

ROMANIA



MINISTRY OF EUROPEAN FUNDS

Sectoral Operational Programme

ENVIRONMENT

2007-2013

- Revised Official Proposal -



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ABBREVIATIONS LIST

ABBREVIATION	ENGLISH
ACIS	Authority for Coordination of Structural Instruments
BAT	Best Available Technique
BOD	Biological oxygen demand
BM	Bucharest Municipality
CBC	Cross-Border Cooperation
ECS	European Committee for Standardization
CF	Cohesion Fund
COD	Chemical oxygen demand
CSG	Community Strategic Guidelines
DBO	Design Build Operate
EAFRD	European Agricultural Fund for Rural Development
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EIA	Environmental Impact Assessment
EIB	European Investment Bank
ERDF	European Regional Development Fund
ESF	European Social Fund
EU	European Union
EFF	European Fishery Fund
EO	Emergency Government Ordinance
FOPIP	Financial and Operational Performance Improvement Programme
GDP	Gross Domestic Product
IB	Intermediate Body
IFI	International Financial Institutions
ISPA	Instrument for Structural Policies for Pre-Accession
ICPA	National Institute of Pedology and Agrochemistry
IDA	Intercommunity Development Association
JASPERS	Joint Assistance in Supporting Projects in European Regions
LCP	Large Combustion Plant
MA	Managing Authority
MARD	Ministry of Agriculture and Rural Development
MB	Municipality of Bucharest
MIAR	Ministry of Interior and Administrative Reform
MEF	Ministry of Economy and Finance
MECC	Ministry of Environment and Climate Change
MEF	Ministry of European Funds
MDPWH	Ministry of Development, Public Works and Housing
MH	Ministry of Health
MO	Ministerial Order
NPRDI	National Plan for Research, Development, Innovation
NRDP	National Rural Development Programme
NARMPP	National Authority for Regulating and Monitoring of Public Procurement
NEPA	National Environmental Protection Agency
NARW	National Administration "Romanian Waters"
NDP	National Development Plan
NGO	Non-government organization
NSRF	National Strategic Reference Framework

ABBREVIATION	ENGLISH
NUTS	Nomenclature of Territorial Statistical Units
OP	Operational Programme
PE	Population Equivalent
PPP	Public Private Partnership
REPA	Regional Environmental Protection Agency
ROC	Regional Operator Company
ROP	Regional Operational Programme
PU	Paying Unit
SAPARD	Special Accession Programme for Agriculture and Rural Development
SAMTID	Small and Medium Towns Infrastructure Development
SEA	Strategic Environmental Assessment
SCF	Structural and Cohesion Funds
SOP ENV	Sectoral Operational Programme Environment
TA	Technical Assistance
UCVPP	Unit for Coordination and Verification of Public Procurement
WB	World Bank
WG	Working Group
WWTP	Wastewater Treatment Plant
WFD	Water Framework Directive
WHO	World Health Organisation

NOTE

Following the adoption of the National Development Plan 2007-2013 at the end of 2005, the active drafting of the SOP ENV took place during the first quarter of 2006 in parallel to the completion of the first drafts of the NSRF and the other OPs. A meeting at Director/State Secretary level between the Commission and the Romanian administration took place in March 2006 and permitted the Romanian authorities to present the overall direction of the NSRF and the OPs. The NSRF and OPs were subsequently submitted to the Commission on 20 April after their endorsement by the Romanian Government. An updated version of the OP was submitted on 11 October 2006. The updated version took into account comments on the OPs which have been highlighted within the consultation on the NRSF, comments in the framework of Chapter 21 monitoring, which had an impact in particular on the institutional requirements of the OP implementation systems, comments resulting from bilateral meetings on specific subjects of the OP and recommendation highlighted during fact-finding audit-mission on the prepared SOP implementation system. The revised version of the SOP takes into account ample discussions with all relevant partners in particular with regard to strategic interventions, to adequate implementation structure, state aid and procurement compatibility etc.

On 31 January 2007, the Romanian authorities submitted officially the Sectoral Operational Programme Environment to the European Commission. This took into account the EC position paper dated 13th December 2006 submitted to the Romanian authorities, the recommendations made during the ex-ante evaluation process as well as the comments made by the interested public during the SEA process.

The current document represents the revised official version of SOP ENV that takes into account various clarifications required by the EC during the inter-service consultation. Main changes refer to the institutional mechanism associated with major projects in a regional strategic context.

INTRODUCTION

The Sectoral Operational Programme Environment (SOP ENV) is closely linked to the national objectives of the strategy laid down in the National Development Plan 2007-2013 (NDP) and National Strategic Reference Framework (NSRF), which takes into consideration the European Union's supporting objectives, principles and practices. It is designed to lay the foundation and be a catalyst for a more competitive economy, a better environment and more balanced regional development. The SOP is fully based on the goals and priorities of the European Union's environment and infrastructure policies and reflects Romania's international obligations as well as its specific national interests.

The SOP ENV continues and builds for the future, on national environmental infrastructure development programmes initiated in the pre-accession period, particularly with PHARE and ISPA support. Apart from infrastructure development, SOP ENV is regarded as a tool to complete efficient management structures for environmentally relevant services. As well, the SOP design addresses non-traditional fields of interventions like efficient urban heating systems, risk prevention, ecological reconstructions and Natura 2000 management plans implementation.

The overall objective of SOP is to protect and improve the environment and living standards in Romania, focusing in particular on meeting the environmental acquis.

The aim is to reduce the environment infrastructure gap that exists between the European Union and Romania both in terms of quantity and quality. This should result in more effective and efficient services, while taking fully into account sustainable development and the polluter pays principle.

The specific objectives of the SOP ENV are:

- 1. Improve the quality and access to water and wastewater infrastructure, by providing water supply and wastewater services in most urban areas by 2015 and by setting efficient regional water and wastewater management structures*
- 2. Create the premises a smooth implementation of water/ wastewater investment projects in the next programming period*
- 3. Development of sustainable waste management systems, by improving waste management and reducing the number of historically contaminated sites in minimum 30 counties by 2015*
- 4. Reduction of negative environmental impact and mitigation of climate change caused by urban heating plants in most polluted localities by 2015*
- 5. Protection and improvement of biodiversity and natural heritage by supporting the protected areas management, including NATURA 2000 implementation*
- 6. Reduction of the incidence of natural disasters affecting the population, by implementing preventive measures in most vulnerable areas by 2015*

In order to achieve these objectives, the following priority axes are identified:

- Priority Axis 1** “Extension and modernization of water and wastewater systems”;
- Priority Axis 1A** “Support the development of water and wastewater infrastructure projects to be implemented in the next programming period”
- Priority Axis 2** “Development of integrated waste management systems and rehabilitation of historically contaminated sites”;

- Priority Axis 3** “Reduction of pollution and mitigation of climate change by restructuring and renovating urban heating systems towards energy efficiency targets in the identified local environmental hotspots”;
- Priority Axis 4** “Implementation of adequate management systems for nature protection”;
- Priority Axis 5** “Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas”;
- Priority Axis 6** “Technical Assistance”.

Technical Assistance (TA) will assist in the implementation and monitoring of the programme. TA is expected to contribute significantly to achieving the global and specific objectives.

The programme covers the period of 2007-2013, but its objectives also look forward to Romania’s development needs beyond 2013 by laying the foundations for sustainable economic development, but also supporting activities to prepare projects for the next programming period. It will contribute to Romania meeting its EU obligations in the environment sector offering investment opportunities in all the regions of the country.

The starting point for the SOP ENV is the presentation of the current situation of the environment in Romania, followed by a SWOT analysis, on which the development strategy is built. The SOP also contains a description of the priority axes, key intervention areas and projects identification, as well as the implementation provisions.

The Ministry of Environment and Climate Change (MECC), as Managing Authority for SOP ENV, elaborated this strategic document under the coordination of the Ministry of Economy and Finance, as Authority for Coordination of Structural Instruments, and in collaboration with local, regional and other central authorities and stakeholders involved in this field. The implementation of the programme is the responsibility of the Managing Authority (MA) for the SOP ENV, which is the General Directorate for MA SOP Environment in MEF. In order to support the MA to deliver the programme more efficiently, eight (8) Intermediate Bodies (IBs) for SOP ENV are set up as distinctive bodies at the level of each Development Region (NUTS II) of Romania, within the structure of MEF.

The SOP ENV is one of the seven operational programmes under Objective “Convergence” for the EU programming period of 2007-2013. It has been drawn up in correlation with the third Priority of Romania’s NDP 2007-2013 - “Protection and improvement of environment quality” and the priorities under NSRF - “Develop Basic Infrastructure to European Standards”. The SOP contains essential elements for the successful implementation of the NDP and NSRF referring to environmental protection development; its basic objective is to promote sustainable development of the country.

Taking into account the close link between environment and other economic and social sectors, SOP has been developed in correlation with other Sectoral Operational Programmes in order to ensure synergy between the various strategies and complementary programmes and with the Lisbon strategy’s objectives.

The SOP’s total budget for the 2007-2013 programming period amounts to about Euro 5.19 billion. Out of this, about Euro 4.4 billion is envisaged as Community support, which represents about 23.1% of the financial envelope of the NSRF, and about Euro 0.77 billion comes from national contribution. The Community sources that will support SOP ENV implementation are Cohesion Fund and European Regional Development Fund.

The SOP ENV is developed in line with the EU rules on Community funds management during 2007–2013, as foreseen in the Council Regulation (EC) No 1083/2006 laying down

general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999, as well as in the Commission Regulation (EC) No 1828/2006 setting out rules for the implementation of Council Regulation No 1083/2006 and of Regulation No 1080/2006. The areas to be supported through SOP ENV comply with the provisions laid down in Regulation (EC) No 1080/2006 of the European Parliament and of the Council on the European Regional Development Fund and the Council Regulation No 1084/2006 establishing a Cohesion Fund. Relevant Romanian and EU regulations, plans and programme documents in the field of environmental protection are also basic documents for preparation of the Sectoral Operational Programme Environment.

EX-ANTE EVALUATION

The ex-ante evaluation of SOP ENV was carried out by external consultants with support of PHARE RO-2004/016-772.04.03.01.06-“Ex-ante evaluation” during the second half of 2006, based on an assessment of written documents and a series of interviews and debriefing meetings. The main objectives of such an assessment, according to Article 48 of the Council Regulation No 1083/2006 are to “optimise the allocation of budgetary resources and improve programming quality”.

The ex-ante evaluation addressed the following main questions:

- *Relevance*: to what extent are the programme's objectives relevant in relation to the evolving needs and priorities at national and EU level?
- *Effectiveness*: how realistic is the programme in achieving its specific and global objectives by 2013 or earlier?
- *Efficiency*: how well are the resources (inputs) allocated with respect to outputs or results?
- *Consistence and Coherence*: are the proposed objectives and measures logically linked to the socio-economic analysis, are they mutually consistent (consistence) and are they well embedded in the regional, national and Community (e.g. Lisbon Objectives) policy objectives and interventions (Coherence)
- *Utility*: are the expected and unexpected effects realistic and globally satisfactory in the context of wider social, environmental and economic needs?
- *Sustainability*: will the effects obtained in the proposed programmes remain, even after the end of the programme without further public funding?
- *Management and monitoring arrangements*: how they may affect the achievement of programme objectives & contribute the chosen processes to positive results?

The evaluators concluded that the SOP ENV is in compliance with the European strategies. The proposed Operational programme, its priorities and the operational objectives also coincide with the so-called cross cutting themes of the European Union on employment, equal opportunities, environment and information society. The programme design proposed in the draft Operational Programme for the environment sector in Romania is generally of satisfactory quality. The relevance of objectives is ensured, the main problems are identified and prioritised, and subsequently addressed by appropriate measures.

The comments received from evaluators have been considered in the improvement of the programme. For example, the evaluators requested further evidence that the balance of resources included in the programme reflects Romania's environmental needs. As a result, the section *Financial needs assessment for environmental investments* was included, together with more specific information on compliance costs in Annex 4. Other examples of how the ex-ante evaluation contributed to the objective of improving programming quality include:

- Restructuring of the SWOT analysis to reflect better the issues associated with the various environmental sectors (which then translate into the objectives and priorities of the Programme);
- Reviewed drafting to reflect better the objectives of SOP ENV better, most notably the renaming of Priority Axes 2 and 3 so as to stress their environmental focus;
- Substantial modifications to the text of Priority Axis 3 to improve clarity and stress environmental aspects, including the addition of an extra indicator;
- Clarification of the division of functions between the MA and IBs, and inclusion of more details on the implementation system generally.

A number of proposals were partially accepted by the MA and explanation provided in the formal response to the comments of the ex-ante evaluators. In some cases, the MA agreed with the spirit of the relevant recommendation, but its implementation in practice was not possible or only partially possible.

Some recommendations made by the evaluators were not accepted by the MA for objective reasons. Subsequent clarifications between MA and ex-ante resulted in an acceptance by the evaluators of the MA justifications as valid, provided that more arguments are brought in the SOP document particularly as regards: justifications for financial allocations for various SOP Priority axes; need for interventions related to drinking water; need for energy-saving measures associated with major investments for sustainable reasons; better accentuation of public awareness measures associated with major investments; contribution to the civil society development. All this topics have been improved in the current SOP ENV version to reflect the ex-ante recommendations.

It is concluded that the ex-ante evaluation process has met its primary objectives and has resulted in numerous improvements to the document.

The final ex-ante evaluation report will be sent separately to the European Commission.

Strategic Environmental Assessment

An important part of the ex-ante evaluation is represented by the strategic environmental assessment (SEA). SEA has been done in accordance with the provisions of the Government Decision No 1076/2004 for setting up the environmental assessment procedure of certain plans and programmes, which transposes into Romanian legislation the EU Directive No 2001/42 (SEA), and with the support of PHARE RO-2004/016-772.04.03.01.06 -“Ex-ante evaluation”.

The above-mentioned TA provided assistance to support the strategic environmental assessment, including the elaboration of the environmental report and organization of public consultation. Co-ordination with environmental and health authorities was ensured during the SEA procedure. According to legal provisions, the MA for SOP ENV set up an working group on SEA formed by representatives of Ministry of Economy and Finance, Ministry of Public Health – Institute of Public Health, Ministry of Interiors and Administrative Reform, Ministry of Agriculture and Rural Development, technical departments of Ministry of Environment and Sustainable Development and NGOs. The Environmental Report was elaborated by SEA key expert with the support of the working group.

All parts of the SOP ENV were assessed within SEA. Expert conclusions and recommendations were based on a number of national and international documents relevant to the SOP ENV. The basic reference framework for conducting SEA was the set of relevant environmental objectives formulated based on the analysis of existing relevant national and international strategic documents (strategies, plans and programmes) and current status of environmental issues related to the nature and focus of the SOP ENV. The final set of relevant environmental objectives also included relevant human health issues and specific issues related to nature and biodiversity protection (within the framework of Natura 2000).

The conclusion of the report was that SOP ENV is largely oriented towards improvement of environmental situation in Romania. Analysis demonstrated that measures foreseen under the key areas of intervention in the SOP ENV will likely have significant positive effects, except for the construction phase of some of the activities and in the circumstances that some mitigation measures of possible negative effects are not used.

An environmental monitoring programme will be integrated in the overall monitoring system of the SOP ENV. It will help with signalling the potential environmental problems that may result from the proposed projects under SOP ENV, which have not been identified during the ex-ante assessments and will allow for prompt implementation of corrective measures.

Public consultations on both SEA report and SOP ENV have been carried out. The documents have been made publicly available and readily accessible through the MECC website. The public has been announced through media channels about the opportunity to express opinions on the documents within 45 days. In addition, a public debate has been organised in January 2007 at the MECC Headquarters. The SEA procedure has been completed on 31 January 2007.

1. ANALYSIS OF THE CURRENT SITUATION

The analysis focuses on those environmental sectors having currently the highest negative impact, where Romania is significantly lagging behind, and where the medium term expected investments, although costly, have great potential to contribute to a sustainable economy, by stimulating new businesses and jobs. The analysis addresses particularly the situation in the following sectors: water/wastewater, waste, soil pollution, air pollution, biodiversity and nature protection, floods, coastal erosion. A wider scope of environmental problems is presented in the NDP 2007–2013 and the NSRF and/or integrated in other Operational Programmes (Increase of Economic Competitiveness, Human Resources Development, Regional Operational Programme), in the National Rural Development Programme. They are also addressed by the National Environmental Fund or other governmental programmes.

1.1. General Issues Related to Environment in Romania

Romania is an average-size country comparatively with other European countries, having an area of 238,391 km² (the thirteenth country in Europe as size) and a population of about 21.7 million inhabitants (according to statistical data for 2004).

Romania is situated in the South-Eastern part of Europe, at the intersection of main European communication axes West-South-East and North-South-East. The neighbouring countries are Ukraine in the North, Republic of Moldavia in the East, Bulgaria in the South and Hungary and Serbia in the West.

Placed in the Europe interference area of Carpathians-Danube and Danube-Black Sea ecosystems, Romania can be admired for its very beautiful, diverse and balanced natural and landscape heritage.

Natural resources represent an essential part of Romania's richness and the exploitation of these resources, both renewable and non-renewable raw material, and their transformation into goods, determines the social and economic development of the country, environmental status and living conditions of the population. In order to contribute to the quality of life in Romania, natural resources need to be exploited in a sustainable manner.

The sustainable development mission is to find ways to increase the total wealth at the same time with prudently use of natural resources, so as the renewable sources to be maintained and non-renewable sources to be used taking into account the needs of future generation.

Romania's natural assets will be a valuable contribution to the European Union, as the natural heritage enriches by two significant bio-geographical areas, the Danube Delta and the Carpathians. Furthermore, Romania will bring into the EU habitats and species from five biogeographical regions. A snapshot of Romania's environment features is shown in the box below.

- 97.8% of the Romania's hydrographical network belongs to the Danube River Basin;
- Around 38% of the Danube's length flows on the Southern part of Romania;
- With an average of only 2,660 m³ water/inhabitant/year, comparatively with European average of 4,000 m³ water/inhabitant/year, Romania is one of the relatively poor countries in water sources;
- 79% of the wastewater are untreated or insufficiently treated and flows directly into natural receivers;
- Only 52% of Romania's population is connected both to water and sewage services;
- 363 million tones of waste were generated in 2004 – approximately 326 million

tones produced by mining industry, approximately 29 million tons other production waste, approximately 8 million tons municipal waste;

- About 40% of the municipal waste components represent recyclable materials, out of which about 20% can be recovered; only 2% of the recyclable materials generated is recovered;
- Energy industry produces high quantity of waste - about 16 millions tons were produced in 2004;
- 252 municipal landfills were operating in urban areas in 2005, out of which 234 landfills do not comply with environmental standards; there are approx. 2,686 small dumping sites in rural areas;
- Natural and semi-natural ecosystems represents 47% of the entire country territory;
- At present date, the surface of natural protected areas covers up to 8% from the entire country territory.

1.2. Water Sector

Water resources. According to the State of Environment Report (produced annually by the MECC), Romania is endowed with all types of fresh water resources (rivers, natural and artificial lakes, the Danube River and the ground waters). The largest resource of fresh water comes from the Danube and other rivers. Natural lakes, although numerous (3,450), have irrelevant contribution to water resources volume. The usable water resource is 2,660 m³/inhabitant/year, compared with the European average of 4,000 m³/inhabitant/year. This is largely due to the contamination of water reserves; if only the surface sources are considered there is only about 1,770 m³/inhabitant/year, which ranks Romania amongst countries with relatively low water resources; amongst the EU-25, Romania is ranked the ninth.

- **Surface water:** Romania's hydrographical network is almost entirely (97.8%) derived from the Danube river basin. The exception is the Dobrogea region, where the rivers flow directly into the Black Sea. There are 78,905 km of watercourses, but only 22,000 km are monitored and used for economic purposes, being also affected by pollution. The main sources of pollution leading to poor water quality are domestic husbandry, stock rearing, chemical industry and the mining and metallurgical industry.
- **Ground waters:** The natural regime of ground waters has been modified over the years in the various river basins catchments; now the potential usable from the technical-economic point of view is 5.5 billion m³/year, which is equivalent to around 250 m³/inhabitants/year. Partly, these waters have been polluted in the past with heavy metals occurred in mining and ore processing areas and with oil, petroleum products and phenol around refineries and drilling rigs. Other pollutants arise from past intensive agricultural practices.

Wastewater. The statistical analysis of the main sources of wastewaters in 2005 revealed that out of the total discharged volume of more than 4,034 million m³/year, about 2,626 million m³/year, representing 65%, are wastewaters needing to be treated. Out of the total volume of wastewater needing to be treated, approximately 21% have been sufficiently treated, other 45% are untreated wastewaters and approximately 34% wastewaters have been insufficiently treated. Therefore, in 2005, almost 79% of wastewater, coming from the main pollution sources, was discharged into the natural receivers, especially rivers, untreated or insufficiently treated.

The highest wastewater volume, including cooling waters, was discharged by units from the following areas: thermal and electric energy (over 51% of the total); public utilities (over

36%); chemical processing (almost 5%); metallurgical and mining industry; stock raising. The biggest polluters of surface waters with organic substances, slurry, mineral substances, ammonium, fats, cyanides, phenols, detergents, heavy metals are the big urban agglomerations.

Taking into account the total number of 1,310 wastewater treatment plants and storage installations (both municipal and industrial), investigated in 2005, a number of 492 plants, representing almost 37.6%, have *adequately* functioned, and the remaining plants (818), representing 63.4%, have *inadequately* functioned.

The critical situation of wastewater treatment plants is caused by old pipes and wastewater networks, modifications in their treatment capacity without being adapted to initial design parameters, low managing capacity and poor financial situation of local water services operators.

Out of the total of 2,609 urban agglomerations with more than 2,000 population equivalent, 340 agglomerations have wastewater treatment plants¹. The type of the existing wastewater treatment plants is shown in Table 1 and the total human agglomerations is shown in Table 2.

Table 1. Existing wastewater treatment plants

Mechanical wastewater treatment plants ("primary")	Mechanical – biological wastewater treatment plants	Mechanical – biological – chemical wastewater treatment plants	Mechanical – chemical wastewater treatment plants	Total wastewater treatment plants (in agglomerations)
112	212	10	6	340

Source: MECC

Table 2. Total number of agglomerations

	Agglomerations	Total population equivalent	% out of the total population equivalent
2,000-10,000 p.e.	2,346	10,192,131	39
10,000-150,000 p.e.	241	7,012,655	27
> 150,000 p.e.	22	9,562,512	34
Total	2,609	26,767,398	100

Source: MECC, National Institute of Statistics

The distribution of the agglomerations depending on their size and region (Table 3) shows that in Region North–East there is the biggest population equivalent (p.e.).

