, established the Commission for Electricity Regulation (CER). The 2002 Gas (Interim Regulation) Act expanded the remit of the CER to include the regulation of the natural gas sector. The name of the regulator was changed to Commission for Energy Regulation. The functions and duties of the CER were altered and expanded significantly by the legislation that transposed EU directives into Irish law under Statutory Instruments No 452 and No.760.

In 2004, as a result of SI 452, the energy regulator (CER) became responsible for ensuring the supply of natural gas through overseeing the process of separation of functions of BGE and imposing "public service obligations, which may include security, including security of supply and technical or public safety, regularity, quality and price of supplies, and to environmental protection including energy efficiency and climate protection". The new subsidiary company had to report to CER and in the case of any disputes, CER would have to arbitrate between the conflicting parties. CER became responsible for monitoring security of supplies and producing an annual report outlining its findings. CER also grants licences and has to ensure that the accounts of the different parts of BGE are separate.

Although the period of energy liberalisation started after 1987 in the United Kingdom, the process of liberalisation in Northern Ireland has been slower. After 1999, there was more progress towards the establishment of competitive markets in Northern Ireland, where the process of liberalisation had been slower than in the rest of the United Kingdom, because of political and geographical circumstances. The natural gas market in Northern Ireland is small and the measures to establish an open market for natural gas are behind those of the rest of the United Kingdom and the Republic of Ireland. By 2004, the industrial and commercial gas markets in Northern Ireland were open to competition and it was expected that the domestic market would follow.

The natural gas market in Northern Ireland was expanding during the period 2000-2006. Phoenix Natural Gas, owned until 2003 by British Gas, the Belfast Gas supplier was required to 'unbundle' into separate entities for transmission, distribution and supply. The expansion of natural gas outside the Greater Belfast area was facilitated by the completion of the North West pipeline in 2004 which allowed the Coolkeeragh Power station to fire on natural gas. Bord Gas Eireann (BGE) was awarded a licence to supply homes and businesses in several northern towns from 2005. This represented a significant development in the creation of a competitive market by having a supplier from the Republic of Ireland entering Northern Ireland and also contributed to the creation of an all-Island market.

In Northern Ireland, the regulatory agency is called the Northern Ireland Authority for Energy Regulation (NIAER). The provider of gas services is Bord Gais Eireann (regulated Irish semi-state body) which underwent changes in its functions, as outlined above. The company operating the gas pipeline is BGE (Northern Ireland), also part of Bord Gais Eireann and the gas network operator for infrastructure. It was awarded the licence to become the Designated Pipeline Operator through the Gap Conveyance Licence by the Northern Ireland Authority for Energy Regulation (NIAER) in 2002. Firmus energy, which is

a subsidiary of Bord Gais, is the company licensed to distribute and supply natural gas to homes and businesses in Northern Ireland. It was awarded the distribution and supply licence by NIAER in 2005. The separation of BGE (Northern Ireland) and firmus energy reflects the arrangements for separation or 'unbundling' of the production and supply from the distribution and transmission.

The Republic of Ireland and Northern Ireland are part of an island system of natural gas. There is now an all-island gas transmission network which connects the grids of Republic of Ireland and Northern Ireland. The all Island natural gas market started operating in 2007. However, the network of gas transmission and distribution pipelines in Ireland, as with all other European countries, is still provided on a monopoly basis. There is only one provider of network services and there are no competing providers. The networks will always be a monopoly but what might change is that competing retailers may be allowed to enter the market.

27.3. Project description

The Republic of Ireland was a separate gas island until a pipeline to Scotland was completed, supplied by the Kinsale Head field. The pipeline was necessary because this field was depleting quickly and new discoveries were not filling the gap. The arrangement to pipe natural gas to Northern Ireland, from Scotland, was necessary to allow natural gas to replace coal in some of the power stations and introduce an affordable space heating fuel for domestic use. British Gas built the pipeline between Ireland and Scotland and in return converted Coolkeeragh power station to natural gas from coal / oil and also started rebuilding the retail network

Northern Ireland originally had a town gas network, using gas manufactured from coal but this fell into disuse. Most houses in Northern Ireland were supplied with electricity, which was subsidised by the British Government. The plans to restart a natural gas supply in Northern Ireland used the town gas network as the starting point.

The project built two natural gas transmission pipelines in Northern Ireland. The North-West gas pipeline runs from Carrickfergus (near Belfast) to Londonderry and was commissioned in 2004. It serves the Coolkeeragh power station in Derry. Natural gas networks are being developed near to the route of this pipeline and Ballymena, Ballymoney, Coleraine, Derry city and Limavady have been supplied with natural gas.