Table 3. Distribution of agglomerations by region

Region / population equivalent	2,000 – 10,000	10,000 – 15,000	15,000 – 150,000	Over 150,000	Total population equivalent	Total population
Region North-East	2,143,018	257,283	948,568	1,410,000	4,758,869	3,743,819
Region South-East	1,311,223	213,170	758,731	1,538,080	3,821,204	2,858,687
Region South Muntenia	2,013,594	256,967	1,112,436	618,500	4,001,497	3,358,392
Region South-West	1,457,474	130,456	608,059	590,632	2,786,621	2,329,342
Region West	763,592	163,562	630,775	665,000	2,222,929	1,946,647
Region North-West	1,252,983	186,688	584,656	1,030,000	3,054,327	2,744,919
Region Centre	1,062,030	122,413	913,528	1,510,300	3,608,271	2,545,271
Region Bucharest-Ilfov	188,317	35,024	90,339	2,200,000	2,513,680	2,206,479
TOTAL	10,192,231	1,365,563	5,647,092	9,562,512	26,767,398	21,733,556

Source: MECC

¹ Source: MESD.

The distribution of the collecting systems and wastewater treatment on regions is shown in Table 4. According to this table there are still a lot of necessary investments to be done both for collecting systems and wastewater treatment plants. The worst situation is in the Region Bucharest-Ilfov because in Bucharest there is no wastewater treatment plant yet.

Table 4. Distribution of collecting system load by region

Region	Total wastewater load p.e.	Collecting systems		Wastewater treatment plants	
		Total load p.e.	Loading percentage %	Total load p.e.	Loading percentage %
Region North-East	4,758,869	1,813,987	38	1,448,783	30
Region South-East	3,821,204	1,845,587	48	1,057,582	28
Region South Muntenia	4,001,497	1,192,130	30	696,669	17
Region South-West	2,786,621	1,101,270	40	408,720	15
Region West	2,222,929	870,289	40	452,969	21
Region North-West	3,054,327	1,270,162	42	985,362	32
Region Centre	3,608,271	1,738,879	48	1,319,578	37
Region Bucharest-Ilfov	2,513,680	1,020,670	41	219,247	9
TOTAL	26,767,398	10,852,974	41	6,588,912	25

Source: MECC

Having in view the environmental protection issues and its geographical location in the Danube basin and Black Sea, through the GD No 352/2005 Romania declared its whole territory as sensitive area. This decision requires that all agglomerations of more than 10,000 population equivalent be endowed with wastewater treatment plants with the highest degree of treatment, respectively removal of nitrogen and phosphorous (tertiary treatment).

Consequently, according to the commitments made in the negotiation process, Romania must comply with the Directive No 91/271/EC on urban wastewater treatment by the end of 2018. The cost assessment for the implementation of these provisions is about **Euro 9.5 billion** for investments, out of which **Euro 5.7 billion** for wastewater treatment and **Euro 3.8 billion** for sewerage systems.

Public drinking water supply network. According to the 2004 Report of the Public Health Institute, Romania is situated among the average countries regarding the area covered by water supply systems in Europe, having in view that only 65%² of population benefit of drinking water supply from public network. In Europe, the population is connected to public water supply network in a ratio of 96-100% in urban areas and 87% in rural areas, according to “Global Water Supply and Sanitation Assessment 2000” Report of World Health Organization. In the last 25 years, an increase of users connected to water supply network was registered in Romania, from 29% of country population to 65%, having in view that in the same period, major changes have been also registered between the urban and rural population.

86% of the resident population of 256 urban localities (about 11,551,096 inhabitants) is supplied with drinking water through the public networks. The figures show that in 55 urban

² According to the 2004 National Report-“Monitoring of drinking water quality in urban areas”, Public Health Institute, Bucharest.

localities (21.5%), the population is connected in a ratio of 100% to the public system for water supply³.

The drinking water supply networks have a total length of 47,778 km, ensuring the endowment of 71% of the total length of the streets in the urban area. The drinking water supply network has continuously extended (in 2005 the network length was 24% above the 2000 level).

The quantity of the drinking water supplied to consumers in 2005 sum around 1,089 million m³ (46% lower than in 1995), out of which 628 mil. m³ for domestic usage. In the last 10 years, the quantity of total water supplied in the network decreased mainly due to the metering systems and to the decreasing of industrial activity.

Because of the unequal distribution of the water resources in the country, the insufficient level of the flow regularization on water streams, the significant pollution of some inland rivers, important areas of the country do not have enough water supply resources during a year time, mainly in dry or cold winter years.

Sewerage network. At the end of 2005, 693 localities were endowed with sewerage network (Table 5). The sewerage network has a total length of 18,381 km, out of which 16,397 km in the urban area. *Only 73% of the total length of urban streets are endowed with sewerage network.*

Table 5. Dynamic of the sewerage network

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Network length (km)	15,199	15,291	15,502	16,012	16,080	16,348	16,590	16,812	17,183	17,514	18,381
Localities number (no)	607	616	619	636	654	674	682	679	664	675	693

Source: National Institute of Statistics

The existing wastewater treatment plants in Romania cover only 77% of the total flow evacuated through the public sewerage networks; 47 urban localities (as Bucharest, Craiova, Drobeta Turnu-Severin, Braila, Galati, Tulcea) discharge wastewaters into the national receivers without a preliminary treatment.

Population benefiting of the sewerage service is about 11.5 million inhabitants, out of which 10.3 million inhabitants in the urban area (representing 90% of the urban population) and 1.15 million inhabitants in the rural area (10% of the rural population).

Correlating the two types of endowments - drinking water supply and sewerage systems – the country population can be grouped in three categories:

- Population benefiting of both services – 52%;
- Population benefiting of water supply but not of sewerage system – 16%;
- Population benefiting neither of water supply nor sewerage system – 32%.

The comparison with EU countries, based on data provided by EUROSTAT (Table 6), emphasizes once again the poor status of water and wastewater infrastructure in Romania and highlights the need for urgent investments in this sector.

³ Idem

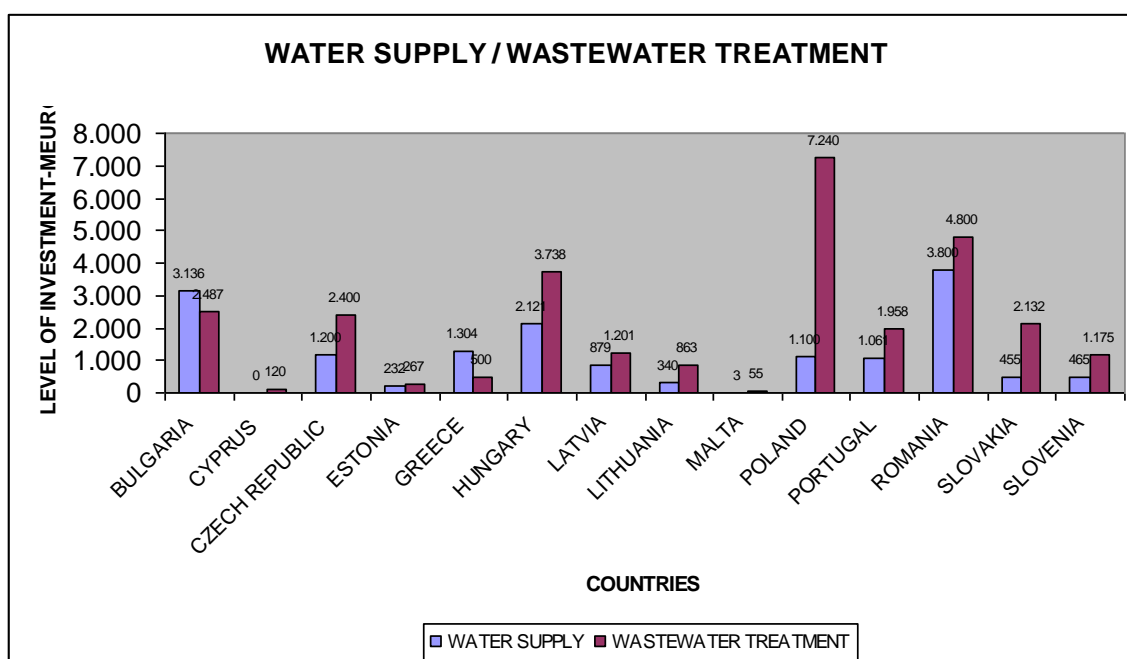
Table 6. Water sector indicators in selected EU countries in 2002

Country	Population connected to public water supply (%)	Population connected to urban wastewater collecting systems (%)
Belgium	96.4	-
Bulgaria	98.8	68
Czech Republic	89.8	80
Estonia	72	72
France	99.4	82
Hungary	93	62
Lithuania	76	71
Poland	84.8	57

Source: Eurostat

Also, according to the country report on Romania of the Strategic Evaluation on Environment and Risk Prevention, carried out by ECOLAS&GHK on behalf of the European Commission, for the water supply/wastewater treatment and the necessary investments for 2007–2013 Romania ranks on the second place after Poland (Fig. 1).

Fig. 1. Overview of investments needs in new Member States for 2007 – 2013



Source: “Strategic Evaluation on Environment and Risk Prevention” – Country report – Romania, ECOLAS & GHK, 2006

The quality of water supply and sewerage services. The chemical quality of water distributed through public supply systems, characterized by general indicators for drinking water, was established by analyses made in order to identify the toxic substances in water (4% having values above the admitted concentrations), the chemical oxygen demand (5% having values above the admitted concentrations), the ammonium (5% inadequate values) and the nitrates (3% inadequate results).

The 2004 Report of the Public Health Institute on drinking water quality from urban localities highlighted that about 3% of the population connected to water supply system is affected by intermittent water supply, of over 8 hours daily.

Moreover, the total population potentially exposed to the risk, taking into consideration the age of the distribution networks, quality and parameters of water source, for which currently there is no data, could be estimated at about 9.8 million inhabitants in urban areas.

For the monitored parameters, the main areas with significant cases of non-compliance are situated as follows: Alba, Botosani, Bacau, Constanta, Calarasi, Dambovita, Maramures, Neamt, Olt, Prahova, Sibiu and Suceava.

In Romania, there are 1,398 treatment plants for drinking water, out of which:

- 797 plants are producing drinking water for a population between 50 and 5,000 inhabitants;
- 601 plants are providing water for systems supplying more than 5,000 inhabitants.

Also, 25% of the public systems supplying drinking water for areas of more than 50 persons and less than 5,000 are not in compliance with the limit values for: bacteriological parameters, turbidity, ammonia, nitrates, iron. 10% of the public systems supplying drinking water for areas of more than 5,000 persons do not comply with the limit values for: oxidisability, turbidity, ammonia, nitrates, iron, taste, smell.

The supply systems and the distribution networks are mainly made of non-adequate materials (asbo-cement and lead), 30% of the pipes are made of iron and there is no modern system for their cleaning. Up to 70-75% of the current pipes have to be replaced. The distribution networks are significantly damaged, which leads to organoleptic changes in the quality of distributed water. Also, the interruption of drinking water supply damages its quality. The pipes made of lead have to be replaced also.

Management of sludge from wastewater treatment. Currently, the biggest part of the sludge generated from wastewater treatment is treated using different methods and landfilled on areas owned by the wastewater treatment plant. Only a small part of the sludge is used for agricultural purposes. The legal framework for using the sludge in agriculture was created through the transposition of the Directive No 86/278/EC on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture through the Ministerial Order No 344/2004.

Important investments are necessary in order to construct adequate facilities for treatment of sludge generated from wastewater treatment.

The use of sludge in agriculture is encouraged, as well as to ensure the necessary conditions for its disposal through the best methods, both financial and environmental protection point of view.

Water and wastewater utilities in rural areas⁴. Even though for agglomerations smaller than 2000 p.e., Romania does not have urgent obligations according to Chapter 22 –

⁴ According to Romanian legislation (Romanian Law No 350/2001 on spatial planning and urbanism and Law No 351/2001 on approving the National Spatial Plan – Section IV – Localities network), the definition of rural areas is done based on basic activities and endowment with public utilities (rural localities are the localities where either the majority of population is occupied in agriculture, forestry or fisheries, or, in terms of endowment with public utilities, do not fulfil the legal obligations to be declared as urban localities, even if the majority of population is occupied in other sectors than those mentioned before). However, for the water sector, it is very important to consider the definition of agglomeration according to the Directive No 91/271 on urban wastewater treatment - 'agglomeration' means an area where the population and/or economic activities are

Environment, it is a constant priority of the Government to improve the water and wastewater infrastructure in these areas as a pre-requisite for improvement of living conditions for rural population and the development of rural areas.

67% of rural areas inhabitants do not have access to water supply and more than 90% are not connected to sewage systems. According to the National Institute of Statistics, the water supply networks in rural areas registered some improvements during 1998 – 2005, the length increasing from 16,245 in 1998 to app. 22,660 in 2005. In spite of this increase, this public utility remains insufficient since many households are still not connected to water supply network, even in those localities endowed with such facility. The majority of households in rural areas use dwells for water supply (approximately 70%). As regards the sewage systems, the discrepancy between the urban and rural areas is considerably higher with 92.3% of length in urban and only 7.7% in rural areas (2005 data).

Surface and ground waters pollution with nitrates. In Romania, many of the individual farms and small holders use manure as the cheapest and best available fertiliser. The use of chemical fertilisers has therefore dropped. In 2000, the average consumption of chemical fertilisers was 36 kg per hectare (in relation to total arable land), about 4 times less than in 1989. In relation to livestock breeding, individual households often do not hold sealed collection pits for animal effluents allowing the nutrients, and especially nitrates, to dissolve into the ground water. Moreover, such pits are not emptied for collection and disposal.

Larger farms and farming operators have manure and liquid animal waste storage facilities, but most of the existing wastewater treatment facilities require rehabilitation and refurbishment; old and inadequate facilities for animal waste disposal also require rehabilitation or refurbishment and the addition of handling and management facilities for natural organic fertilisers, in line with legal requirements.

Surface and ground waters are regularly monitored; however, the results of the monitoring process are not always relevant as the laboratory equipment is often obsolete and insufficient; moreover, the information technology network for the monitoring and control factors is not regularly in place.

Despite these difficulties, the *contamination of water by nitrates* from agricultural sources was reviewed and assessed in order to identify vulnerable zones. The evaluation of the potential risks to soil and the waters into which they discharge has made possible the identification of the following vulnerable zones, by category (A), (B) and (C):

- (A) zones potentially vulnerable due to the run-off of nitrates into surface water bodies: 5,650 km², i.e. 2.37% of the area of the country and 3.82% of farmland;
- (B) zones potentially vulnerable (with medium vulnerability risk) from percolation of nitrates to free aquifers: 13,759 km², i.e. 5.77% of the area of the country, or 9.30% of farmland;
- (C) areas of high vulnerability at risk from percolation of nitrates to free aquifers: 1,200 km², i.e. 0.50% of the area of the country, or 0.81% of the farmland.

Water management utilities. Regionalisation of water services

- *Legal framework*

After a period of more than four decades of centralised management, Romania decided to return to local autonomy principle through decentralisation, in this way transferring major

sufficiently concentrated for urban waste water to be collected and conducted to an urban wastewater treatment plant or to a final discharge point.

and concrete responsibilities to the local public administration, principle reflected in the National Constitution. One of these specific responsibilities mentioned in the Law No 215/2001 regarding the local public administration refers to the *obligation of local administrations to organise their operation efficiently and adequately in order to provide public services*. According to this Law, *local public administrations have the right to associate with the aim to develop efficient public services of common/regional interest*.

In Romania, the local public services (organised under the responsibility of the local public authorities) are regulated by a “general” law (Law No 326/2001 amended by Law No 51/2006 on community services of public utilities). The organisation and operation of the public water and sewerage services are completed by a “specific” law (GO No 32/2002 amended by Law No 241/2006 on water and sewerage services).

The purpose of the “specific” law is to establish “*the unified legal framework concerning the creation, organisation, management, regulation, financing, monitoring and control of the operation of the water and sewage public services*”. Also, it includes the principles, the structure and the operating conditions of these services, provisions concerning the operators, the users and the rights of the local authorities, provisions concerning the tariff policy and tariff calculation methodology.

The Framework Regulations include the rules for direct delegation of water services management. According to this, “*in the case of a commercial company resulting from the administrative reorganization of the old autonomous Regias of Local or Departmental Interest, or of the specialised public services subordinated to the authorities of the local public administration, which managed goods, activities and services of water and sewage, and whose capital is held entirely by the administrative - territorial units, the delegation of the management of the service is directly allotted to those*”. In line with this provision, the Regional Operating Companies (ROC), as described in the following paragraphs, are going to perform their activities based on a delegation contract for providing public services from the public administration in case.

According to the national legislation, the National Authority for Regulation of Public Municipal Services licences the eligible operators, according to a set of criteria regarding their size, their professional and managerial capacity, their technical and financial performance. Furthermore, its powers also include significant control of prices and level of service expectations.

- *Rationale for regionalisation of water systems*

Efficient public services can only be in place if supported by adequate investment programmes. However, only 32 major municipalities (of more than 100,000 inhabitants each) have benefited from capital investment programmes for rehabilitation of their water and wastewater infrastructure after 1990.

Nevertheless, only a small minority of the 276 towns in Romania (at the end of 2003) have benefited from these programmes. Around 230 considered small and medium-sized towns, have not been able to attract financing from either international financial institutions or private operators. Due to lack of funds, these towns have made very little investments over the past 15 years to maintain and develop their water and wastewater infrastructure. As a consequence, the condition of their systems is very poor. Some of the major problems linked to water services in smaller agglomerations include:

- Inappropriate maintenance and operating services;
- High volume of unpaid water caused by networks leakages and low level of payment collection from the consumers;

- Lack of investments for rehabilitation / extension of water / wastewater infrastructure;
- Lack of experienced staff for promoting, management and implementation of large scale investments;
- Inefficient management of the operating, maintenance and personnel costs;
- Unclear role and responsibilities of institutions / authorities involved in management of public utilities;
- Inappropriate institutional framework.

There is a continuing need to ensure that all towns can invest to maintain and upgrade their infrastructure in order to have good services, able to meet EU standards. This requires adoption and implementation of adequately designed development policies, focused on meeting the real needs of the population, if services are to be affordable to everybody.

- *Development of regionalisation of water systems*

Against this background, since 2001 the Romanian authorities designed programmes meant to support local authorities to:

- Access international financing in small and medium agglomerations with the purpose of rehabilitating and modernizing local water infrastructure and
- Promote self sustainable regional utilities by introducing principles of cost recovery and efficiency into their operations.

Regionalisation of the water services, planned to overcome excessive sector fragmentation and to achieve economies of scale, is ongoing. Programmes are supported by pre-accession programmes (ISPA and PHARE) and include so far 35 beneficiary counties of the total 42 in Romania.

The capacity-strengthening scheme is designed to provide links to investment programmes supporting the rehabilitation, modernisation and up-grading of local water and wastewater infrastructure. To this end, investments are identified and prioritized to include components that reduce costs, improve efficiency and basic services. New meter installation programmes, pressure and flow monitoring, reduction of unaccounted for waters, reduction of infiltrations in the sewerage systems, etc. represent component of every investment project as part of demand management programmes.

The capacity building programmes also include training for the local authorities to use external loans (co-financing) as a financial source for their investment and improve their capacity to plan their investment in municipal infrastructure on sustainable basis, by introduction of financial and operational discipline.

To this end, individual local authorities will form as common shareholders Regional Operating Companies (ROC) and set up in parallel association of Municipalities and County Administrations (AoM) so-called Inter-Community Development Associations (IDA) to whom they delegate the exercise of their shareholder rights. The operational requirements and control provisions will be defined in a delegation contract of the IDA, and in the incorporation act of the ROC according to criteria further specified under Section 5.1.Management (Sub-Section: Specific provisions for adequate SOP ENV Implementation).

Accordingly, the IDA, representing the concerned Local Administrations, enters into service delegation contracts either with experienced utilities operators that have a proven record of capacity to prepare and implement investments of the size proposed in the programme, or with new regional operators formed by grouping of existing operators. It must be licensed

and be able to demonstrate (during its initial years of operation, assisted by an institutional building TA project) its capacity to operate on a sustainable basis.

Accessing EU funds for the investment needs will be the incentive to move from a large number of weak services providers to a limited number of big and strong operators, capable of providing better services at affordable levels of tariffs, which ensure full cost recovery and loan reimbursement for local authorities.

From the institutional point of view, the regionalisation is achieved by reorganisation of existing public services owned by municipalities. This is based on three elements concerned with the institutional organization:

- The Intercommunity Development Association (IDA) / Association of Municipalities (AoM)⁵
- The Regional Operating Company
- The Contract of Delegation of Services.

The municipalities included in the programme will form together a so-called Association of Municipalities or Intercommunity Development Association, representing a collaborative structure, which will allow the beneficiary local authorities to control the Regional Operating Company and to better monitor and supervise the implementation of the rehabilitation and modernisation works. The Association brings the capacity to the local councils to meet in the form of a legal entity for purposes to fix, on a territorial regrouping scale, their common objectives and priorities. It is necessary to note the advantages brought successively in 2001 by Law No 215 and 2006 by Law No 286. Law No 215/2001 authorizes the Local Public Administrations to set up for themselves Contracts of Association based on the provisions of Government Ordinance No 26/2000 concerning Associations and Foundations. Law No 286/2006 (amending Law No 215/2001 regarding the local public administration) authorizes the Local Public Administrations to get together in the form of entity with legal personality.

Summing up, the purpose of the process of regionalization of water services, initiated by Romanian authorities and supported largely by pre-accession programmes (PHARE, ISPA), is to assist the local authorities in the creation of efficient regionalised water and wastewater service operators and in strengthening the capacity of local authority to control effectively their activities via AoM/IDA.

The overall objective of this programme is to support the local authorities to implement an integrated multi-annual capital investment programme in order to improve the standards of municipal water and wastewater services by creating efficient, financially viable and autonomous integrated regional service providers able to plan and implement investments in the context of a process of consolidation in the sector, in line with EU policies and practices.

1.3. Waste Management

An important problem in Romania as regards environmental protection is the management of waste. This field covers activities of collection, transport, treatment, recovery and disposal of waste.

Data regarding the management of waste in Romania make a distinction between two main categories of waste:

⁵ Association of Municipalities (AoM) was replaced by Inter-Community Development Association (IDA) in the recently revised legal framework. It has the same meaning for the purpose of this document.

- Municipal waste and similar waste from commercial activities, industry and institutions, construction and demolition waste and sludge resulted from the urban wastewater treatment plants;
- Production waste.

During 1998-2004, the ratio between the two categories varied from one year to another, the average values being 29% municipal waste and 71% production waste.

Table 7. Waste quantities generated⁶

- Million tones-

	1998	1999	2000	2001	2002	2003	2004
Municipal waste	6.77	8.07	8.96	8.82	9.58	8.43	8.19
Production waste	22	17	18	22.25	24.5	30.54	28.51

Source: National Institute for Research and Development for Environmental Protection (ICIM)

The mining industry is not regulated through the EO No 78/2000 on waste, approved by the Law No 426/2001. For this type of waste, specific regulation will be elaborated in order to transpose the Directive 21/2006 on mining waste. Mining Law No 85/2003 regulates the mining activity and the responsible authorities for these issues are Ministry of Economy and Finance, National Agency for Mineral Resources, National Agency for the Development of Mining Areas.

The National Waste Management Plan, approved by GD No 1470/2004, presents a detailed analysis of the waste management in Romania, prevention measures of waste production and of waste quantities reduction; recycling methods; the list of monitoring indicators. The National Plan also includes adequate actions and measures for compliance with the Community acquis in waste management field. Elaborated on the basis of the Community and Romanian legislation and approved by a joint Ministerial order of the Ministry of Environment and Water Management (currently Ministry of Environment and Sustainable Development) and Ministry of European Integration (currently Ministry of Development, Public Works and Housing), the Regional Waste Management Plans transpose, at regional level, the objectives of the National Waste Management Plan. These documents promote cooperation between local and county authorities in order to create and develop an integrated waste management system to replace the current system, which is inefficient, both from economic and environment protection point of view. In this way, suitable solutions are being identified, adjusted to the particularities of the regions, to assure the fulfilment of the national targets and the commitments that Romania undertook for Chapter 22 – Environment.

Municipal waste

Generation of municipal waste. The quantity of municipal waste generated varies from one year to another and, in the last 6 years, a general ascending trend was recorded determined both by the increase of the consumption and by the increase of the population covered by public sanitation services⁷ in centralised system. Data on generation and management of municipal waste in 2004 are presented in Table 8.

⁶ The data about production waste does not include mining waste.

⁷ Data Source: The National Waste Management Strategy and the National Waste Management Plan (GD No 1470/2004)

Table 8. Municipal waste generated in 2004

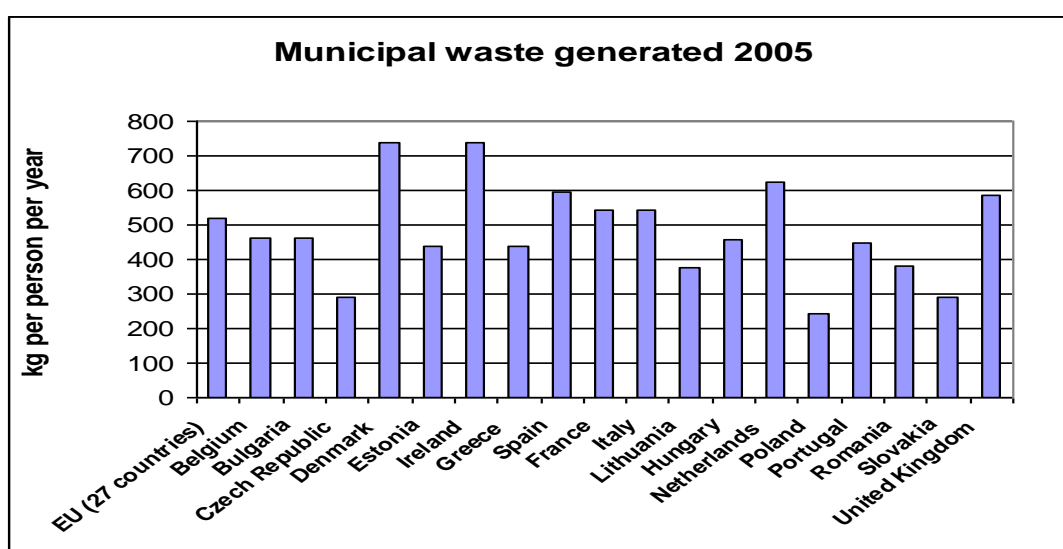
- Thousand tons -

Waste type	Generated waste	Waste recovery	Disposed waste
Collected household waste and similar waste	5,161	74	5,087
Waste from municipal services (including sludge from wastewater treatment plant)	840	9.5	830.5
Constructions and demolition waste	715	0.5	714.5
Non-collected waste (estimated on the basis of the average generation ratio)	1,482	0	1,482
TOTAL MUNICIPAL WASTE	8,198	84	8,114

Source: National Environmental Protection Agency – Waste generation and management in 2004

In comparison with EU countries, municipal waste generated in Romania in 2005 measured in kg / person is below EU-27 average.

Fig. 2. Municipal waste generated in EU countries (kg per person)



Source: Eurostat

The quantity of municipal waste generated per capita reveals the economic development of that respective country. As opposed to the majority of EU developed countries, the municipal waste generated in Romania is mainly landfilled and only 2% is recycled.

Table 9. Disposal of municipal waste in the selected EU countries

- thousand tons -

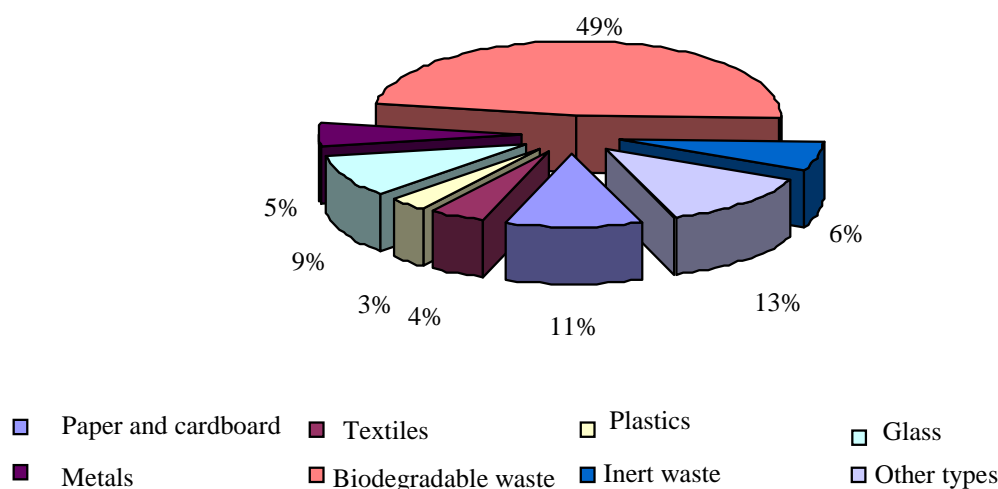
Country	Municipal waste recycled	Municipal waste composted	Municipal waste incinerated	Municipal waste landfilled
Belgium	1,442	1,088	1,627	594
Greece	375	32	-	4,233
Spain	3,811	3,914	1,567	14,723
France	4,715	4,208	11,110	12,991
Romania	170	-	-	6,695

Source: Eurostat

The household waste and similar waste represents the biggest part of the total municipal waste, amounting to 5,161 million tonnes. They are generated from households, respectively from economic units, commercial activities, offices, public institutions, sanitary

establishments. Their composition has varied in the last years, the biodegradable waste representing the major part (Fig. 3). In 2004, the biodegradable waste represented about 49% of the household waste collected; the glass and plastics represent also important quantities.

Fig. 3. The average composition of household waste collected



Source: National Environmental Protection Agency – Waste generation and management in 2004

The prognosis on municipal waste generation was done on the basis of the prognosis regarding population on type of inhabited area, taking into account the increase of goods consumption by population; thus, the National Waste Management Plan estimates an average increasing ratio of 0.8%/year by 2013 of the municipal waste quantities generated.

Municipal waste management. In urban area, the municipal waste management is carried out through specialized services belonging to the municipalities or through sanitation companies. The ratio of urban population covered by sanitation services increased from 73% in 1998 to about 90% in 2002-2003.

In rural areas, there are no organized services for waste management, the transportation of waste to dumping sites being made individually by each generator. Only a limited number of rural localities are covered by organized services for waste management, and especially rural localities situated in the neighbourhood of urban centres. In 2003, about 5% of the rural population was covered by sanitation services, whilst in 2004 this ratio has increased to about 6.5%.

The waste types representing municipal waste are managed in a different manner, according to their characteristics and the generated quantities.

Household waste management. Out of the total municipal waste, around 40% of the municipal waste components are recyclable materials out of which about 20% can be recovered, as they are not contaminated. As a result of selective collection through pilot projects, only 2% of the total recyclable materials generated are recovered. The rest is disposed by landfilling, thus losing large quantities of secondary raw materials and energetic resources.

In the last years, private economic operators started activities of cardboard and PETs supported collection. In some localities, the activity of placing certain „deposit/collection points” where the population can deposit (with or without remuneration) wastepaper, cardboard, glass, plastic has started. In Romania, there are authorized institutions in glass,

paper and cardboard and plastic industry, which started to take over the waste from the collection points in order to recycle and/or recovery it. In some cities, pilot stations for biodegradable waste composting were set up.

Landfilling is the main method for municipal waste disposal.

In 2005, 252 landfills for municipal waste were functioning, out of which:

- 18 complying landfills;
- 234 non-complying landfills.

Out of the total 18 complying landfills, 11 were built before the European norms regarding landfills were introduced into the Romanian legislation; however, they comply with the European norms (Constanța, Chiajna, Brăila, Piatra Neamț, Sighișoara, Sibiu – Cristian, Ploiești-Boldești, Vidra, Glina, Băicoi and Câmpina-Bănești). They do not require major investments in order to meet the standards; only costs necessary for the improvement of the operation and monitoring activities, which were estimated to about 3.5 million Euro. The other 7 were built according to EU norms and they began to operate during 2003, 2004 and 2005 (Brașov, Buzău-Gălbinași, Arad, Slobozia, Costinești, Oradea, Craiova).

The investment costs necessary to ensure compliance of the existing municipal landfills have been estimated to Euro 1,775 million.

Among the EU countries which choose landfilling as the main method for waste disposal, according to Eurostat data, Romania seems to have the lowest percentage of municipal waste landfilled in controlled landfills, situation caused by the high number of non-complying landfills.

Table 10. Municipal waste landfilled in controlled landfills

Country	Municipal waste landfilled (total amount) in 1000 t	Municipal waste disposed of to controlled landfill in 1000 t	Percentage of waste disposed in controlled landfill (%)
Greece	4,233	2,380	56
Hungary	3,907	3,761	96
Portugal	3,388	3,276	96
Romania	6,695	1,200	18

Source: Eurostat

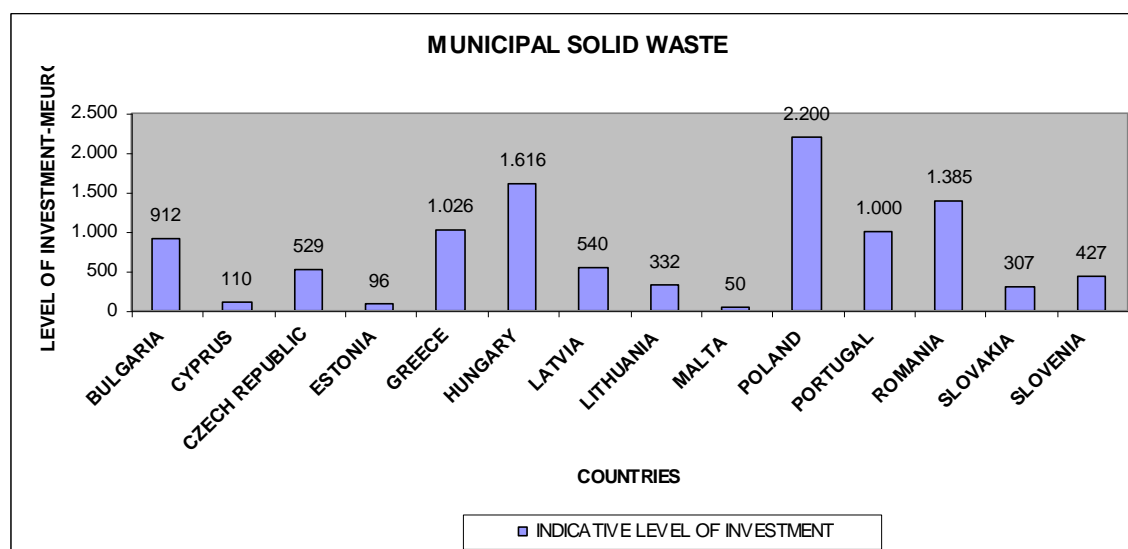
During the accession negotiations for environment, Romania assumed the obligation to cease activity on 137 landfills in urban areas covering about 427 ha until 16 July 2009 and on 101 municipal waste landfills, representing about 301 ha, between 16 July 2009 and 16 July 2017. Apart from the landfills in urban areas in Romania there are **2,686 dumping sites in rural areas**, the most having a surface of 1 ha. The closure and cleaning of these spaces will be done until 16 July 2009, in parallel with the extension of collection services in rural areas, the organization of transport and transfer systems and construction of zonal landfills.

According to the statistical data on waste generation and management in 2004, 6.63 million tonnes of waste were landfilled, out of which 2.02 million tonnes on complying landfills. Out of the total amount of municipal waste landfilled, about 49% are biodegradable wastes.

Currently, in Romania there are no installations for thermal treatment of solid municipal waste. Recent studies indicate that the composition and characteristics of household waste in Romania (e.g. humidity of about 50%, content of biodegradable substances of about 50% and calorific power of less than 8,400 kJ/kg), as well as the higher costs of this method of disposal make it impossible for the moment to incinerate this type of waste.

According to the country report on Romania of the Strategic Evaluation on Environment and Risk Prevention, carried out by Ecolas&GHK on behalf of the European Commission, for municipal solid waste investments needed for 2007–2013, Romania is ranked the third among the new Member States (Fig. 4).

Fig. 4. Overview of investment needs for municipal waste in new Member States for 2007 - 2013



Source: “Strategic Evaluation on Environment and Risk Prevention – Country report – Romania, ECOLAS & GHK, 2006

Management of demolition and construction waste. The construction and demolition waste quantity generated in Romania is relatively small, but an increase quantity is foreseen having in view the economic development of the country. A systematic approach for recovery of demolition and construction waste is not yet established, but only an internal reuse in their own household or its trade on an undeclared market. Regional waste management strategies must integrate solutions for this waste category as it becomes an increasing problem.

Production waste

Production waste is represented by industrial and agricultural waste, including the one resulted in the energy production process. The organization of the production waste management activity is the producer’s obligation by own means or by contracting services of specialized companies. At present time, there are very few companies that deal with production waste management. The services they provide are limited as far as the types of waste and the processing capacities are concerned.

In 2004, the total quantity of waste generated by industry was about 355 million tons, of which 326 million tons represent *mining waste*, i.e. 92% of the production waste. This type of waste is managed under specific national regulations⁸. Mining waste represents not only an environmental problem, but also a social and economic one. The Government addresses this issue in a specific strategy and through programmes aimed to mine closure, environmental rehabilitation and social problems mitigation in mining areas. The government policy and strategy for the rehabilitation of mining areas is being supported financially by a loan from

⁸ Mining Law No 85/2003 regulates the mining activity and the responsible authorities for these issues (Ministry of Economy and Finance, National Agency for Mineral Resources, National Agency for the Development of Mining Areas)

the World Bank (120 million USD). Thus, the project “Mine closure and social mitigation project” started in 2000 is continuing currently through the project “Mine closure, environmental and socio-economic regeneration project” (2005-2010), coordinated by the National Agency for the Development of Mining Areas.

The economic activities, which led to the producing of the biggest waste quantity in 2004, except for mining industry, were energy, metallurgy and metal constructions, petrochemical, chemical, rubber, plastic and food industry.

From the total amount of production waste, excluding mining waste, about 30% is recovered, the rest being disposed of by landfilling or incineration.

There are seven incinerators for hazardous waste belonging to four private operators, which incinerate hazardous waste generated in their own activities and 7 cement kilns are authorized for the co-incineration of waste⁹.

The inventory of industrial landfills falling under the provisions of the Directive No 1999/31/EC on waste landfill was done at the beginning of 2004. As a result, a total number of 169 landfills covering approx. 3,000 ha¹⁰ were identified.

According to the type of waste that is landfilled, these landfills are classified as follows: 51 landfills for dangerous waste, 116 landfills for non-dangerous waste, two landfills for inert waste.

15 of the 169 landfills are in accordance with the provisions of the Directive No 1999/31/EC and will continue to operate until the depletion of their capacity. The other 154 landfills will be gradually closed, in accordance with the commitments undertaken by Romania through the Accession Treaty to European Union.

An important part of the production waste generated (excepting waste from extractive industry) is represented by waste from energy industry, about 16 million tons in 2004¹¹. There are 20 non-complying power plants, which burn solid fuels and use hydro-transport of the waste generated, and dispose the waste in their own ash and slag dumps. These plants must change their disposal technologies in order to comply with environmental standards. Following the accession negotiations, they have obtained transition periods between 2 and 7 years in order to comply.

Medical Waste

The Ministerial Order of the Ministry of Health and Family No 219/2002 establishes the management of medical waste. This Ministerial Order provides the technical rules regarding the management of waste resulted from medical activities and the methodology of data collection for the national database. According to the preliminary data centralized by the Ministry of Health, the total amount of medical waste generated in 2005 is about 15,490 tonnes. Comparatively with 2004 (17,553 tonnes), a decrease of about 12% was recorded.

The hazardous medical waste is disposed in crematories, direct incinerations and thermal treatment installations. The final disposal of hazardous waste was made in 2003 as follows: 76% of the sanitary units used their own crematory, 13% used other unit's crematory, 7.5%

⁹ Source: MESD.

¹⁰ Source: MESD.

¹¹ Source: National Environmental Protection Agency – Waste generation and management in 2004.

burn the dangerous waste in improvised installations or in the atmosphere and 6% disposed waste in incinerators comparing to only 3.54% in 2002.

Currently, medical waste is disposed as follows:

- Burning in 346 installations for thermal treating of medical waste from hospitals; these installations do not comply with EU requirements and cannot be modernized; these installations must be gradually closed by 31.12.2008; out of the total number, 122 facilities have ceased activity until the end of 2005;
- Only a small quantity of medical waste are incinerated together with dangerous industrial waste in 4 incinerators owned and operated by private sector.

It was estimated that, due to the separate collection of certain types of medical hazardous waste, a part - about 3,000 t/year - will be disposed of by incineration and the rest will be disposed of through thermal sterilization.

Soil pollution and contaminated sites

Previous measurements (made before 1989) on soils pollution in Romania showed that different types of pollutants on certain levels of pollution affected around 900,000 ha.

Generally speaking, a reduction of certain types of pollution was recorded after 1989, due to decrease of fertilisers and pesticides quantities, NO_x emissions, or closure of certain industrial and agricultural units.

As regards the historical soil pollution, new quantities of potential pollutant substances and elements were added, highlighted by monitoring carried out by the National Institute of Pedology and Agrochemistry (ICPA), within the National Monitoring System of first level (16 x 16 km) and second level (impact areas).

The most important types of soil pollution investigated by ICPA are:

1. Soil pollution (degradation) by mining and quarry activities;
2. Pollution caused by ponds, mining dumps, non-complying landfills;
3. Pollution produced by inorganic residues and waste (minerals, inorganic material, metals, salts, acids, alkalis);
4. Pollution caused by substances carried by the air – hydrocarbons, ammonia, sulphur dioxide, chlorides, fluorides, nitrogen oxides, lead compounds;
5. Pollution caused by salted waters from petroleum extraction, petroleum pollution.

Mining activities. In order to extract coal (lignite), mining activities destroy large surfaces which affect soil fertility and cause loses of agricultural and forestry lands. Also, important surfaces are affected by quarries and ballasts which deepen the river beds and decrease the level of freatique. The latest preliminary data provided by ICPA shows that about 23,017 ha are heavily affected by this type of pollution.

Ponds, mining dumps, industrial non-complying landfills. Increase of industrial and household waste volume raises specific problems, by occupying important areas and also for human and animal health. In addition to the operating landfills for industrial wastes in Romania, there are sites which are no longer used because of the exhausted capacity or because the economic operators to which they belong do not exist anymore. In most of the cases the closure has not been made in accordance with European norms in force, these sites being declared “contaminated sites”.

These sites raise problems due to their uncertain legal situation determined mainly by the following aspects:

- Some industrial waste landfills belonged and were used by economic operators where the state was the main share holder and they are no longer operating;
- Some landfills with exhausted capacity had been used by operators that were privatized and the obligations related to the landfill was not transferred to the new owner;
- The landfill was abandoned and/or the owner became bankrupt.

The cases mentioned are represented most of the times by large landfills containing more types of waste (including hazardous waste).

Operational ponds may affect the surrounding lands in case that tailing dams are broken, by contamination with heavy metals, cyanides or other excessive elements. The ponds in conservation have the same effects.

The preliminary inventory shows that this type of pollution affects more than 6,077 ha in 30 counties, out of which about 5,412 ha are excessively affected. The largest area are in the following counties: Alba – 373 ha, Bacău – 340 ha, Caras-Severin – 629 ha, Cluj - 344 ha, Dolj - 670 ha, Harghita - 227 ha, Hunedoara - 735 ha, Maramureş - 617 ha, etc.

Having in view the major problems caused by this type of pollution, a special attention must be paid to these sites in the following years. In addition, the closure of non-complying landfills along with building the new, ecological ones has to represent one of the top priority investments that must be linked with the compliance with the Directive No 99/31 on the landfill of waste.

Inorganic residues and waste. It is estimated that pollution caused by inorganic waste and residues (minerals, anorganic matters, including metals, salts, acids, bases) resulted from industry (including mining industry) affects about 560 ha, most of areas being located in those counties where mining activities, ferrous and non-ferrous industry are well developed (Galați – 177 ha, Maramureş 103 ha, Timis – 106 ha etc.). Currently, the total affected surface is estimated at over 4,000 ha.