The South-North pipeline runs from Gormanston (County Meath/Ireland) to Ballyclare, County Antrim (Northern Ireland), where it links to the North-West gas pipeline. It was commissioned in 2006. The two pipelines together create an all-island gas transmission network, connecting the two grids for the first time. The towns of Antrim, Armagh, Banbridge, Craigavon, Lurgan, Newry and Portadown have been provided with natural gas. These are all outside the Greater Belfast area.

The two pipelines make natural gas available to 75% of the population in Northern Ireland. They link the two networks of Northern Ireland and Ireland and also integrate the two systems into the European gas supply market. The project expands the gas distribution networks in towns outside of Greater Belfast. It will benefit domestic, commercial and industrial gas users.

In 2006, the European Investment Bank lent Bord Gais Eireann (BGE) EUR 88 million as part of the BGE investment programme for the expansion and renewal of gas transmission and distribution networks in Ireland and Northern Ireland (Communication, 2008). This programme included the two new pipelines as well as other network expansion in Ireland.

27.4. Specific aspects of SG(E)I affected by the project

Prior to the completion of the two pipeline project, Northern Ireland did have a town gas network, which was manufactured from coal, but this had been allowed to fall into disuse.

Most houses used electricity, which up to then had been subsidised by the British Government. The new two pipeline project has contributed to the continuity, reliability and safety of service provision by providing 75% of the population with access to natural gas in 10 towns in Northern Ireland, outside Belfast. Before this pipeline, this population did not have access to natural gas as the previous gas network was run on coal gas.

The project has contributed to the development of a single island gas market through the construction of a pipeline (South-North) which connects the Republic of Ireland with the Northern Ireland grid, for the first time. This infrastructure development has been essential for the creation of a single gas market. This is significant in several ways. It contributes to the establishment of a single gas market, enabling more providers to enter an enlarged market. It is also important in a region which has experienced conflict over the past 30 years. Expanded provision to natural gas will also benefit commercial and industrial activities in the region, which will impact on employment. The experience of this project has shown the potential for using the development of basic infrastructure in a cross border area as a means to establishing a more integrated market in an economic, social, and political sense.

27.5. Governance aspects

- The main stakeholders involved in the project were: the Northern Ireland Executive and the Irish Government, provided leadership and planning expertise. The natural gas network providers (BGE (Networks) and firmus energy) provided access to capital and technical expertise. The two regulators, Commission for Energy Regulation (CER) in Ireland and the Northern Ireland Authority for Energy Regulation (NIAER) provided the framework for the development of all- Island market. There were no users involved in the project partnership.
- The interests of the partners were: both the Government of Ireland and the Northern Ireland Executive wanted to stimulate economic activities through the provision of infrastructure and provide access to natural gas for a large part of the population. The construction of cross border infrastructure will strengthen cross border cooperation. BGE and firmus energy wanted to contribute to the creation of all Island gas market, which will provide access to more customers and service users, leading to expanded activities. The creation of an all Island natural gas market is part of the expansion of an internal market in natural gas in the European Union. These new pipelines have helped to establish links between the Island market and the European market.
- The roles of the partners were:
 - governments-funding providers and regulatory advice;
 - gas providers-funding provider and technical expertise.

The institutional framework for energy, particularly natural gas, provided an important framework within which the project was developed and which created the governance arrangements. The legislation that has translated European Directives into national legislation sets out the way in which the regulatory agencies oversee the relationships between the (BGE (Networks) as the supplier of natural gas, and *firmus energy*, which is responsible for transmission and distribution. The separation of regulation from the provision of infrastructure enabled the private sector to take a lead role in the project by securing additional funding for the pipeline construction. The concept of an all-island gas market and the development of competition informed the project by identifying how the two pipelines could contribute to the expansion of a natural gas market in both Northern Ireland and the Republic of Ireland.

The cross border element brought together two parallel structures of regulation, provision of supply and transmission/ distribution of natural gas. It provided an opportunity for a provider from the Republic of Ireland to expand its market into Northern Ireland. It led to the creation of a subsidiary company responsible for transmission and distribution of natural gas in Northern Ireland.