Substances carried by the air. Pollution caused by hydrocarbons, ethylene, ammonia, sulphure dioxide, chlorides, fluorides, NO_x, lead compounds, etc. carried by the air, is produced near industrial sources, such as non-ferrous industry units (Romplumb Firiza S.A., Phoenix Baia Mare, Sometra Copşa Mică, Galați, Hunedoara etc.). Their effects have continued to affect the environment even after the closure of the industrial activities, for example Ampellum Zlatna that polluted the soil with lead. At the same time, important areas are affected by emissions resulted from fertiliser and pesticides production plants, oil refinery, asboement plants. In case of non-ferrous industry (Baia Mare, Copşa Mică, Zlatna), more than 198,624 ha were contaminated in different degrees by heavy metal content and SO₂ emissions, which lead to human and animal diseases. Soils are affected by acidification process, which leads to decrease of nutrients content. Preliminary data shows that about 319,000 ha are affected by this type of pollution, out of which 42,600 ha are heavily affected.

Salted waters from oil extraction, oil pollution. This type of pollution has destroyed the ecological balance of the soil and freatique waters on about 2,500 ha, out of which 1,050 ha heavily affected. Salted waters affect both flora and drinking water quality in the surrounding areas. Oil pollution is caused by pipes breakings or leakages and affects 720 ha in four inventoried counties (Bacau, Covasna, Gorj, Timis).

Chemical pollution may also be produced by using high quantities of mineral fertilisers or pesticides. This kind of pollution decreased during the last 15 years, as a result of reduction

of quantities of used substances. Thus, in comparison with 1986, when the quantity of mineral fertilisers (N, P, K) was of 130 kg/ha, in 2004 this quantity decreased at approx. 42 kg/ha (approx. 1/3), which shows that, from this point of view, there is no „pressure” on soil. At the same time, the surface on which organic fertilisers were applied, as well as the quantity of fertilisers, decreased. The soil monitoring data shows a reduction of mobile phosphorus content, which may have negative impacts on stable crops. At the same time, a positive factor is represented by a reduction of pesticide quantities, from 1.6 kg/arable ha in 1994 to about 0.75 kg/ha in 2003 and 1.27 kg/ha in 2005¹².

To sum up, the preliminary data available indicate that around 350,000 ha are affected soil quality by different types and degree of pollution, out of which around 30,000 ha are heavily affected.

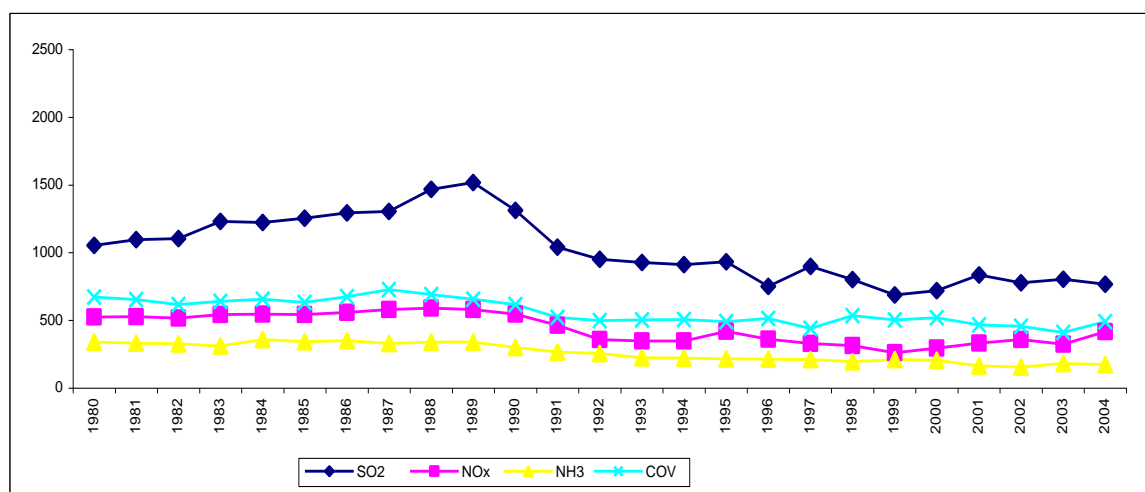
Presently, there is no national strategy on all contaminated sites, but only limited database for some types of contaminated sites, as presented above. A comprehensive inventory and a national strategy exist mainly for those sites affected by inadequate municipal waste management, for mining waste, for medical waste. Other categories of contaminated sites must be further investigated.

Currently, a study is being prepared, aiming at making a complete inventory of the contaminated sites. After this inventory is completed, an action plan will be prepared based on a detailed risk assessment, to act appropriately for closure or rehabilitation.

1.4. Air Quality Protection

Generally speaking, the main pollutants emissions decreased in Romania since 1989, as a result of the political and economic changes. The reduction on a large scale of the economic production from the most industrial areas and the closure of many large pollutant installations led to the decrease with over 50% of the industrial emissions for many pollutants during 1989-2004. This general decrease of the atmosphere pollutants emissions generated a positive impact on improvement of the air quality in many areas, especially in the areas where the main polluter was the industry (Fig. 5).

Fig. 5. Variation of pollutant emissions during 1980-2004 (thousand tonnes/year)



Source: MECC

¹² According to MARD data.

In October 2004, with the support of PHARE 2001, MECC elaborated the National Strategy for Atmosphere Protection, which has as main goals:

1. To maintain the quality of ambient air in the zones that comply with the limits set by the legal norms for quality indicators;
2. To improve ambient air quality in the zones that do not comply with the limits set by the legal norms for quality indicators;
3. To adopt the necessary measures to minimise and finally eliminate negative environmental and / or crossborder impacts;
4. To fulfil all the obligations assumed by international agreements and treaties to which Romania is a party.

The achievement of these goals is foreseen in two periods: before accession (between 2004 and 2006), and after accession. These goals were established taken into account both the need to protect human health and the natural environment without imposing unbearable economic and social costs to the Romania's inhabitants or economic environment. These goals represent an important part of the Government's aim to promote and achieve the sustainable development of the country.

Romania is the first country - among the developed and in transition countries, included in Annex I of United Nations Framework Convention on Climate Changes (UNFCCC) which ratified Kyoto Protocol to UNFCCC, committed itself to reduce the greenhouse gases emissions (GHG) with 8%, in first stage of commitment 2008-2012, referring to the baseline year (1989).

Through the Law No 271/2003, Romania ratified the *Convention on long distance cross-border atmosphere pollution* and the three protocols of Convention on reduction of acidification, eutrophication and the level of troposphere ozone layer. Our country committed itself to comply in 2010, with the level of emissions thresholds laid down in Gothenburg Protocol, as resulted from the Table 11. In this respect, concrete implementation measures have been taken into consideration (assumed by each economic operator), such as emissions reduction programmes for SO₂, NO_x, from LCPs, and from other activities (refinery, petro-chemistry, etc.).

Table 11. Romanian commitments in accordance with Gothenburg Protocol

Pollutant (thousand tons)	Situation in 1990	Situation in 2002¹³	Situation in 2004	Emissions ceilings for 2010, in accordance with Gothenburg Protocol	Percentage of the emission reduction for 2010 (comparing to 1990)
SO₂	1,311	781	960	918	-30%
NO_x	546	357	326	437	-20%

Source: National Institute for Statistics

SO₂ emissions were in a continuous decrease during 1990-2002, from emissions of approximately 1,311 thousand tons in 1990 to approximately 781 thousand tons in 2002 and starting with 2003, an increase has been recorded, comparing with the previous years. The main sources of SO₂ pollution are combustion in the activities of energy and processing industries (with a contribution of approximately 75% in 2003).

¹³ The figures show that the industry didn't work at its entire capacity.

NO_x emissions were in a continuous decrease in 1990-2000, but starting with 2001, NO_x emissions recorded a significant increase, reaching 326 thousands tons in 2004. The main polluting sources are represented by the combustion from energy field and from processing industry (approximately 39%), road service (approximately 31%) and manufacturing industry (about 11%).

Particulates matters are the main pollutants in Romania for which the exceeding of the maximum admissible concentration (MAC) is significant. Air pollution with particulates matter has many sources: thermal power plants using solid fuels, metallurgic and steel industries which release into atmosphere significant quantities of particulates, the cement factories, road transport, the waste dumps and deposits, etc.

Thus, the most affected localities with particulates matter pollution (exceedings of daily, monthly and yearly concentration) are Resita, Bistrita-Nasaud, Campulung, Brasov, Zalau, Vaslui, Miercurea Ciuc, Gheorghieni, Rovinari, Motru, Constanta, Iasi¹⁴.

Significant improvements of air quality were recorded in the localities in which industrial production ceased or where investments were made leading to emissions reduction. However, in many areas, air quality is very low, because of the inadequate control of industrial emissions.

In order to monitor the air quality and inform the public in due time with data on air quality, the National System for Air Quality Assessment and Integrated Management was set up through GD No 586/2004 containing the national network for air quality monitoring and national system for inventory of air pollutant emissions.

As it was mentioned above, one of the main sources of air pollution in many municipalities is represented by combustion activities, especially from large combustion plants (LCPs), which produce power and heat. In 26 of the largest municipalities of Romania¹⁵, LCPs are the main sources of thermal energy and household hot water, but also the main air pollution sources due to fossil fuels (coal, fuel oil) used by these installations.

Pollutant emissions from LCPs have a significant negative impact on human health and environment and represent the most important part of total emissions of SO₂ and NO_x in urban areas, emphasizing the phenomena of acidification and tropospheric ozone formation.

In Romania, a total of 174 LCPs were inventoried - power plants and thermal plants with a rated thermal power equal or greater than 50 MW, which use mainly fossil fuels. These LCPs are classified according to the owner or their national co-ordinator, in three large groups:

1. 72 LCPs owned by Ministry of Economy and Finance (MEF) (state owned) – which mainly provide electric energy for safe maintenance of National Energy System (industrial users), and secondly they provide technological steam and thermal energy for the population;
2. 80 LCPs under the co-ordination of Ministry of Interior and Administrative Reform (MIAR) (state owned), which belong to 26 public local authorities and are the only providers of thermal energy (heat and hot water) for the population in areas in which they are located; some of them provide electric energy for those localities;
3. 22 LCPs owned by other economic operators (private owned) – which provide electric and thermal energy both for industry and the population.

¹⁴ Source: 2004 Environmental State Report.

¹⁵ Source: Implementation Plan for Directive No 2001/80/EC.

Out of the total number of 174 LCPs, 163 are old plants (operational before 1st of July 1987) and 11 are new plants (operational after 1st of July 1987). The distribution of old and new plants depending on the owner is presented in the following table:

Table 12. LCPs status

Type of LCP	Total number	Owner or national co-ordinator		
		Ministry of Economy and Finance	Ministry of Interior and Administrative Reform	Other economic operators
Total number of LCPs	174	72	80	22
Old plants (type I)	163	64	79	20
New plants (type II)	11	8	1	2

Source: MECC

Out of the total number of LCPs, 7 LCPs are in compliance with the requirements of Directive No 2001/80/EC, 157 are non-compliant, and 10 LCPs are closed or in closing procedure. As a result of the analysis of the 174 LCPs, Romania obtained transition period on type of pollutants discharged into atmosphere (SO₂, NO_x and dust) between 1-6 years for 77 LCPs (2008-2013) and for nitrogen oxides, between 1-2 years for 6 LCPs (2016-2017).

1.5. Nature Protection and Biodiversity Conservation

Romania is a country with a very high biodiversity level, both at ecosystems level and species level. Under these conditions, after Romania's accession in the EU, the European community will benefit of the important natural capital added by our country to the existing one.

The territory of Romania comprises, into a relative equal proportion, the three geographic units – plain, hills and mountains, with a high level of pedo-climatic and geographic diversity, which determine around 52 eco-regions. These eco-regions include aquatic and terrestrial ecosystem types characteristic for the coastal and littoral area of the Black Sea, steppe, forestry - steppe, hill, mountain, lakes, rivers and their meadows, wetland, grassland, marsh and rock areas, including the specific Danube Delta ecosystem. Romania has a unique natural heritage, offered by Carpathian Mountains (65% of the Carpathian eco-region) as well as by one of the most important wetlands in Europe, Danube Delta (the second as size in Europe). It is worth mentioning that Romania has more than one third of the large carnivore population in Europe and about 300,000 ha of virgin forests.

In the accession process, Romania will have to implement the Natura 2000 network, in accordance with the EU requirements. This network will contribute to the conservation of species and habitats of Community interest, part of which are already protected through the existing national protected area system.

Biodiversity

During the last decades, natural conditions and landscapes of Romania have been influenced by the development of economic activities, as well as by the economic increase from the last years that led many times to an excessive exploitation of the natural resources. In these conditions, many plants and animal species are in danger and the modification of the landscape is an important indicator for environmental deterioration.

Natural habitats, wild species of flora and fauna. The natural and semi-natural ecosystems cover around 47% of the country's area. The studies undertaken in the framework of the CORINE Biotopes Programme have identified 783 habitat types in 261 analyzed areas throughout the entire country (13 coastal habitats, 89 wetlands, 196 grasslands, 206 forest habitats, 54 marshes, 90 rocky/sandy habitats and 135 agricultural habitats).

Many of the wild flora and fauna species have an important economic value, with different use in different economic sectors. For the species that have a commercial importance, evaluation of the areas and available quantities is needed, as well as proper planning for the sustainable use of these species to avoid over-exploitation.

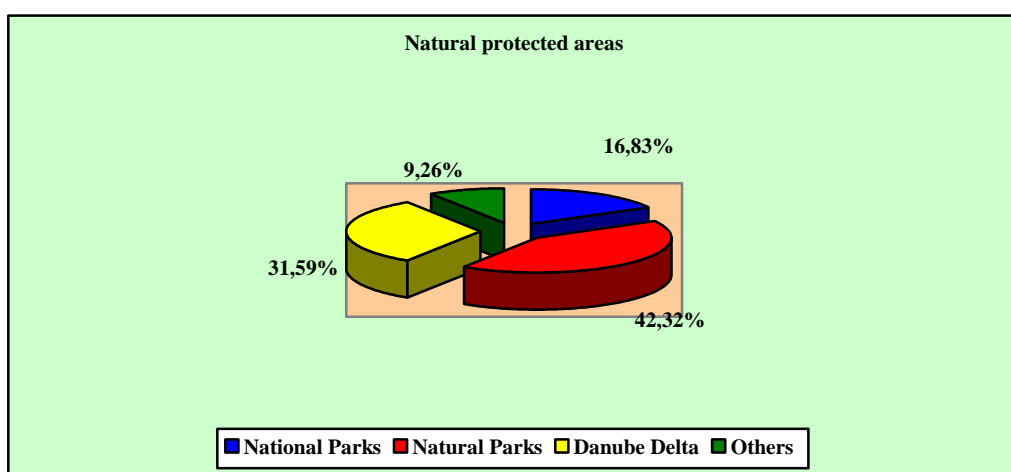
Natural protected areas status

In Romania, there are 13 National Parks, 13 Natural Parks, as well as the “Danube Delta” Biosphere Reserve. The total surface covered by Natural Parks, National Parks and Biosphere Reserves is 1,687,512 ha (121,780 ha maritime surface), which represents 7% of the total terrestrial country surface. Besides the National Parks, Natural Parks and Biosphere Reserves, there are 935 scientific reserves, nature monuments and nature reserves with a total surface approximated at 180,000 ha. Therefore, the total terrestrial surface of the natural protected areas represents around 8% of the total terrestrial country surface at the end of 2005. By the end of 2013, this percentage should reach 15%.

The surface covered by the natural protected areas in Romania is divided as follows: natural parks 42.32%; Danube Delta Biosphere Reserve 31.59%; national parks 16.83%; other kinds of protected areas 9.26% (Fig. 5).

Out of the national network of protected areas, one of the most representatives is the Danube Delta, which has a triple international statute: Biosphere Reserve, Ramsar Site and Site of the World Natural and Cultural Heritage. Due to the favourable conservation status of the ecosystems and wild species present here, the Council of Europe has awarded the European Diploma to the Danube Delta.

Fig. 6. Surface covered by the natural protected areas



Source: Ministry of Environment and Sustainable Development

Up to now, within the existing Romanian network of protected areas 113 Special Protected Areas (SPAs) and 274 proposed Sites of Community Interest (pSCIs) have been identified. They will represent Natura 2000 network and cover approximately 15% of the national territory. The SPAs will be officially declared as such through Government Decisions and pSCIs will be declared through Ministerial Order during 2007.

The process of elaborating the cadastre for natural protected areas in GIS format began in 2002. So far, maps and limits description for the Danube Delta Biosphere Reserve, and for the national and natural parks have been drawn. This allows the analytical calculation of their surface, at a higher precision rate. The GIS limits have been determined for around 80% of the total natural protected areas.

The land from the existing protected areas is mostly in state ownership (about 78%), but important areas are in private ownership (11%) or belong to local authorities (11%). Land ownership is still under major changes, especially because of the continuing forest restitution process. All protected areas, including the future Natura 2000 sites will face significant challenges in conservation management and maintaining the favourable conservation status if there will not be proper measures planned and implemented to encourage private landowners to incorporate biodiversity conservation into land use practices.

In the same time the existence of numerous priority species and habitats associated with agricultural land and relevant national or international level (eg. threatened bird species) connected with lack of investments in land improvements and forestry (reduced in the last 24 years) pose serious threat to biodiversity.

The National Plan for Afforestation reveals that **the spread of forests in the country is uneven**. Small percentages of afforestation is registered in the plain areas, whereby the most affected are the Western Plain (with only 3.2% afforestation), Baragan Plain (only 3.5% afforestation), Moldavian Plain (with only 4.1% afforestation), Oltenia Plain (with only 5.3% afforestation), and Transylvanian Plain (with only 6.8% afforestation).

At the county level the percentage of large afforestation varies from 4% in Calarasi County to 49.2% in Suceava County. According to the Law no.46 / 2008 - Forest Code, as amended and supplemented, **if the county forest area is less than 16% of its total area it is deficient in forest area.**

Based on statistical information of the Forestry National Administration on December 31, 2013 following 15 counties are deficient in forest areas:

No	County with Forest Deficit	Forest percentage of the total area of the county
1	CĂLĂRAȘI	4,0
2	TELEORMAN	4,4
3	BRĂILA	4,7
4	CONSTANȚA	4,8
5	IALOMIȚA	5,4
6	GALAȚI	7,8
7	OLT	8,9
8	GIURGIU	10,1
9	TULCEA	10,7
10	BOTOȘANI	10,9
11	DOLJ	10,9
12	TIMIȘ	11,7
13	VASLUI	13,3

14	SATU MARE	15,6
15	ILFOV	15,7

Increased area of forest vegetation is needed mainly for the rehabilitation of areas affected by erosion due to under acceptable limits of the area occupied by forest vegetation. Moreover, many ecosystems and their services have been degraded, largely as a result of land fragmentation and extreme usage for different purposes (e.g.: agriculture). **In this regard, the small number of forests and other forest land and their uneven spread in the country have a direct impact upon biodiversity coverage (habitats and species) at the national level.**

It is important to emphasize that the existing protected area network, that will incorporate a significant part of the Natura 2000 network, is lacking the infrastructure needed for efficient management.

The MECC is responsible for the organising and coordination of the protected areas management. So far, the MECC contracted the management of most national and natural parks with the National Forrest Administration (22), local authorities (2) or universities (1). The Danube Delta Biosphere is directly coordinated by MECC. In addition, protected areas other than national and natural parks are in custody of natural persons, NGOs or various institutions (National Forrest Administration or Local authorities). Only 4 national parks administrations have benefited of significant financial support for infrastructure development. Only 3 protected areas have management plans approved by the MECC.

Currently, because of economic pressure and lack of management resources, protected areas are confronted with high pressure from illegal exploitations, uncontrolled tourism and construction development and illegal hunting, leading to irreversible losses of biodiversity in Romania.

With the aim to improve the management of the protected areas system that will become a complex network of protected areas of national importance and Natura 2000 sites, the National Agency for Protected Natural Areas and Biodiversity Conservation (NAPNABC) will be established during 2007.

1.6. Natural Risks

Romania has faced, in time, severe natural phenomena like earthquakes (with important negative effects in 1941, 1977, 1986), drought, floods (with important negative effects in 1970, 1975, 1985, 2002, 2005, 2006), forest or land fire and numerous accidents due to human activities that lead to significant material losses and impact on the environment. Earthquakes – Romania is under the influence of Vrancea area earthquake epicentre, recent history mentioning some important events: 1940 – large material losses in Bucharest and over 1000 dead, 1977 – material losses in several cities and over 1000 dead, 1986 – no human losses.

From the climatological point of view, Romania faces hydrological phenomena in a cycle of periods between 9 – 10 years: drought years followed by rainy years.

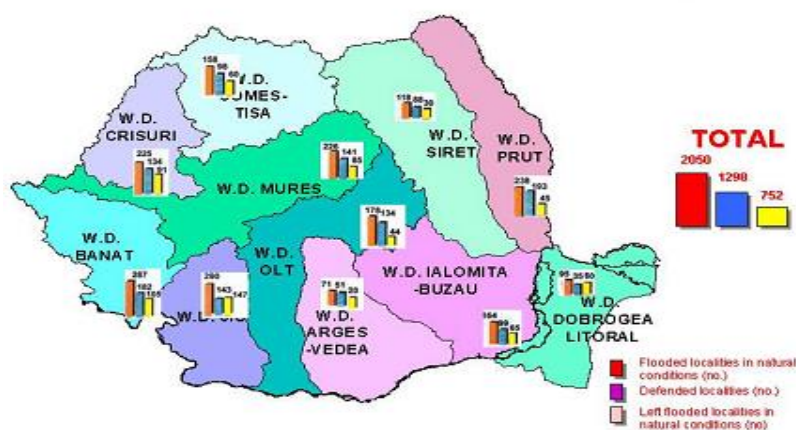
Floods in Romania have a very large frequency. Unfortunately there were situations when, as proportion and spatial distribution, this phenomenon caused catastrophic losses. Massive deforestation after 1990, amplified the gravity of the phenomenon giving a torrential character to the floods in many areas. Considering the frequency and the losses caused, floods

are on the first place among the natural risks, which threaten human lives and economic activities.

Taking into consideration the frequency and intensity of the natural risks mentioned above, both in term of lives losses as of material damages, Romanian authorities have decided that the most important natural risk that has to be addressed through specific and significant intervention is represented by floods.

Floods. Romania is confronted with an yearly frequency of floods, especially in the spring when snow melts and in the summer because of downpour, leading to the excessively rising of water levels that cause floods, some times catastrophic floods, with human life losses and great damages. The floods frequency and size have increased because of the climate change, illegal forests cuts, unauthorized construction in major water plain. The most affected areas from the point of view of floods are situated in the following river basins: Crișuri, Someș, Mureș, Târnave, Timiș, Olt, Argeș, Siret (see Fig. 7). The distribution of localities affected by floods on hydrographical basins is shown in the map below.

Fig. 7. Localities affected by floods



Source: National Administration „Romanian Waters”

Floods produced in 2005 affected all counties, particularly 1,734 localities. 76 persons died. At the same time, 93,980 households and 1,060 social and economic objectives were wrecked, and over 650,000 ha agricultural land were severely affected.

Infrastructure also suffered important damages – 9,860 km county and communal roads, 560 km national roads, 2,465 km streets within localities, 2,645 km forest roads, 9,115 bridges, 24 km railways, water supply networks, electric networks. 630 water construction works intended for protection against floods were also affected.

In 2005, the counties most affected by floods were Vrancea, Buzău, Timiș, Caraș-Severin, Bacău, Teleorman, Mehedinți, Olt, Galați, Botoșani, Dolj, Suceava, Satu Mare.

In 2006, the floods produced damages and human life losses. The most affected areas were localities along the Danube, more than 15,000 people being evacuated. The level of water flow was the highest registered in the last 100 years. Other floods events, especially flash floods affected the following hydrographical basins Siret, Prut, Jiu, Mures, Banat, Someș-Tisa. In total, 17 deaths and more than 800 localities affected. The damages were estimated at about half billion Euro.

Recent years prove that **floods and flash floods** are a real threat to human lives and goods. In this regard, one of the main causes of floods/ flash floods are related to: **reduction of water flow path** (caused by clogging with silt eroded and transported by floods formed in catchments of torrential formations); **lack of necessary funds to execute new works for correction torrents river beds**, for maintenance and repair of existing ones and for further action to continuation of existing planning of torrential hydrographic basins; **no in timely execution of the works for waterways** (in particular small waterways) not included in the water cadastre.

Catastrophic floods in recent years is also due to hydrological imbalance produced in most catchments of the rivers, because of the action of the human factor and the irrational use of agricultural land located on slopes.

Water collected in basins, ravines and torrents displaces, transports and deposits in the riverbed of collector hydrographic network over 18 000 000 m³ silt/year, which reduces leakage profile cross section, which is the most important cause that contributes to flooding.

Although the hydrographic network was reinforced through 1856 km of hydraulic structures torrents correction, there is still a need to **intervene in advance to prevent displacement, transport and deposit** annual average volume of sediments (that could be carried from the 3166 torrential river basins that could facilitate downstream flooding conditions).

These needs have even more importance in the context of poor level of endowment with means of intervention, communication and information means, protective equipment, existing at the level of competent authorities. As a consequence of insufficient endowment, leading to continued use of technical means and materials over the normal use of date the efficiency and effectiveness of intervention actions is affected, generating a greater response time and additional consumption of material and human resources.

Having in view the important number of human life losses (283 deaths) registered in the last decade, as well as the significant damages (houses, buildings, flooded arable land, roads, bridges) of a total value of Euro 3.5 billion (out of which Euro 2 billion only in 2005 and 2006), Romania has to take measures for the protection against floods and hydrological disasters.

In 2003, the National Integrated Meteorological System (SIMIN), which allows a better forecasting of dangerous meteorological phenomena, was finalized and the Integrated Informational- Decision Making System for the Disasters Caused by Waters (DESWAT) has started to be organized. In order to increase the reaction capacity of public administration in case of floods and accidental pollution, the Integrated System of Water Management (WATMAN) will be created with the support of International Development Agency and Trade Development Agency of the USA.

The allocated funds from the state budget and the external loans from the Council of Europe Development Bank and European Investment Bank have supported the hydro-technical works for the protection of more than 2 million hectares agricultural land, 1,298 localities, over 3,100 eco-social buildings, 6,100 km roads and railways. Other amounts are to be mobilised through the EU Solidarity Fund to help repair the damage caused by major disasters in Romania. Thus, in the first “preliminary draft amending budget” (PDAB) of the year 2006, European Commission approved a grant of Euro 71.2 million to Romania, to reimburse a part of the public expenditure for emergency operations carried out during devastating floods in spring and summer 2006.

However, in spite of the measures taken and the projects developed so far, major investments are still needed to protect 2,050 localities of more than 5,000 inhabitants, which are exposed to natural floods.

In this context and following the catastrophic floods in 2005, MECC elaborated, in collaboration with all the stakeholders, a new strategic document for protection against floods, which has the following main objectives:

- Mitigation of flood risks;
- Increase the civil and public responsibilities;
- Modernization of the information system.

Also, with the support of PHARE programme, this strategy will be improved and the areas having a major risk to floods will be identified. Major investments in the identified areas are needed.

Marine and coastal environment status

The Black Sea has a surface of 413,490 km², a maximum depth of 2,245 m, a water volume of 529,955 km³ and a total seashore length of 4,020 km. It has a low level of salinity (15.12 ‰ in seashore and 15.6 ‰ out at sea), due to a series of important rivers flowing into it. Out of the total river contribution, estimated at 346 km³, 78% comes from rivers situated in the north-west of the basin and, out of these, the main important one is, obviously, the Danube.

To date, around 1,500 vertebrate and invertebrate species have been identified in the Black Sea. As a result of the increase in industrial and urban pollution, during the last two decades, a decrease has been noticed in the population of certain predatory fish species, as well as of some economically important species (such as: herring, anchovy, horse mackerel, sturgeons, cetaceans).

The Black Sea shore area has been suffering from serious beach erosion problems in the last three decades. On the basis of the research undertaken by the National Institute for Marine Research and Development “Grigore Antipa” it is ascertained that the Romanian seashore is facing serious damages, caused by erosion extension on around 60-80% of its length, where the width of the beaches is reducing each year. In the area of the Danube Delta Biosphere Reserve, the seaside has lost in the last 35 years more than 2,400 ha (around 80 ha/year), while accumulations have been of only 200 ha (around 7 ha/year). The sea shoreline has moved towards inland with 180–300 metres, whereas in some sectors it reached 400 metres. In those sectors where the width of the coast is smaller, during important storms, the sea covers almost completely the shore, thus leading to an intrusion of the marine waters into the lakes along the coast. In this way, the specific ecosystem of that lake is affected.

The erosion process affecting Romanian beaches has an increased intensity at present, also as a consequence of global climatic changes, which determine an increase of the sea level. Hydro-technical works done in the past on the Danube and its main tributaries also cause Black Sea shore erosion, but also along the seacoast, which lead to a continuous decrease of the sand brought by the water to the sea. Sea processes have lead already to a full erosion of some beach areas.

The National Administration Romanian Waters is responsible for the administration of the coastal area of Black Sea.

1.7. Summary of the current state of the environment

Water sector

Water resources. Romania is endowed with all types of fresh water resources (rivers, natural and artificial lakes, the Danube River and the ground waters). The largest resource of fresh water comes from the Danube and other rivers. The usable water resource is 2,660 m³/inhabitant/year, compared with the European average of 4,000 m³/inhabitant/year. This is largely due to the contamination of reserves in the past linked to domestic and economical activities without consideration of environmental protection.

Wastewaters. The volume of wastewaters discharged in 2005 was 4,034 million m³/year, of which almost 65% needed to be treated i.e. 2,626 million m³/year. Out of the total volume of wastewater needing to be treated, approximately 21% have been sufficiently treated, while other almost 79% of wastewater was discharged into the natural receivers, especially rivers, untreated or insufficiently treated. This is mainly due to the lack or insufficient treatment facilities across the country.

Public drinking water supply network. Only 65% of the population benefit from mains drinking water supply and indoor plumbing. This includes 98% of urban population and 33% of the rural population, very low ratios in comparison with those in Europe, respectively 96 - 100% of the population connected to public water supply network in urban areas and 87% in rural areas. 86% of the resident population of 256 urban localities (about 11,551,096 inhabitants) is supplied with drinking water through the public networks. The figures show that in 55 urban localities (21.5%), the population is connected in a ratio of 100% to the public system for water supply. This situation is mainly due to long-term under-investments in the water supply systems.

The quantity of the drinking water supplied to consumers in 2005 sum around 1,089 million m³ (46% lower than in 1995), out of which 628 mil. m³ for domestic usage. In the last 10 years, the quantity of total water supplied in the network decreased mainly due to the metering systems and to the decreasing of industrial activity.

Water pollution is Romania's largest environmental issue. Water pollution from household, industrial and agricultural sources has a negative impact on fish breeding, irrigation, and drinking water supplies. Poor water quality arises mainly from poor controls over industrial effluents and discharges and from inadequate wastewater infrastructure. Collections of water effluent charges are still modest in Romania but they have reduced pollution over the recent years.

Water utilities management is often poor due to excessive fragmentation of water systems in small and medium agglomerations that have limited financial and institutional capacity. Substantial strategic developments are initiated by Romanian authorities with a view to increasing the efficiency and viability of public services providers and to ensure adequate level of services delivered to the population within affordable limits.

Main problems in the field of the water sector are as follows:

- absence of / insufficient wastewater treatment facilities;
- low percentage of population connected to centralized drinking water supply;
- insufficient and/or low quality of drinking water;
- fragmented water system in small and medium agglomeration and poor management.

Waste management and soil protection

Waste management represents one of the most serious environmental protection problems in Romania. Romanian statistics distinguish between two categories of waste: municipal waste

and waste similar to it, and production waste. Landfilling is the main method for municipal waste disposal. The municipal landfill inventory records a total number of 252 registered sites, out of which only 18 landfills have been in conformity with EU regulations. The remaining landfills that do not conform to EU regulations are scheduled to cease to operate, gradually by 2017. There are no organized waste management services in most of the rural areas, this leading to a high number of unauthorized landfills highly affecting the environment and the population. The waste production remains very high while the separate collection of waste and waste recycling are still slowly improving. The waste related legislation in Romania, now in line with EU acquis, imposed positive changes over the past years, but many efforts are still needed to meet compliance with the European standards.

Soil quality. The preliminary data available indicate that around 350,000 ha are affected soil quality by different types and degree of pollution, out of which around 30,000 ha are heavily affected.

The most notable factors that lead to the pollution/degradation of soils are: mining and quarry activities; ponds, mining dumps, non-complying landfills; inorganic residues and waste (minerals, inorganic material, metals, salts, acids, alkalis); salted waters from oil extraction, oil pollution; air-transported substances (hydrocarbons, ammonia, sulphur dioxide, chlorides, fluorides, nitrogen oxides, lead compounds). Although recently some industrial plants have been closed and others have reduced their activity soil pollution maintains high in the affected areas.

Main problems in the field of the waste management and soil protection are as follows:

- high number of historically polluted sites;
- landfilling as predominant way of municipal waste disposal and high number of non-compliant landfills;
- low proportion of recycling and recovery of waste;
- inadequate infrastructure for collection, transport and disposal of waste.

Air quality and climate change

Climate change and air quality. Romania is expected to be the first country to meet its Kyoto objectives to reduce by 8% her greenhouse gases emissions (GHG) from a 1989 baseline. CO₂ emissions in 2002 represented 58% of CO₂ emissions in the reference year. This decrease, particularly in CO₂ emissions, is due to the reduction in burning fossil fuels.

Emissions of atmospheric pollutants, originating from fossil-fuelled large combustion plants (LCP) that generate heat and electricity have a significant environmental impact. There are 175 LCP but only 7 comply with Directive No EC/80/2001; these plants emit high concentrations of particulates, and nitrogen and sulphur oxides, which cause acid rain and pose a significant health risk, mainly in urban industrial areas. The main origin of Romania's poor urban air quality is low-grade fuel. The thermal energy sector is still relying on low-efficiency solid fuels and high-sulphur content heavy fuel and low-income families in towns rely on poor-quality coal for heat. Transport is also a growing factor in low urban air quality as a large proportion of cars are old and poorly maintained, running on petrol that has the highest lead content among Eastern European countries. This latter factor is however decreasing due to changes in the legislation aiming to meet European standards.

Main problems in the field of air quality are as follows:

- poor air quality mostly in urban industrial areas;
- great number of non-compliant thermal plants.

Nature protection

Natural habitats. The country's natural and semi-natural ecosystems cover 47% of its territory. A number of 783 habitat types have been identified in 261 areas covering the whole country. Also, 44 Important Birds Areas were identified covering 3% of the total country area. The high habitat / ecosystems diversity reflects the high level of flora and fauna species diversity. However, many plants and animal species are in danger due to excessive exploitation of the natural resources linked to economic activities in the past; the modification of the landscape is an important indicator for environmental deterioration. Nevertheless, amongst EU-25 and candidate countries, Romania is one with the highest number of threatened species.

Natural protected areas status. The total surface covered by Natural Parks, National Parks and Biosphere Reserves is 1,687,512 ha, which represents 7% of the total terrestrial country surface. In addition to the National Parks, Natural Parks and Biosphere Reserves, *there are 935 scientific reserves, nature monuments and nature reserves* with a total surface approximated at 180,000 ha. Therefore, at the end of 2005, the total terrestrial surface of the natural protected areas represented approximately 8% of the total terrestrial country surface. By the end of 2013 it is estimated that this figure should climb to 15%.

Some areas of special natural value already have protected status, with over 800 protected areas. The Danube River Delta is Europe's largest wetland and the creation of the Danube Delta Biosphere Reserve is a notable achievement and it has a triple status: Biosphere Reservation, Ramsar Site (International Importance Wetland) and Site of World Natural and Cultural Heritage.

Main problems in the field of nature protection are as follows:

- high number of endangered species;
- lack of adequate management plans for protected areas;
- inappropriate landscape modification resulting from economic activities.

Natural risks

Flood risk. There have been some catastrophic floods in recent years resulting in loss of human and animal lives and drastic alterations to the landscape. Their frequency, and their proportion, appears to be on the increase. It is supposed that this flooding is due to climate change, modification of riverbeds and unauthorised land clearings. The most vulnerable areas are the Crisuri, Somes, Mures, Tarnave, Timis, Olt, Siret, and Arges river basins.

Main problems in the field of flood protection are as follows:

- decreased retention capacity of landscape due to unsuitable modification of riverbeds and land clear-cutting;
- lack of adequate action plans for risk prevention.

Coastal erosion. In the last 35 years, the seaside has lost more than 2,400 ha (around 80 ha/year), while accumulations have been of only 200 ha (around 7 ha/year). The erosion process affecting Romanian beaches has an increased intensity at present, also as a consequence of global climatic changes, which determine an increase of the sea level. Hydro-technical works done in the past on the Danube and its main tributaries also cause Black Sea shore erosion, but also along the seacoast, which lead to a continuous decrease of the sand brought by the water to the sea. Sea processes have lead already to a full erosion of some beach areas.

Financial needs assessment for environmental investments

As part of the elaboration of the National Implementation Plans for the Environmental Acquis, the MECC assessed the investments needed to comply with the environmental acquis by 2018 (that coincides with the last transitions period granted to Romania) of about 29 billion Euro, of which about 18 billion Euro represent the needs for the next 7 years.

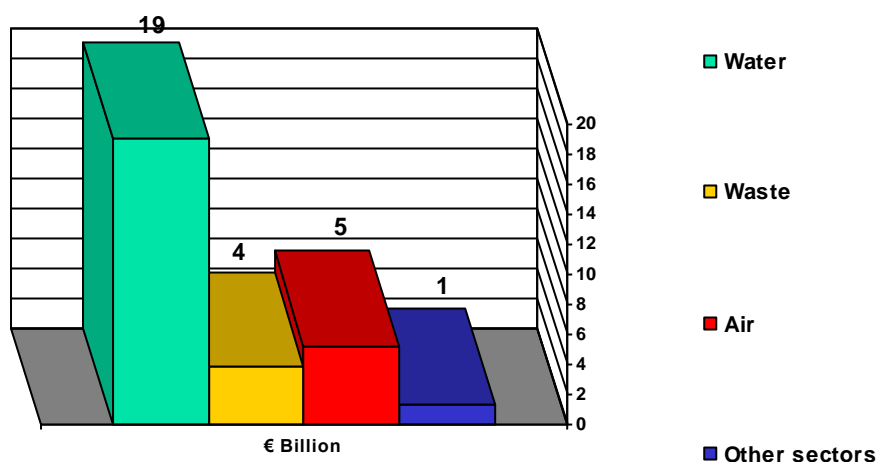
A subsequent PHARE Technical Assistance for the Elaboration of the Environmental Cost Assessment and Investment Plan (RO 0107.15.03), project completed in 2005, confirmed the estimated investment needs and added on further estimates needed for increased operational costs. These estimations will be periodically updated once detailed investment plans are available in each region/county.

The distribution of the investment needs on main environmental fields is reflected in the Fig. 8, while further details on costs assessments by sectors and periods are given in Annex 4.

The allocation of financial resources under SOP ENV reflects, partly, the breakdown by sectors, but other factors have been taken into consideration when prioritising the Structural and Cohesion Funds investments, such as: environmental impact, regional strategic impact, population number, implementation opportunities, etc. As the investments in water sector represents about 65% of the total needs, the water sector dominates the financial breakdown, followed by the waste management sector. Waste management is given preference over air protection in SOP ENV; the air protection sector has a more limited SOP allocation due to the following reasons:

- SOP ENV is mainly oriented towards development of infrastructure for public services, in order to improve the living standard in Romania, given that the municipalities cannot afford to provide these services at European standards where there are no incentives for private involvement; this explains the choice of SOP ENV to finance necessary restructuring and pointly renovation of urban heating system oriented towards energy efficiency targets and based on sound option studies;
- the polluting effects of transport sector are addressed under SOP Transport, detailed actions being explained under the Complementarity section;
- the majority of air polluters are private companies that gradually apply the internalisation of environmental costs, according to conformation programmes monitored by environmental authorities.

Fig. 8. Environmental cost assessment



Source: MEF

For the period 2007-2013, Romania expects an EC contribution from Structural and Cohesion Funds of about Euro 4.5 billion for environmental investments, which is way below the estimated needs in the same period.

The above-mentioned study indicates further that Romania can afford the investments in this public infrastructure and its future operation and maintenance with reasonable add-on tariff increases that remain below the maximum affordable tariffs set at 3% of the average household income for water and wastewater services and 1% for solid waste services.

In the next 25 years, tariffs are expected to reach a lower level (as a percentage of household income), comparable to those now common in most developed EU countries, as the GDP per capita will remain significantly under the EU average, despite of the high growth rates which are expected to be recorded in the next years.

The strategy also recommends institutional capacity building measures to strengthen the mobilisation of the private sector and the national and regional capacity to develop project pipelines and mobilise funds to finance projects.

1.8. Previous Experience in Programmes and Pre-accession Instruments. Lessons Learned

PHARE Programme

In Romania, PHARE programme is active since 1998, and environmental protection represented an important field of action in the three active components – PHARE „National”, PHARE „Crossborder cooperation” an PHARE „Economic and social cohesion”. National objectives for each year of operation gained ground from the preparation of environmental acquis adoption to practical aspects of implementation.

With the support of PHARE programme, the almost full transposition of the European legislation was accomplished in the fields: horizontal legislation, chemical substances, waste management, industrial pollution control, air quality, protection against noise.

PHARE projects have contributed substantially to administrative capacity strengthening at central, regional and local level by organizing training sessions or seminars of information on different environmental issues, endowing with equipment for environmental quality monitoring, computers, software, etc. Thus, with the support of PHARE 2000 project, one of the most modern air quality monitoring systems in Europe became operational, at the level of Bucharest urban agglomeration. Similar systems will be operational in the following years for the other urban agglomerations of Romania.

National strategies, national, regional and local action plans in the field of environment were drawn up or re-updated ensuring a more coherent vision on environmental policy from Romania and on the way in which this might be implemented.

Through PHARE 2003 ESC programme, a first scheme (pilot) of small grants for waste management will be implemented in Centre Region (value Euro 5.33 million), following that through PHARE 2004 the scheme be extended at the level of the entire country (around Euro 21,87 million). Through PHARE 2005-2006, grant schemes will be launched in other environmental sectors (air, IPPC, water, nature protection) the private sector being taking into consideration as beneficiaries, also.

For environmental protection sector, investments financed through PHARE programme, amount to Euro 276 million, with special focus on investments for European environmental legislation implementation.

PHARE programme is currently contributing with approx. Euro 19 million for preparation of projects intended for Structural and Cohesion Funds financing.

ISPA Programme

The objectives of ISPA are to help beneficiary countries to catch up with EU environmental standards, to extend and link up their transport systems with the Trans-European transport networks, to familiarise applicants with policies and procedures of the EU Structural and Cohesion Funds. ISPA concentrates on the most "investment heavy" environmental directives, i.e. directives that are very costly to implement in the following areas: drinking water supply, treatment of wastewater, management of solid waste and hazardous waste, air pollution.

Through ISPA funding Romania receives annually between Euro 208 – 270 million, out of which Euro 104–135 million were for environmental infrastructure projects (water and waste).

During 2000-2005, 42 measures were approved for ISPA financing, 29 for water quality, 7 for integrated waste management and 6 for Technical Assistances. The total value of the projects reaches approx. Euro 1.45 billion, out of which Euro 1.04 billion representing ISPA Grant, the cofinancing being covered from IFI loans (mainly EIB and EBRD loans, but also German bank Kfw), bilateral agreements (Danish Ministry of Environment), state and local budget.

Project preparation for ISPA financing was ensured by state or local budget, from EU pre-accession programmes or from various bilateral agreements (Spain, Denmark, Germany, Japan).

Having in view the increased EU financing becoming available after Romania's accession, ISPA support was also requested for an important pipeline of 40 major projects in the water and waste fields, currently under preparation.

SAMTID Programme

The Romanian Ministry of Interior and Administrative Reform has started in 2001 the *Programme for Small and Medium Towns Infrastructure Development* (SAMTID), focused on improving the local infrastructure for drinking water and water service quality.

Up to now, the programme has been accessed for 91 towns in 14 counties, with a total population of approximately 2.5 mil. inhabitants, being developed in two stages, with 5 and, respectively 9 Associations of Municipalities. The total value of the programme is Euro 96 million, out of which Euro 40 million in phase I and Euro 56 million in phase II. The financing structure of the programme is as follows: 50% (Euro 48 million), as EU Grant (representing 75%) and National Fund (representing 25%), and the remaining of 50% (Euro 48 million), EIB and EBRD loans.