27.6. Universality of access and affordability

Previously Northern Ireland had a town gas network, manufactured from coal, but this had fallen into disuse. Most houses used electricity, which until the late 1990s had been subsidised by the British Government. The introduction of these two pipelines gave a large part of the population of Northern Ireland access to natural gas, supplied by the natural gas pipeline from Kinsale in Scotland. Moving from electricity supplies, which had been subsidised by the UK Government, 75% of the Northern Ireland population now have access to natural gas supplies. This represented a transfer from electricity to natural gas use. Natural gas has environmental benefits because it produces 30% less carbon dioxide than oil and hardly any nitrogen oxide or sulphur dioxide emissions. This will help to improve air quality.

Equal treatment between women and men is assured in the provision of this service although this is subject to sufficient income to access the service.

Access to a gas pipeline is required in order to access natural gas. This is more difficult in a rural area. The project has contributed to expanding access to natural gas in 10 small towns in Northern Ireland.

Structural Funds contributed to widening access of the population to natural gas.

Although there are moves towards an all-island natural gas market, there is still a monopoly of provision in Northern Ireland that serves the areas covered by the new pipelines. Firmus energy is the sole provider of natural gas in this area outside of Greater Belfast. Natural gas prices paid for by the consumer are made up of several components:

- the wholesale cost of gas which is imported to the United Kingdom and so is subject to changes in international energy prices;
- suppliers of natural gas pay to transport the gas through the transmission pipeline to the local distribution network;
- transportation costs are the associated costs of transporting gas through the local gas networks to individual premises;
- supply costs cover administrative costs of customer accounting and services.

There is no price or targeted subsidy control mechanism in place to benefit low income consumers. Older people are eligible to a cold weather payment if temperatures fall below a certain temperature for a set number of consecutive days. This arrangement is part of UK government policy and was not influenced by the Structural Funds.

27.7. Thematic focus

The areas that have benefitted from access to natural gas through the two pipelines are predominantly rural areas and small towns. The Northern Ireland region has experienced conflict since the late 1960s. It also has high levels of unemployment. The provision of natural gas will be expected to impact on social cohesion and economic growth in the region. The provision of natural gas will enhance the attractiveness of the region from an economic and industrial perspective. It will also benefit the quality of life of population in villages and small towns that now have access to natural gas supplies.

The barriers to the implementation of an all-island natural gas market have been related to poor infrastructure and the lack of an integrated grid that covers the border area. The

construction of two pipelines, particularly the South-North pipeline, has led to the establishment of an integrated grid for natural gas by providing infrastructure which linked the two natural gas grids of the Republic of Ireland and Northern Ireland. This was the first time that the two grids were connected and thus the funding from the Structural Funds has had a direct impact on the creation of an all Island natural gas market.

Until the establishment of the Multi-Party Agreement on 10 April 1988 (the Good Friday agreement), there were political barriers to establishing a cross border service for natural gas. The development of new energy strategies in Northern Ireland aimed to develop cooperation between the Republic of Ireland and Northern Ireland. This has taken place in relation to systems of regulation but more importantly, it allowed a major provider from the Republic of Ireland to enter the Northern Ireland market. As both the Republic of Ireland and the United Kingdom have been liberalising their energy markets since 1992, improved infrastructure has contributed to expanding the energy market. The use of Structural Funds, through the EDRF funding, provided a lever for larger investments from the private sector provider.

27.8. Contribution to cohesion policy objectives

The two new pipelines have contributed to cohesion objectives in several ways. They will contribute to economic cohesion by providing a more secure supply of natural gas to the area outside Greater Belfast in a region that has suffered from a low rate of economic growth for several decades, due to political conflict. The introduction of a new supply of energy, and the supporting infrastructure, will support the development of local businesses and other industrial activities as well as expanding domestic consumption.

The pipelines will contribute to social cohesion by providing a new supply of energy to small towns, outside the Greater Belfast area, which had previously been dependent on electricity, supported by the British Government. This creates a feeling of stability and brings long term improvements in the quality of life. From an environmental perspective, the move has been from a coal gas to natural gas and the conversion of a power station from coal to natural gas, which also brings environmental benefits, especially in air quality.

The pipelines have been a significant development in territorial cohesion because the construction of the South-North pipeline has enabled the grid in the Republic of Ireland to be connected to the Northern Ireland grid. An integrated all-Island grid has led to the creation of an all-Island natural gas market, an infrastructural development, which will strengthen cross border cooperation. The delivery of natural gas through a company that is also a subsidiary of the main provider in the Republic of Ireland is a further strengthening of cross border links. The new natural gas market is taking place in a cross border area which has experienced extensive conflict for several decades. In addition, the pipelines have also linked Northern Ireland and the Republic of Ireland to European gas transmission networks, widening the scope of territorial cohesion from national to European level.

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