SAPARD

The multi-annual programming and basis for the implementation of SAPARD Programme in Romania is the National Agriculture and Rural Development Plan, approved by EC on 12th December 2000.

Within this programme, financial non-reimbursable assistance is foreseen for „Rural infrastructure development and rehabilitation” (Measure 2.1 in NARDP).

This measure is focusing on the following objectives:

- Roads and communal bridges construction and modernisation;
- Drinking water systems construction and modernisation;
- Sewerage systems and wastewater treatment plants construction.

Up to now, through SAPARD Agency, 854 projects have been selected for Measure 2.1 for rural infrastructure improvement, with a total value of about Euro 512 million.

LIFE Programme

The two components of LIFE programme for candidate countries, LIFE Environment and LIFE Nature, are operational in Romania since 1999 and finance projects addressed to specific, local issues for improvement, protection or conservation of environmental quality (LIFE Environment) and biodiversity (LIFE Natura). If the projects within “Natura” component aim to protect different ecosystems and plant and animal species, within environmental component innovative projects were developed regarding: warning system in case of dangerous phenomena, development of some operative systems for pollution impact study, monitoring and prognosis, population awareness of household waste selective pre-collection etc. This type of projects comes to support the measures of infrastructure of ISPA programme and leads to environmental national objectives fulfilment.

During 1999-2004, 31 projects were approved, with a total LIFE contribution of approximately Euro 8.43 million. In 2005, seven projects were approved (one for LIFE ENV and six for LIFE Nature) with a total value of Euro 5.6 million.

GEF (Global Environmental Facility)

Romania accessed to *Global Environmental Facility* in 1994. GEF provides financial support for environmental protection at global level by creating a special fund and allocating it to global projects, which have as purpose biodiversity conservation, climate changes, persistent organic pollutants, desertification control, international water and ozone layer protection. GEF projects are implemented through UNDP (United Nations Development Programme), UNEP (United Nations Environment Programme) and World Bank, are developed by public or private organizations and must fulfil two criteria: (1) to reflect national or regional priorities and to be supported by the country/countries involved, and (2) to contribute to environmental issue improvement at global level.

By now, Romania implemented 20 GEF projects, 8 country projects and 12 regional projects, the majority referring to Black Sea and Danube water protection.

National Environmental Fund

In order to support the development of projects under the National Environmental Action Plan, an Environmental Fund has been established through the Law No 73/2000 and the Emergency Government Ordinance No 86/2003. The Environmental Fund aims to stimulate a limited number of public interest environmental investments, giving priority to those included in National Environmental Action Plan.

The Environmental Fund revenues consist of various taxes supported by polluting economic agents, allocations from state budget, donations, sponsorships, financial assistance from various natural and legal persons or international organizations, taxes for the issuance of

environment authorization, as well as the repayment of loan and interest by the users of the resources of the fund.

The categories of projects eligible for financing from the Environmental Fund are established through an annual plan adopted by the Fund steering committee. Fund resources are broadly channeled towards clean technology projects/equipment purchases and waste management projects (including hazardous waste).

Research activities in environmental field

Research activities in environmental protection represent an important part of the entire research activities financed from state budget or other sources. The National Plan for Research, Development, Innovation (NPRDI), the instrument through which the national policy in the field is implemented, focuses mainly on the obtaining competitive products and technologies, aiming at re-launching the economy through technological transfer, in view of eliminating the economic disparities between Romania and the rest of the Member States.

The NPRDI for 2001-2006 had 15 programmes, 10 of which were specialized on specific technological development domains: agriculture, environment, quality infrastructure, the industrial field, information technologies, micro and nano-technologies etc.

In the field of environment, 70 projects of research, development, innovation (RDI) are active, involving over 200 institutions (universities, economic agents, research institutes) and around 450 researchers. These research projects are focused on monitoring, protection and rehabilitation technologies of the environment, including monitoring and mitigation of pollutants. "Promoting innovative and sustainable technologies for the treatment of water to human consumption" is an example of a RDI project financed by NPRDI. The main objective of the project is optimizing the water management system for human consumption. Water treatment / wastewater treatment are among the most important researched fields with high practical application.

In this context, it is particularly important to underline that investments in water infrastructure alone are not sufficient to achieve sustainable water management but also, in line with national policy, embodied in an overall integrated water resources management approach and building up scientific and technological capacities. The links between scientific community and policy community are becoming ever more important in the light of the integration to the EU that requires innovation as a key driver for growth.

The NPRDI ensures the framework for the participation of Romanian research institutes in the international research programmes, including the Sixth RTD Research Framework Programme (2002-2006) and the Seven Research Framework Programme (2007-2013).

There are also 18 European technological platforms of great interest for different key Romanian organisations, among which it is worth mentioning European Hydrogen and Fuel Cell Technology and Water Supply and Sanitation Technology. With the support of INFRATECH Programme, an Excellence Centre for Renewable Technologies, Equipments and Environmental Services is carrying out its activity in implementing environmental legislation, mainly production technologies imposed by IPPC Directives and renewable energies.

Also, a roadmap for implementing Environmental Technologies Action Plan (ETAP) with great emphasis on environmental research activities, has been developed by MECC. ETAP in

Romania will have a great contribution to Lisbon Agenda through: transfer of environmental technologies from research to market; improvement of market conditions to enhance adaptation of environmental technologies; promotion of environmental technologies.

Lessons learned from previous programmes and pre-accession instruments

Pre-accession programmes have a very important role not only in financing environmental investments, but also in getting useful experiences necessary to start the preparation for post-accession programmes. The new structures for managing post-accession funds have been built on the former ISPA and PHARE units within the MECC. The staff has been trained in developing and managing projects, which will be vital for implementing the EU acquis and taking up significantly increased EU funds. Experience has been gained in the preparation of sectoral strategies, project development, procurement procedures, environmental impact assessment (EIA), land acquisition, monitoring.

A complete assessment of pre-accession programmes cannot be done until the majority of projects are completed. However, a summary of problems encountered during the previous programming period 2000-2006 include: more than half of the period took the construction of the funding framework in parallel with the transposition of the EU acquis; lack or unclear procedures/guidelines, particularly at the beginning of the process; lack of clear EIA and CBA requirements for major projects often created bottlenecks; limited expertise in preparation and implementation of large scale investments, of EU principles of procedures; too centralized system with many layers and institutions involved in the decision process doubled by unclear legislation sometimes resulting in delayed decisions in the procurement and payment process; lack of transparency in the presentation of national control and anti-fraud reports and reactive measures which may endanger the payment process; project by project approach instead of programme approach.

Administrative capacity remains a key issue in project management, staff recruitment and remuneration, training, establishment of clear procedures being among the features that need important consideration. In addition, at beneficiary level administrative capacity is very important as well, in many cases ISPA beneficiaries facing the same problems on number and training of people. This issue has been carefully addressed in preparation for the post accession funds, the number of employees rising considerably at central level for the Managing Authority for SOP ENV and the Intermediate Bodies at regional level. Moreover, institutional capacity of the beneficiary to manage the project will be an important selection criterion. Specific and general training seminars have been intensively project organised using the full support of PHARE and ISPA Technical Assistance projects, as well as state budget and bilateral cooperation (ex. Italian Ministry of Environment). Potential applicants (local authorities) and beneficiaries have also participated.

Experience showed that ***project preparation*** is also a pre-requisite for a smooth and fast implementation of the project. The preparation takes time, especially for major projects, the necessary studies must be well developed, otherwise major problems can appear in the implementation phase (e.g. geotechnical and topographical surveys). Lack of basic parameters/baselines has also created problems in preparation of feasibility studies or cost benefit analyses.

Projects pipeline is extremely important for the absorption of post-accession funds and the project preparation activity for Cohesion Fund and ERDF started couple of years ago, using the full support of PHARE and ISPA projects.

Maturity of projects and difficulties in obtaining by the beneficiaries of different agreements and permits for projects were other factors that cause some delays in implementation. Sometimes the adoption of national legislation contributes to confusion of parties involved on local and national level (land property, EIA, financial and procurement control standards, contracting requirements etc.) and creates conflicts during the implementation process. In this respect, EIA process should start timely and attention should be paid on the validity of EIA agreement. Land property should be clarified and beneficiary should present valid proofs of the land ownership, especially for waste projects, in order to get the project approved.

Co-financing is another key issue and all the arrangements must be made before project application is submitted for approval. Since project by project approach to co-financing is not sustainable, a mechanism to ensure co-financing for the Structural and Cohesion Funds is now in place in order to support the programme co-financing. In this respect, the Ministry of Economy and Finance has decided that the greatest share of co-financing will be supported from the state budget, and a pre-financing strategy has been proposed in order to support beneficiaries to start quickly the projects.

Institutional system and setting clear role of responsible authorities in the management and implementation of the projects is the most important factor in project management. A too centralised system for the management and implementation of pre-accession programmes created many times bottlenecks in the decision process, causing major delays in project implementation and low absorption of funds. Delays in preparation and approval of tender dossiers, public procurement issues, delays in signing of works and services contracts have been registered many times. All these issues have been considered at the setting up of the implementation system for post-accession funds and a decentralised system has been organised for the implementation of the SOP ENV with MEF as Managing Authority at central level and Intermediate Bodies at regional level. Also, detailed procedures for the tasks carried out by these authorities have been elaborated and a delegation agreement between MA and each IB has been prepared. Moreover, the responsibility of public procurement resides now at beneficiary level. They become now much more responsible and interested in their own projects than in ISPA projects.

Other issues that emerged during implementation of ISPA measures are linked with late response to recommendations included in the reports made by auditors and / or anti-fraud investigations. Delays in payment flows have been registered leading to a very low absorption of payments. The new system for the financial control and certification of expenditures takes into account and builds upon such experiences and procedures are established to avoid the occurrence of these situations. Thus, at MA level a specific irregularities compartment has been set up and an irregularities officer has been nominated in each IB. Irregularities procedure have been developed aiming to prevent, identify, investigate and monitor the irregularities.

To sum up, the experience gained during implementation of pre-accession programmes represented a good basis for building the new implementation system, establishing clear role and responsibilities of various actors, preparation of project portfolio. However, it should be noted that structures and systems of the pre-accession phased will, however, only partly be of benefit to the future implementation structure. Existing management capacities will be needed to a certain extent to wind-up ongoing pre-accession projects, while new implementation structures have to get acquainted to new procedures and have to respond to increased funding volumes, decentralisation requirements, new sectors of intervention and new national legislation, in particular in the field of public procurement.

2. SWOT ANALYSIS

This chapter includes an assessment of the main environmental aspects in order to identify the strengths and weaknesses, respectively the opportunities and threats as a basis for establishing the objectives and priority axes of SOP ENV. Moreover, considering that institutional capacity for the management of post-accession programmes is a pre-requisite of a good absorption capacity and implicitly in reaching the required environmental standards, the analysis includes the identified strengths and weaknesses of the implementation system.

This analysis is presented in the following table:

STRENGTHS	WEAKNESSES
<p>General Issues</p> <ul style="list-style-type: none"> • Almost completed harmonization of environmental legislation with the EU acquis; national strategies and implementation plans of the relevant Directives for each environmental sector are in place; • Basic organizational structures for environmental protection field are in place (for monitoring the compliance with community acquis, implementing the development programmes, integrated management of water resources on hydrographical basins); • The expertise acquired by about 35 ISPA beneficiaries in the largest municipalities will be used for Structural and Cohesion Fund (SCF) project implementation in the regions; • Increasing awareness at decision making level for the need to apply environmental protection policies and action plans; 	<p>General Issues</p> <ul style="list-style-type: none"> • Relatively low level of investments in all environmental sectors, after 1990, compared to the required investments for complying with European standards; • Lack of inter-sectoral communication and coordination for the management of natural resources and of the environment; • Limited capacity of final beneficiaries / local authorities to develop good project proposals;
<p>Water sector</p> <ul style="list-style-type: none"> • Existing national policy for capacity building programme in the water sector; relevant steps taken for reorganisation of water services towards efficiency; • Experience gained by water operators / local authorities in developing investment projects financed from PHARE, ISPA, SAPARD or from other international sources; 	<p>Water sector</p> <ul style="list-style-type: none"> • Insufficient wastewater treatment and sewerage network comparing with EU countries; • Low access of the population to centralized water and wastewater systems comparing with EU countries; low quality of drinking water supplied to population in many areas; • Large numbers of municipalities that are not covered by performing water companies; • Inadequate facilities for sludge treatment; • Inefficient water management structures, especially in smaller towns; • Heavy damaging spring floods;
<p>Waste Management</p> <ul style="list-style-type: none"> • National Waste Management Plan and Regional Waste Management Plans in force; • Experience gained by local authorities in developing investment projects financed from PHARE and ISPA; 	<p>Waste Management</p> <ul style="list-style-type: none"> • High number of historically polluted sites caused by intensive economical activities in the past and inappropriate waste landfilling; • Poor infrastructure for collection, transport and disposal of waste;

	<ul style="list-style-type: none"> • Low awareness of population and economic operators regarding the adequate waste management; • High proportion of generated and landfilled quantity of waste; low level of selective collection; insufficient development of waste recycling and recovery market; • Decreasing soil quality by various types of pollution;
<p>Air quality protection</p> <ul style="list-style-type: none"> • Implementation of National strategy for Atmosphere Protection; Measures taken according to Romanian Law No 271/2003 – Geneva Convention on long range transboundary air pollution; • Delimitation of agglomerations and areas for the management and air quality assessment; 	<p>Air quality protection</p> <ul style="list-style-type: none"> • Strong air pollution caused by large combustion plants; • High consumption of primary resources (especially fossil fuels) and high specific emissions of NO_x and SO₂ especially resulted from LCPs;
<p>Nature protection and Biodiversity conservation</p> <ul style="list-style-type: none"> • The variety and richness of the biodiversity in Romania, important natural resources; • The protected areas in Romania are already identified; 	<p>Nature protection and Biodiversity conservation</p> <ul style="list-style-type: none"> • Low awareness of population and economic operators regarding the management of special protected areas; • Gaps in the existing protected areas network, low human and financial resources for the management of protected areas and species and habitats of community interest; • Limited number of management plans for protected areas in place; • Serious coastal erosion damage;
<p>Implementation system of EU co-financed projects</p> <ul style="list-style-type: none"> • Decentralisation in the management of post-accession programmes, from central level to regional level; • Clear responsibilities and procedures established for the authorities involved in the management of post-accession programmes; • Experience gained by the staff of MA, IBs from pre-accession instruments on project preparation, EIA, monitoring etc.; 	<p>Implementation system of EU co-financed projects</p> <ul style="list-style-type: none"> • Lack of experience in project management of new people employed within implementation structures; • Lack of experience of some beneficiaries in tendering and contracting, especially in the context of new legislation in place;
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Use of EU funds as an important contribution to improve the environmental standards in Romania; • Available TAs for the preparation of a sound pipeline of projects to be financed from SOP ENV (support from PHARE, ISPA and state budget); • Development of long-term investment plans in the context of sustainable development; • Adoption of a ‘cleaner production’ approach that increases the efficiency of utilisation of resources and energy, including proper 	<ul style="list-style-type: none"> • Difficulties to sustain the investment costs of the projects in the field of environmental infrastructure especially by the small and medium communities; • Organizational, political and financial difficulties induced by the regionalisation process; • High costs for compliance with the European standards regarding the exchange of technologies and use of BATs for LCPs; • Increased pressure on the air quality and biodiversity in connection with economic

<p>implementation of best available techniques (BAT);</p> <ul style="list-style-type: none"> • Substantial strategic developments (regionalisation) linked to improvement of public services and sustainable development • Opportunities for private investment and commercial opportunities; • Development of a viable market of waste/row materials resulted from waste processing; • Introduction of renewable sources of energy; • Developing Public Private Partnerships; • Significant tourism potential; • Development of eco-tourism; • Training opportunities for MA/IB/Beneficiaries from technical assistance projects under PHARE and ISPA; • Increasing the role of beneficiary in implementing the project (project ownership at local level). 	<p>growth;</p> <ul style="list-style-type: none"> • Inefficiency of short and middle term investments in order to reduce the risk of natural disasters could damage important material and human losses; • Cooperation among various bodies/institutions involved in the SCF management; • Availability of land for the construction of environmental infrastructure; • Increasing illegal exploitations, hunting, tourism and construction at the protected areas; • Inappropriate use of EU funds, without considering possible effects on the environment and biodiversity, for example for infrastructure development that leads to habitat fragmentation; • Non-compliance with EU Directives for the water sector in case of very low absorption of EU funds due to difficult project preparation and management and expensive co-financing; • Late start of projects caused by late approval of the SOP, followed by late setting-up Monitoring Committee and approval of selection criteria; • Delays in approving major projects; • Difficulties in financing the revenue-generating projects; • Decommitment of funds.
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Comments to SWOT analysis

A summary of the main issues highlighted in the SWOT analysis, briefly commented, is given below.

Strengths. SOP ENV is particularly focused on meeting the environmental EU acquis. Therefore, it is important that the Romanian legislation in the field of environment is almost completely harmonized with the environmental acquis communautaire. Efforts have also been made over the recent years for the preparation of strategies and implementation plans aiming to implement the relevant Directives. They are used as main reference documents in the formulation of the strategic priorities for SOP ENV.

Experience gained so far in the programming and technical implementation of environmental measures financed from EU, IFIs or from other sources is particularly important for MEF as MA for SOP ENV. Based on this experience, a new decentralised system for management of funds has been introduced. Clear responsibilities and procedures established for the system are recognised as strong points in the analysis.

Decentralisation in the management of EU co-financed programmes is a pre-requisite for a more efficient implementation by sharing the roles and responsibilities among various bodies according to their level of competence.

Weaknesses. Although Romania has undertaken important economic and social changes over the past fifteen years, significant efforts and resources are still needed in order to reduce the gap from the EU in environmental protection field.

The environmental quality in certain areas is way below EU standards, mainly due to the long-term under-investments in the water and waste infrastructure and to the inadequate environment management systems along with an insufficient environmental awareness among population and the limited knowledge of sustainable development principles.

The main weaknesses at environmental sectors are inadequate water treatment, sewerage network and low access to centralized water and wastewater systems, poor waste management infrastructure, air pollution done by thermal plants and poor protected areas management.

Limited management and administrative capacity to operate upgraded environmental infrastructure is also a critical problem, particularly in smaller agglomerations. Also, administrative capacity of the structures responsible for project management and implementation, the low experience of new staff, as well as lack of experience on public procurement have been identified as weaknesses.

Opportunities. In general, SOP ENV is an important instrument that aims to increase the access to basic water and waste infrastructure as a pre-requisite for improving the living standards of Romania's citizens and for economic development in the regions in Romania.

Potential access to EU funds to improve the environmental infrastructure represents also a strong incentive for local authorities to apply strategic reforms requiring regionalisation of public services as a predominant tool in order to fulfil short-term environmental targets, but also to ensure long-term sustainability and regional balanced growth.

From the administrative capacity point of view, opportunities have been identified under the framework of PHARE and ISPA projects, which provide means and tools to increase the staff knowledge on projects management.

SOP ENV is also an opportunity for the development of PPP in the environmental field and increasing the environmental awareness across Romania.

Threats. The major threat is related to the investments costs sustainability of internationally co-financed projects, particularly in small and medium localities.

In addition, organizational, political and financial difficulties induced by the regionalisation process in the water and waste sectors are also considered.

Another threat is linked to a resistance to changes related to decentralization in the management of measures from pre-accession to the post-accession EU programmes.

Availability of land for the development of environmental measures is also considered a threat in some areas, like waste infrastructure construction.

Difficulties may also arise for the implementation of adequate management plans in the natural protected areas, associated to the private ownership of the lands.

A major and undesirable threat is considered the decommitment of funds in case of infringements of provisions of EU regulations or failure to meet the n+3 / n+2 rule.

Conclusion

Looking forward to the 2007-2013 period, the programming of EU Cohesion Policy interventions has to be undertaken in line with the Community Strategic Guidelines that contain a strong commitment to Renewed Lisbon Agenda, as well as with Gothenburg Strategy (EU Strategy for Sustainable Development).

The overall environmental situation in Romania is characterized by deficiencies in environmental infrastructure, particularly in the area of urban wastewater treatment, water supply, solid waste management, district heating and flood prevention.

Besides the commitments assumed during the negotiation process, there is a need for Romania to align with the Single Market requirements. In this respect, in order to ensure the economic and social attractiveness of locations, as a pre-condition for boosting growth and jobs, Romania, as new Member State of the EU, must be equipped with modern infrastructure and, as well, provide high quality services of general interest to all citizens, at affordable prices, improving the quality of their life. Public services are an important factor in growth and jobs creation and, thus, an important element in the achievement of the Lisbon objectives.

As well, one of the pre-requisite for growth and jobs is to ensure that the necessary infrastructure is available for businesses. Infrastructure investments especially in the new Member States will encourage growth and lead to more convergence of regions, in economic, social and environmental terms.

To this end, the development of water and environmental infrastructure in a regional approach is considered a key element in drawing up the national and regional strategies. In this context, often recurring elements are the need for regional cooperation, adequate implementation of national legislation in line with the EU acquis, coordination of different actions of the regional plans, and issues of implementation and administrative capacity building.

Taking into account the key role infrastructure plays in reaching the Lisbon objectives, Romania must address the significant needs for investments in infrastructure.

A modern and efficient infrastructure will contribute to the improvement of the quality of life of the population and to expanding the possibilities for investments in the country.

Romania's ability to provide efficient infrastructure and services in the field of environmental protection, both at national and local level, is also an important contributor to private sector development. Environmental investments make industrial and commercial growth sustainable. Local environmental infrastructure and high quality services enhance the quality of life for citizens.

Investments in environmental infrastructure are strongly connected to sustainable economic growth and job creation. They also contribute to promoting convergence and increasing the competitiveness of regions.

In this respect as well as for complying with EU acquis, in accordance with the negotiated transition periods for Chapter 22, modernization of environmental infrastructure represents an important requirement.

To this end, the development of water and environmental infrastructure in a regional approach is considered a key element in drawing up the national and regional strategies. In this context, often-recurring elements have been early addressed by relevant authorities. They include the need for regional cooperation, adequate implementation of national legislation in line with the EU acquis, public participation, coordination of different actions of the regional plans, and issues of implementation and administrative capacity building.

In the preparation for effective, wise and transparent use of SCF, key lessons learned from the pre-accession funds include: clear guidelines for SCF with binding rules and better compliance in the areas of information access, transparency and public participation; early sound project pipeline preparation and early addressing of key issues linked to project preparation – EIA, land acquisition, financing structure, institutional reorganization etc; ensure local ownership and support of the projects; clear procurement guidelines and rules; need for adequate coordination of various institutions with role of control, audit, etc.; the need to reduce bureaucracy and provide for a more flexible, decentralised mechanism, with clear roles and responsibilities of key stakeholders while keeping the appropriate expertise to each level of competence; need to consult all relevant partners in the whole process of programming, planning and implementation; need for adequate staff policy to ensure stabilization.

The above analysis of the current situation confirms that SOP ENV has the potential to make a significant impact on improving the quality of life and the quality of environment in Romania. The next chapter underlines how this potential can be used by setting specific environmental objectives and targets and by indicating the strategic priorities and areas of intervention to meet the respective objectives.

3. STRATEGY

The Sectoral Operational Programme Environment contributes to the implementation of the 3rd National Development Priority of the NDP 2007-2013 „Protection and Improvement of the Environment Quality”, taking into account the social, economic and environmental needs in Romania so as to obtain the highest positive impact upon environment and to stimulate the economic development. From international perspective, it is based on the EU Strategy for Sustainable Development and the 6th Environmental Action Programme of the EU.

SOP ENV is designed to substantially contribute to the achievement of the thematic priority, ***Develop Basic Infrastructure to European Standards***, established in the National Strategic Reference Framework (NSRF). The SOP ENV is also related with the priorities laid down in the Community Strategic Guidelines (CSG) for Cohesion Policy, mainly those aiming to improve the attractiveness of Member States, regions and cities and to strengthen the synergies between environmental protection and growth. In this respect, SOP ENV focuses on improvement of accessibility to public services, on ensuring adequate quality and level of services and on preservation of the environmental potential. *Ensuring the basic water and environment infrastructure and adequate public services is an essential requirement for encouraging the investors and is a pre-requisite for the economic development of the country. Creation of better jobs is also expected as environmental protection is a growing sector in Romania.*

The overall strategy of SOP ENV, in line with the Cohesion Policy and with the NSRF general statement, contributes to the reduction of the existing disparities between Romania and EU as regards environmental standards and services. Based on the analysis of these disparities, of the existing weaknesses and potential, and by identifying both opportunities and needs, the strategy is focused on several priorities that are likely to maximize the impact of the Structural and Cohesion Funds. With this view, coordination of EU and national funds is also envisaged to ensure that both contribute to the achievement of the overall aim, in a complementary manner.

SOP ENV strategy is based on:

- The current situation analysis for the environment sector as set out in Chapter 1 and summarised in the SWOT analysis;
- The national environment strategies and the implementation plans for compliance with the environmental EU acquis;
- The major problems and strategic guidelines established in the National Strategic Reference Framework, with special regard to the complementarities of Funds and the demarcation between intervention areas;
- The contribution of socio-economic partners, which were consulted since the elaboration of SOP ENV and the outcomes of the ex-ante evaluation and SEA results.

3.1. Objectives

The global objective of the SOP ENV is to ***improve the living standards and the environment, focusing in particular on meeting the environmental acquis.***

This objective should be seen in the light of the unprecedented increase in disparities within the enlarged Union and of the long-term nature of the efforts that will be needed for Romania to reduce them. Having in view that the needs for direct environmental investments to comply with the EU acquis are particularly high, Romanian authorities opted to create a specific OP focused on environmental infrastructure, but dealing with other environmental issues as well.

To meet the global objective, the overall strategy of SOP ENV is designed to respond to the following three main strategic directions:

- ***Improvement of accessibility to public utilities in Romania and support conditions for economic development in the regions.***

To this end, the most important part of the SOP ENV envisages support for improvement of integrated water and waste management systems, in a regional approach (Priority Axes 1 and 2) that is likely to generate important results to the end of the programming period (more than 10 mil. beneficiary population is estimated). These priorities will also bring an important contribution to meeting the EU relevant acquis in the environmental sectors linked to the most “heavy” investments (estimated to about 29 billion Euro by 2018).

- ***Improvement of environmental protection as a pre-requisite for sustainable development.***

In this respect, the SOP will concentrate, on the one hand, on *preventing pollution and further deterioration of biodiversity* (particularly, Priority Axes 2, 4 and 5). On the other hand, SOP will tackle the *reduction of environmental pollution/damage in the most sensitive areas* (urban heating – Priority Axis 3, natural risk prevention – Priority Axis 5) as part of longer-term investment strategies (beyond 2013).

- ***Strengthening institutional capacity and governance as a key priority, aiming to develop efficient management structures for environmental services.***

SOP ENV will address the need for a better quality and efficiency in the public sector, essential aspect in order to embrace reforms and good governance in environmental field. Governance is a key element underpinning all actions in the interest of better and more efficient management of SOP ENV and improving the quality of public policy-making in the field of environment. This will help not only to improve the implementation of EU cohesion policy, but also to raise overall economic performance.

In this context, the SOP ENV strategy for 2007-2013 focuses on investments and collective services which are required to increase long term competitiveness, job creation and sustainable development. Basic infrastructures and services will need to be created, upgraded and expanded in order to open up regional and local economies, set up an effective business support framework and exploit opportunities afforded by the European Market. Establishment of effective water and environmental infrastructure will create potential for new jobs (construction, services, SMEs etc) and in a way reduce the workforce migration giving possibilities for population to develop businesses or to attract other investors by using also local competitive advantages (cheaper resources, valuable natural areas etc.).

The **specific objectives** for SOP ENV are:

1. ***Improvement of quality and access to water and wastewater infrastructure***, by providing water supply and wastewater services in line with EU practices and policies, in most urban areas by 2015 and by setting efficient regionalised water and wastewater management structures.
2. Create the premises of a ***smooth implementation of water/ wastewater investments projects in the next programming period***
3. ***Development of sustainable waste management system***, by improving waste management services and reducing the number of historically contaminated sites in minimum 30 counties, in line with EU practices and policies, by 2015.
4. ***Reduction of negative environmental impact and mitigation of climate change caused by urban heating plants*** in most polluted localities by 2015.
5. ***Protection and improvement of biodiversity and natural heritage*** by supporting the protected area management, including Natura 2000 implementation.

6. **Reduction of the incidence of natural disasters affecting the population**, by implementing preventive measures in most vulnerable areas by 2015.

Due to its complexity, the full impact of the SOP ENV cannot be measured with only one indicator. However, the *coverage of population* benefiting from improved environmental services and reducing natural risk due to SOP ENV development can be selected as *program-level indicator* as it covers most of the SOP ENV activities. The beneficiary population of SOP ENV can be estimated to 10 million citizens.

3.2. Priority Axes

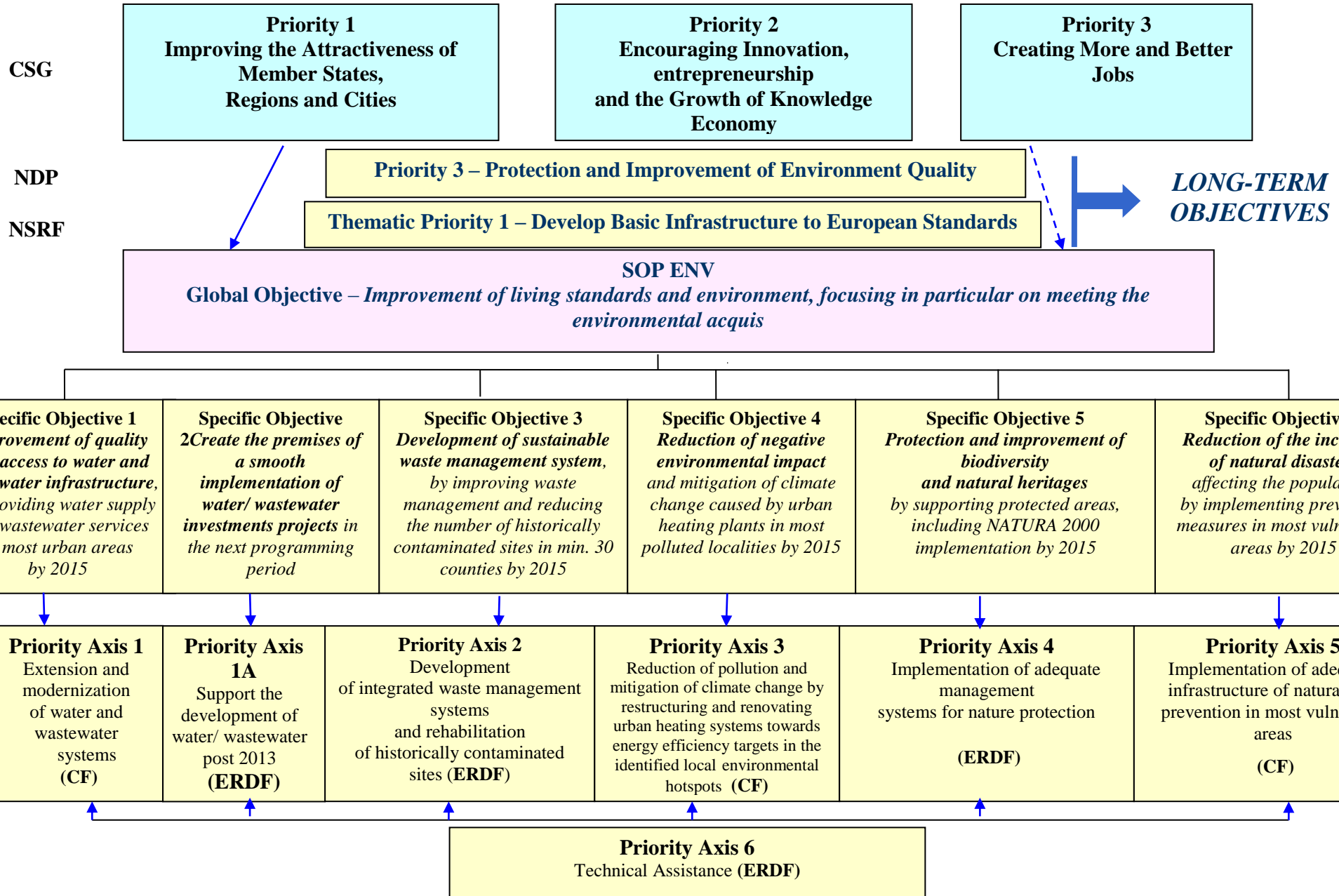
In order to achieve the above mentioned objectives, the following priority axes were identified:

Priority Axis 1	“Extension and modernization of water and wastewater systems”
Priority Axis 1A	“Support the development of water and wastewater infrastructure projects to be implemented in the next programming period”
Priority Axis 2	“Development of integrated waste management systems and rehabilitation of historically contaminated sites”
Priority Axis 3	“Reduction of pollution and mitigation of climate change by restructuring and renovating urban heating systems towards energy efficiency targets in the identified local environmental hotspots”
Priority Axis 4	“Implementation of adequate management systems for nature protection”
Priority Axis 5	“Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas”
Priority Axis 6	“Technical Assistance”

The correlation between the CSG, NSRF and the SOP ENV and the link between global and specific objectives, priority axes and indicative operations is presented in the diagram below (Fig. 9).

Fig. 9. Links between Objectives, Priorities and Funds

Correlation between CSG, NSRF, NDP and SOP ENV



Rationale for selected priorities

The selection of investment priorities in the SOP ENV took into account the above mentioned key *strategic considerations* – the relevant contribution to the achievement of the environmental acquis aimed at improving the environmental quality and living standards for more than half of the Romanian population, the setting of an efficient management of environmental services, regional convergence, the speeding up of the implementation of national programmes, avoidance/ reduction of further economic and environmental losses (associated with lack of sustainable actions in short term) – as well as *specific objective constraints* during the implementation period.

The assessment of environmental needs and priorities (summarised in the Chapter 2 and in the Annex 4) resulted in the majority of investments taking place in the two fields – water and waste management sectors - that require significantly higher investments than the others. The choice was driven by the acquis and by the associated contribution to regional convergence, which should result from environmental improvement. As well, the need to complete investment programmes already started within the pre-accession programmes was taken into account.

The balance of priorities also reflects the estimated leverage effect associated with large investments (Priority Axes 1 and 2) or pilot programmes (Priority Axes 3, 4 and 5) of SOP investments as well as the maximization of financial contributions from users of environmental services and the need to continue investments beyond this programming period (Priority Axis 1A).

The proposed OP investment programmes are relevant in relation with the strategic approach foreseen under each priority axis that target improved environmental quality, but also direct economic benefits, cost savings, increased resource efficiency, improved environmental services and new technological and market opportunities, development of long term strategies for risk prevention, particularly floods. Strategic context also takes into account application of spatial planning perspectives for national, regional and local development especially where influenced by and contributing to the implementation of the Water Framework Directive and Natura 2000 network. The scope for more efficient use of environmental investments - for integrated water and wastewater management utilities, integrated waste management systems, urban heating systems and risk management - is linked to prior requirements for long-term master plans in the project selection process.

Therefore, the proposed interventions are based on overall integrated water resources management approaches and long-term strategies, which have assessed the restricted capacities of resources towards cost-efficiency targets. Particular attention has to be paid to the accessibility to clean drinking water and other basic needs in relation to interventions in the environment sector.

In line with the assessment of the environmental needs in Romania, the first two most demanding fields representing Priority Axes 1 and 2 (water/wastewater systems and municipal solid waste) require comparable more investments than others. Investments are designed to ensure progress with the environmental acquis compliance and to reduce gaps between Romania and other EU member states in the two fields.

Investments include mainly replacements of worn-out infrastructure (e.g. noncompliant sewage plants, non-compliant landfills) but also new infrastructure to address the severe lack of basic utilities in many areas with higher population.

As well, the proposed allocations for Priority Axes 1 and 2 challenge also the risk of non-compliance with EU acquis which would lead to higher price to be paid in the medium term by Romanian authorities. Moreover, lack of EU funding programmes will considerably extend the time to achieve compliance. Failure to achieve compliance is not only negative for environmental quality, but also increases the gaps among EU regions. Even with the assistance of the Structural and Cohesion Funds, full compliance cannot be achieved by the end of the programming period. In this sense, the necessary investments for the next programming period can be addressed prior to the end of actual programming period and the approval of strategic national documents for next programming period. The funds allocated through Priority Axis 1A will be used to develop a projects portfolio for the water/ waste water sector in order to create premises for good absorption of European funds and thus support the compliance with European legislation.

On the other hand, the estimation of the necessary investments in the water, waste and air pollution fields (Priority Axes 1, 2 and 3) took into account that the population is expected to decrease slightly whilst structural industrial change means that some resource intensive industries are closing. In the context of SOP ENV, environmental investments have a strong strategic approach that not only target legal compliance, but also wider regional development towards cost-efficiency.

To ensure an effective implementation of the environmental acquis and to adequately address the need to substantially improve the water and waste management systems in Romania, a more strategic approach, in the form of a polycentric policy, was considered a key issue linked to Priority Axes 1 and 2.

A polycentric approach in water and waste management (Priority Axes 1 and 2) is chosen as a key policy to address the need for effective governance in the two sectors. This involves a *clear definition of roles of different players* (particularly local authorities and public services operators, but also government, regional and local agencies, private sector, civil society, NGOs, etc.), as well as *awareness building* by drawing in more 'active' players in water and waste management. In the chosen polycentric governance approach, *capacity building* is more than bringing knowledge – it is preparing new management systems and preparing people for changing roles (i.e. decentralisation reform).

In formulation and implementation of a polycentric approach, other aspects have been highly considered by Romanian authorities:

- (1) need for consultative processes for *acceptability* of rules;
- (2) need for adequate financial and economic instruments to ensure that all stakeholders would also contribute to water and waste management, yet without limiting access by the very poor;
- (3) need to build confidence in the system and on effective sanctions in mutually agreed systems as a key for *willingness* to pay for services;
- (4) need to *prioritise* workable strategies and actions in order to overcome the challenges to operate in a multi-stakeholder framework, to change and reform institutions.

Integrated water and waste management systems have been widely accepted as the most effective approach to set up effective governance and sustainable development of the sectors.

Although the financial allocation for Priority Axes 3 (urban heating) and 5 (natural risk prevention) is more limited, the rationale of these interventions is to supplement the contribution to national programmes of high interest. Speeding up the implementation of programmes in these fields is justified by the higher costs that may appear on medium and long term in the absence of investments in the short run, especially as regards the risks of climate change and flooding. In this respect, reduction of negative environmental impact (Priority Axis 3) or preventive actions (Priority Axis 5) is targeted in the identified environmental hotspots. In relation to the needs required in Romania in the two fields, the allocated SOP ENV allocated amounts under these priorities can be seen as minor, but the aim is to develop a pilot function and a long-term strategy for future investments. With this view, the investments to be covered by these priorities will be based on sound option studies, to ensure the optimal solution and the most cost-efficient use of the limited funds.

Priority Axis 4 foresees with limited budgetary resources a rather large target in the field of biodiversity and nature conservation. This priority does not only contribute to the improved management of special protected areas, but also it is designed to develop strong partnerships with relevant stakeholders. NGOs, for instance, could play an emphasized role in increasing environmental awareness.

3.2.1 Priority Axis 1 “Extension and modernization of water and wastewater systems”

Objectives

- *Provide adequate water and sewerage services, at accessible tariffs*
- *Provide adequate drinking water quality in all urban agglomerations*
- *Improve the purity of watercourses*
- *Improve of the level of WWTP sludge management*
- *Create innovative and efficient water management structures*

This priority axis will be supported by Cohesion Fund.

Rationale

This priority addresses one of the main weaknesses identified in the SWOT analysis reflecting poor rate of connection of the communities to basic water and wastewater infrastructure (52%), poor quality of drinking water and lack of sewerage collection and treatment facilities in some areas. As well, it addresses the issue of limited efficiency of public water services mainly due to a large number of small operators, many of them dealing with different other activities (public transport, urban heating, local electricity, etc.) and due to long term under-investments, poor management, lack of long term development strategies and business plans, etc.

Romania is seriously lagging behind with providing drinking water treatment and wastewater collection and treatment services. The quality of water streams highly depends on the capacities and quality of treatment of wastewater from human activity. Regarding physical, chemical and biological status of the surface waters in Romania, based on 781 surveillance sections, almost 22.4% of them belonged to the IVth and Vth categories of water in 2005. The problems related to the surface and groundwater quality come mainly from untreated wastewater being discharged to the open streams, which amounted to 79% of all wastewater produced in Romania.

Since Romania adopted the environmental acquis and aims to collect 60% of discharged wastewater by 2015, which means to double the capacity available in 2004, the investments needs in this field represent a great challenge for the country from financial, economic and administrative point of view.

In Romania, surface water is used also for drinking water purpose, therefore the quality of the drinking water depends mainly on the quality of the source and treatment provided. Only 52% of inhabitants are connected to the water and sewerage networks. Since Romania took a challenge to increase the water treatment and connectivity of citizens to centralised wastewater system by 70% until 2015, this environmental sector needs demanding investments.

Romanian legislation in the water sector is largely in place and in line with the acquis, but further implementing steps are needed to achieve full compliance, particularly in smaller communities.

Following the negotiations on Chapter 22 – Environment, Romania has certain commitments that imply substantial investments in the **water and wastewater sector** within relatively short transition periods. According to the Accession Treaty, Romania has been granted transition periods for compliance with the acquis for urban wastewater collection, treatment and discharge - by 2015 for a number of 263 *agglomerations* of more than 10,000 population equivalent (p.e.)

and by 2018 in 2,346 *agglomerations* of between 2,000 and 10,000 p.e. Transitions periods are also agreed for compliance with the Directive No 98/83/EC on drinking water quality by 2015.

Moreover, as a result of the negotiations for accession, the whole territory of Romania is declared as sensitive area, thus all agglomerations of more than 10,000 p.e. should be endowed with wastewater treatment plants providing advanced treatment level (nitrogen and phosphorus removal). In this context, additional costs for compliance are needed even in most agglomerations of more than 100,000 p.e. that benefited of pre-accession programmes for building/rehabilitation of wastewater treatment plants, but only up to secondary treatment.

In spite of a significant improvement of the rivers quality in Romania (a decrease in the main qualitative indicators BOD₅, COD, suspended solids, contents of hazardous compounds), further investments are needed to reduce spot sources of contamination posing to eutrophication risk to the recipient waters and to health risk for the population (surface water is used also for drinking purpose).

Addressing the above-mentioned commitments on a background of serious under-investments and deficient services in the water sector involves high-level investment needs all over the country. However, it is important to consider not only the volume of investment needed but also the institutional context.

Thus, for water sector, regionalisation is the basic pre-condition for the implementation of the strategy proposed for this priority axis. The regionalisation process of the existing operators in the water sector has been initiated by the pre-accession programmes SAMTID (Small and Medium Town Investment Development) and FOPIP (Financial and Operational Performance Implementation Programme). The main target of this process has been to create performing water companies, which are able not only to implement EU-funding but as well to take over operations in surrounding agglomerations, in which no appropriate operator exists in order to provide for these municipalities or villages an appropriate implementation structure that could absorb EU-funding. More details about regionalisation history and status are provided in section 1.2 “Water sector”.

Regionalisation of the water services, planned to overcome excessive sector fragmentation and to achieve economies of scale, is ongoing. Development of regionalisation is highly supported by pre-accession programmes (ISPA and PHARE) and includes so far 35 beneficiary counties of the total 42 in Romania. As a result, 13 regional companies are already in place, other 12 are nearing completion of institutional set up and about 15 are in different stages of development. Accessing EU funds for water sector investments will represent a key element to move from a large number of weak services providers to a limited number of large-scale and strong operators, capable of providing sustainable services at affordable levels of tariffs, which will ensure full cost recovery and further water systems development. More details about regionalisation are provided in section 1.2 “Water sector”.

Strategy

In order to increase access to basic water utilities and to protect and restore water sources in Romania in line with Drinking Water and Urban Waste Water Treatment Directives, strong opportunities exist for the funding of the first programmes under the Cohesion Policy. This would support progress towards the ambitious targets and implementation schedule to be achieved by latest 2015, respectively 2018, as established by the EU Accession Treaty.

Having in view the under-development of water sector in Romania (in terms of infrastructure and public services), issue reflected also in major commitments to meet relevant EU acquis in relatively short transition periods, priority will be given to large scale infrastructure projects, covering more agglomerations at regional/county level that will:

- bring an important contribution to meeting the water and wastewater Directives;
- prove an important impact on the regional development by addressing the urgent needs of larger communities for development, based on a long term strategy and by improving local institutional capabilities in water policy design and implementation.

By promoting integrated water and wastewater systems, in a regional approach, Romania aims to maximize cost-efficiency gains from scale economies in order to optimize the overall investment costs and the operational costs induced by such investments. To achieve this, communities in clearly defined geographical areas (e.g. by river basin) are encouraged to group together and to develop a joint long-term investment programme for water sector development (Master plans for water and wastewater). Priority investments at regional level aim to provide the population with adequate water and wastewater utilities, at the required quality and at acceptable tariffs.

Regional projects will firstly address the water sector needs in urban agglomerations, where the environmental impact is usually higher and the beneficiary population is also more numerous. Some of the rural areas may also be integrated in the regional project if a significant environmental impact can be justified and/or cost-efficient components improve the sustainability of the overall investment. Prioritisation of investments in the project area will also take into account the commitments assumed by Romania during the Chapter 22 negotiation.

A core objective of these operations (regional projects) is to promote greater efficiency and higher quality in the provision of local public services through investment and the promotion of independent, well-managed and financially sustainable operations provided.

Regionalisation is a key element in improving the quality and cost efficiency of local water infrastructure and services in order to fulfil environmental targets, but also to assure sustainability of investments, of operations, of a long term water sector development strategy and of regional balanced growth.

In this context, association of neighbouring localities aiming to create regional structures able to attract international funds for their investment needs in the water sector, funds that cannot be attracted individually, is already a trend in Romania.

The preparatory activities for Structural and Cohesion Funds (SCF), particularly time-consuming for large-scale projects, have begun since early 2004. Important pre-accession funds, but also external loans and bilateral arrangements have been used widely for preparation of feasibility studies and other supporting documents, but also to support actions aimed at institutional governance improvement with the view to increase the role of local authorities in project implementation, tendering and contracting. JASPERS support is also available for major projects.

Providing grant financing in the sector of water and wastewater is conditioned by the setting up of Regional Operating Companies (ROC) and Associations of Municipalities (AoM) in line with the criteria further specified under Section 5.1. Management (Sub-Section: Specific provisions for adequate SOP ENV Implementation Regarding Bucharest, it will be exempt from the

obligation to prove the institutional framework for the implementation of the regionalization process.. In this specific situation, EU financing is to be granted to the Municipality of Bucharest

The regionalisation process represents an essential element for achieving the environmental acquis in the water and wastewater sector, as experienced water companies are needed in order to accomplish the investments and to guarantee the operations. Without grant-financing most of the smaller operators will not be able to comply with the acquis. Accordingly, there is a strong incentive for the different operators to arrange an appropriate set-up of ROC, and to overcome potential administrative burdens.

This is particularly important since the regional water operators will have a central implementation function for SOP operations. The regionalisation has essentially been driven by pre-accession TA interventions, which aimed to improve the financial and operational capacities of the main operators in the country (FOPIP) and to create administrative patterns to bind smaller operators to the experienced larger operators or to create this economy of scale by regrouping several smaller operators (SAMTID - Small and Medium Towns Infrastructure Development).

In medium term, the regionalisation process and the setting up of regional operators are designed to assure successful grant absorption at local level, by increasing their capacity to manage internationally financed projects, and to ensure that the new facilities built with EU funds are adequately operated.

From the institutional point of view, the regionalisation is achieved by reorganisation of existing public services owned by municipalities. The municipalities included in the programme will form together a so-called Association of Municipalities or Intercommunity Development Association (AoM/IDA), representing a collaborative structure, which will allow the local authorities to monitor and supervise the implementation of investment measures. The individual Municipalities form as common shareholders Regional Operating Companies (ROC) and set up in parallel Association of Municipalities and County Administration (AoM/IDA) to whom they delegate the exercise of their shareholder rights. The operational requirements and control provisions will be defined in a delegation contract of the AoM/IDA and in the incorporation act of the ROC, according to criteria further specified under Section 5.1.Management (Sub-Section: Specific provisions for adequate SOP ENV Implementation).

A Project Implementation Unit (PIU) is established at the level of each ROC in order to manage the implementation of investment measures.

The National Regulatory body, ANRSC (National Authority for Regulation of Public Municipal Services) licenses the operators, according to a set of criteria regarding their size, their professional and managerial capacity, their technical and financial performance. Furthermore, ANRSC has significant control of prices and level of service expectations.

Localities that are not included in a regionalised¹⁶ project, in well justified cases, individual or smaller projects can be supported by SOP ENV under the condition that the projects comply with all the relevant requirements, particularly are compatible with regional Investment plans

¹⁶ In this context, regions are larger areas that include more human agglomerations; they should not be regarded as development regions (NUTS II) of Romania.

approved by the ROC and AoM /IDA concerned and have a viable operator in place to ensure proper maintenance of future facilities to be built with EU funds.

Operations to be supported under this priority will build on the experience acquired under pre-accession programmes - MUDP, ISPA, PHARE and SAMTID. The MA for SOP ENV will provide external TA support to the local beneficiaries with insufficient expertise in project preparation and management.

Local authorities (County Councils and Local Councils) through Regional Operating Companies are the beneficiaries of the operations under this priority axis. By exception, the Bucharest Municipality, will be a beneficiary of SOP Environment 2007-2013 funding. The project developed for Bucharest will include, besides investments in extension and rehabilitation and of water / wastewater system, the expansion of wastewater treatment plant for Bucharest and the construction of an appropriate plant for treatment / disposal of sludge. Also, for non-major projects initially funded from other sources (state budget, etc), local public authorities may be beneficiaries provided that the compliance with the institutional framework of projects financed by this Priority Axis is ensured (ADI membership, the service delegation to regional operator, approval of tariff policy, etc.).

An indicative list of major projects for this Priority Axis is presented in Annex 2.

Investments in the water sector, needed to comply with the relevant *acquis communautaire*, are higher than those that can be implemented within SOP ENV framework in the period 2007–2013.

Thus, additional investments in the water sector are planned from other sources as follows:

- *National Rural Development Programme* co-financed by the EU in the period 2007–2013 and co-ordinated by the Ministry of Agriculture and Rural Development (MARD), will include investments in the water infrastructure in rural areas;
- *Governmental Programmes for development of municipal water and environmental infrastructure 2006-2009* that include priority investments according to the National Plans for the Implementation of the *Acquis*;
- *Governmental Programme for development of infrastructure in the rural area* in the period 2006-2008 has provisions for investments in water and wastewater infrastructure;
- *National Environmental Fund* provides co-financing of limited investments in the water sector;
- *Foreign loans* or *various forms of PPP* are also solutions considered in some of the urban agglomerations.

The rural areas will continue to receive Governmental support from local budgets and a considerable contribution is expected under the framework of National Rural Development Programme 2007–2013 financed from EAFRD. The focus of the SOP ENV is for cost-efficiency reasons (output per capita) strongly oriented towards medium or large-scale agglomerations. The SOP ENV is oriented towards a creation of poles of wealth and activity, which will have positive spill over effects on the rural surroundings in the medium term.

Important investments in water sector infrastructure are also planned beyond 2013, aiming to achieve full compliance with EU *acquis*.

Key Area of Intervention

- *Extension/modernization of water and wastewater systems*

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Construction/modernization of water sources intended for drinking water abstraction;
- Construction/rehabilitation of water treatment plants;
- Extension/rehabilitation of water and sewerage networks;
- Construction/upgrading of wastewater treatment plants;
- Construction/rehabilitation of sludge treatment facilities;
- Construction of adequate facilities for treatment / disposal of sludge from wastewater treatment plants.
- Metering, laboratory equipment, leakage detection equipment, etc.;
- Technical assistance for project preparation (including tender documents), management and publicity (including public awareness), institutional governance improvement.

Indicators

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Localities provided with new/rehabilitated water facilities in a regional management system	Number	60	2006	MECC	300
New/ rehabilitated wastewater treatment plants	Number	30 ¹⁷	2006	MECC	200
Result					
Population connected to basic water services in a regional system	%	52	2006	MECC	70
Wastewater treated (of the total wastewater volume)	%	35	2006	MECC	60
Number of Regional Water Companies created	Number	10	2006	MECC	35

Detailed indicators related to the project implementation under this Priority Axis (i.e. km of refurbished or new networks for drinking water and wastewater, number of equipped laboratories, pumping stations etc.) will be provided in the monitoring system.

3.2.2 Priority Axis 1A “Support the development of water and wastewater infrastructure projects to be implemented in the next programming period”

Objectives

- Prepare the water and wastewater infrastructure projects portfolio afferent to the next programming period
- Support beneficiaries in developing regional/county projects in accordance to specific needs
- Increase the commitment and ownership of beneficiaries to develop feasible and sustainable projects

This priority axis will be supported by the European Regional Development Fund.

¹⁷ The baseline number of 30 WWTP refer to completed or on-going major investments started in the pre-accession programmes.

Rationale

This priority addresses the need to continue investments in water and waste water systems in order to comply with Romania's obligations assumed through EU Accession Treaty.

Despite certain infrastructure improvements achieved between years 2007 and 2013, efforts to achieve full compliance with water/ waste water European Directives should continue in the programming period. More than this, the priorities for the future programming period should contribute to achieving national and European policy/ strategies regarding sustainable development, especially Europe 2020 Strategy.

The current programming period shows it does seem possible to implement good projects in the environment sector, within the allocated budget. The key difference between 'good' and 'bad' projects appears to be the quality of the projects and the skills and capacity within the beneficiary authorities. One of the main constraints in the preparation phase of the projects (with implication upon implementation) was the sub-optimal levels of engagement and 'ownership' amongst beneficiaries, partnership / team working amongst major stakeholders largely absent, which mainly determined delays in institutional set-up and project approval.

In this sense, full responsibility for project preparation and delivery needs to be integrated within beneficiary authorities.

The current programming period highlights that the implementation of European directives in the water sector, and in particular those for drinking water, wastewater and sludge, is a challenge in terms of completion of the investment required for water and wastewater infrastructure. Also, the interim evaluation of SOP Environment 2007 – 2013 underlines the need to continue the institutional strengthening of Regional Operating Companies to ensure their capacity for extending operating at the county level and increasing the standard of service.

Strategy

The need to continue investments in the second phase of water/ waste water infrastructure was estimated in the early stage of preparation process for SOP Environment 2007 – 2013 and confirmed during the implementation of projects under Priority Axis 1.

In this regard, taking into consideration the necessity to develop the investments projects portfolio for the next programming period and the availability of European funds under the current period, it was envisaged to finance the preparation of future investments project. These activities will provide inputs for the next programming period and will allow a better use of allocated funds in the next programming period.

The beneficiaries of the projects will be the Regional Operating Companies, which will have the quality of contracting authority. As in the current programming period, in the period 2014-2020 there will be financed priority investments needed to comply with the relevant EU Directives. Investments projects will include a balance of both investment required for upgrading of water / waste water from agglomerations under the operating area of the ROC and other investments necessary to expand its operating area, so that the benefits gained by the regionalization process will not be wasted. In the same vein it will be promoted investments that contribute to climate change mitigation and adaptation, and components for efficient drinking water and sewerage systems.

The course of action was based on the premises to *provide institutional support for beneficiaries* (supporting and advising the beneficiary during the revision of the Master Plan and establishing the list of priority investment; promotion of "lessons learned" to avoid slippages in the preparation) and *increase the beneficiary accountability* by financing the preparation of financing applications and tender documentation from European funds.

The mandatory steps in the preparation process refer to revision of regional/ county master plans, establishing the list of priority investments, their approval by the beneficiaries. Further, the beneficiaries will submit the grant application and terms of reference to MA SOP Environment and MA, supported by JASPERS, will give consent upon these documents. After project approval the beneficiaries will launch contracts for project preparation.

These projects for preparation of future investments projects will be correlated with other projects, particularly activities such as project management/ supervision funded under Priority Axis 1 SOP Environment 2007-2013, but also other regional/local projects that might affect the future investment in the next programming period (e.g. roads). In the same time, the projects to prepare the future investments project will have to take into account the estimated development and impact of the current investment project funded in the actual programming period under the Priority Axis 1.

The operations to be developed under this priority axis will finance the following indicative activities:

- project preparation which includes the following specific actions: elaboration of **application form**, feasibility study, preliminary studies (geotechnical, flooding, drinking water quality, hydro geological, topographical, water balance, wastewater quality, etc), cost-benefit analysis, procurement strategy, environmental impact assessment, **tender documents** (for design and construction - Yellow FIDIC and the construction - Red FIDIC; supply of equipment - if applicable);

Indicators

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Application form for 2014 - 2020	number	0	2013	MECC	20
Package of annexes for application form	number	0	2013	MECC	20
Result					
Water/ Waste water projects for 2014 - 2020	number	0	2013	MECC	20

3.2.2. Priority Axis 2 “Development of integrated waste management systems and rehabilitation of historically contaminated sites”

Objectives

- *Increase the population covered by municipal waste collection and management services of adequate quality and at affordable tariffs*
- *Reduce the quantity of landfilled waste*
- *Increase the quantity of recycled and reused waste*
- *Set up efficient waste management structures*
- *Reduce the number of historically contaminated sites*

This priority axis will be supported by the European Regional Development Fund.

Rationale

This priority addresses a critical environmental aspect across Romania – the pollution of water, soil, air caused by inadequate waste disposal. The inadequate waste management practices inherited from the past and still in place in Romania, have led to a large number of non-compliant waste landfills and to the inadequate disposal of considerable quantities of waste that continue to be produced. The most frequent method of waste disposal remains landfilling. The selective collection is done only in certain pilot centres and most of the recyclable materials are lost by landfilling. Only a small proportion is utilized as a secondary raw material and recycled.

On the other hand, due to significant economic activities in the past doubled by a bare consideration of environmental legislation, Romania inherited a large number of contaminated sites with a high level of emissions in the atmosphere and water and leading to an extensive degradation of the soil and landscape in many cases. Most of these sites are abandoned, of no use, while the need for available land for public utilities or business development is high, apart from being a risk for the environment and people health.

The EU policy on waste management emphasizes the importance of an integrated approach to waste management, which includes building of waste disposal facilities along with measures related to waste prevention and recycling, in line with the hierarchy of principles: prevention of waste production and its harmful impact; recovery of waste by recycling; re-use or reclamation; and safe final disposal limited to waste where no possibility of recovery exists.

In Romania, the integrated waste management systems are currently being developed with ISPA support in 7 of the 42 counties (first phase projects) while other recent investments in the solid waste field, mainly limited to construction of new municipal landfills, have been undertaken in 11 cities. The involvement of private sector in waste management is considerably higher comparatively with water sector. Centralized sanitation facilities are available in most urban areas, but they are almost lacking in the rural localities.

As regards the waste management legislation, this is mainly in place and in line with the acquis. Transition periods have been granted to Romania by 2017 for certain types of landfills of waste, aiming compliance with EU Directives: municipal landfills – transition periods by 2017; temporary storage of industrial hazardous waste – 2009; industrial non-hazardous waste landfills – transition periods by 2013. A number of 177 municipal landfills¹⁸ (around 490 ha) situated in urban area must cease the landfilling during 2007-2013. As well, according to the EU Accession Treaty, Romania must ensure the gradual reduction of the waste landfilled in 101 non-complying municipal landfills. According to the Directive No 1999/31/EC, Romania has to reduce the annual quantity of biodegradable waste landfilled at 2.4 million tones by 2013. This target of 2.4

¹⁸ According to the Implementation Plan for Directive No 1999/31/EC on landfill of waste.

million tones was set according to the provisions of art. 5 and represents 50% of the total amount (by weight) of biodegradable municipal waste produced in 1995. Other transitions were agreed for certain targets in the field of packaging waste by 2013, aiming to considerably reduce the quantity of waste to be landfilled.

National Waste Management Plan, as well as regional Waste Management Plans, has been developed in a large partnership consultation process among all the regional stakeholders, which identify and prioritise investments needs at regional level, aimed to meet the commitments undertaken for this sector.

Local authorities are responsible for the implementation of these commitments in line with the national strategy for public services.

Strategy

Complying with EU policy on waste management requires substantial investments and a long term, systematic approach that extends well beyond the 2007-2013 programming period (the longest transition period for waste sector lasts until 2017). SOP ENV will target mainly the improvement of municipal waste management practices, identified as the most critical in the SWOT analysis and reflected as such in the EU Accession Treaty. As well, during this programming period, the aim is to prepare a long-term strategy, an inventory of all categories of contaminated sites and an investment plan based on a priority list. From the wide number of contaminated sites (other than municipal waste landfills that will be addressed with priority), some projects are envisaged to be implemented with the view to close/rehabilitate several contaminated sites with significant environmental impact.

Under this axis, SOP ENV will promote with priority integrated waste management systems, which reflects the EU policy and principles in this environmental sector and which is in line with the National and Regional Waste Management Plans. The investment programmes will include activities linked to the defined hierarchy for municipal waste management (prevention, separate collection, waste recovery and recycling, treatment and disposal) in parallel with closure of the non-compliant waste landfills. The respective projects will cover urban and rural localities, at county/regional level. Improvement of waste management services is a condition to be linked to investments under this priority axis. Support to the beneficiaries for tendering and selection of waste services operators from private sectors might also be supported when needed.

First priority will be given to about half of the 41 counties in Romania, where no major investments have been undertaken so far, addressing the related commitments on waste in an integrated approach.

The second priority is aimed to extend/complete waste management systems in those counties/areas where first phase of an integrated waste management is in place or where previous investments are limited to a new landfill and bulk waste collection and transport. The aim is to create modern waste management that contributes to minimization of waste to be landfilled in the respective counties/areas, by setting up proper systems to deal with each type of municipal waste, in order to protect the environment. At least 15 counties in Romania, not included in the first mentioned category, will benefit from specific waste streams investments.

Large-scale projects of integrated waste management systems are being prepared with ISPA support in 15 counties, aiming to receive EU financing after accession. Association of localities with the view to improve the waste management infrastructure in the respective county/area is a

pre-requisite for project approval. Additional funding for solid waste project preparation is available from PHARE.

An indicative list of major projects for this Priority Axis is presented in Annex 2. JASPERS support is also available for major projects under this priority axis.

The integrated waste management projects will cover also the existing wild dumps in rural areas and extended the waste collecting services in those areas. The main features of these wild dumps in rural areas are that the quantity of waste is rather small, as well their surface. Biodegradable and other type of waste (paper, wood) is used in households.

One of the problems faced in case of waste management projects under pre-accession programmes was linked with acquisition of land for investment. In order to tackle the issue of land acquisition, it was decided that the promotion of mature projects would be done under the conditions of existence of valid proof of land ownership. This will be ensured during the project selection process, through selection criteria, as well as through implementation of the provision of Art. 7 of the Council Regulation No 1080/2006 on ERDF, regarding the eligible expenditure for land purchasing, to help beneficiaries to solve the issue of land acquisition.

Having in view the “Not in my back yard” syndrome, more emphasis will be put on increasing awareness of population on waste management benefits. A special attention will be paid during projects selection to the status of environmental impact assessment procedure, which includes as important phase the consultation of the public concerned.

In addition to closure of non-compliant municipal waste landfills, some measures of closure/rehabilitation of *historically contaminated sites* with significant environmental impact are also envisaged with the aim to reduce the negative impact on the environment and people health. These measures should be seen as the first phase of a long-term strategy to recover the affected lands for further public investments or economic use or simply for the landscape recovery.

To this end, the MECC is currently preparing, based on a pilot study undertaken in 2005, a methodology for the identification of all contaminated sites and development of a risk analysis. A prioritisation of the inventoried damaged/contaminated sites, at national level, is foreseen with PHARE support.

Complementary funding for investments needed in the solid waste field will be ensured from state budget, external loans, from National Environment Fund as well as within PPP framework. PPP intervention takes place in relation with construction of new treatment and disposal facilities or concession of services for waste collection, recycling, transport and landfilling. To ensure a better coordination between SCF and domestic policy, appropriate mix of mechanisms might be employed for delivering some actions, where appropriate. This could help to reduce the administrative burdens of delivering and accessing funds. All PPP interventions linked with the SOP ENV will be settled following a transparent and competitive award procedure in accordance with the principles of the Treaty and the EU law.

As a complementary intervention to the SOP ENV intervention regarding the closure/environmental rehabilitation of historically contaminated/polluted sites, which have negative impact on natural environment and human health, Regional Operational Programme finances the rehabilitation of abandoned industrial sites, with the purpose of supporting business development. In this respect, the projects to be financed under ROP will include, in addition to

land restoration and cleaning, construction of public utilities and business infrastructure in order to be reused for economic and social purposes.

Municipalities, County Councils or Associations of municipalities are the beneficiaries of the interventions under this priority axis. The Ministry of Health will be the eligible beneficiary as regards medical waste facilities and equipment for treatment and disposal of medical waste resulting from the activity of approximately 300 hospitals subordinated or coordinated by the Ministry of Health and local authorities. The proposed project will aim to finance the purchase of medical waste neutralization plant (different capacities, proper waste produced by each category of hospital) develop spaces where plants are placed, construction works (spatial, lightweight construction, etc..) purchase additional technical facilities (operating unit / data storage, peripherals).

For the contaminated sites area of intervention, the list of eligible beneficiaries will also include the Ministry of Environment and Climate Change (for reimbursement of expenses incurred in Petrom privatization contract), CNADNR - National Road Administration for works of brownfields decontamination/ remediation, Ministry of Economy / SC Conversmin SA to finance investment closure/ rehabilitation/ preservation of historically polluted sites after mining industry activity.. Projects in the latter category may include multiple sites where it will be performed specific closing / conservation / rehabilitation activities.

Interventions where the beneficiary will be the Ministry of Environment and Climate Change will focus on decontamination of approximately 50 historically contaminated sites according to Petrom privatization contract. This project will include:

- Remediation sites amenities such as beating exploration and production sites for refineries, marketing storage, parks/ facilities E & P. The work is to eliminate / reduce contamination (existing soil groundwater and / or surface water) on the site, in order to bring the land to its original state in accordance with the legal provisions on environmental protection and / or specific requirements on the threshold concentrations pollutants to be achieved after decontamination.
- Works to abandon deep wells (access probe preparation, abandonment to prevent oil and gas leaks and interference of surface aquifers) and surface wells (effective decommissioning of surface equipment and related facilities, restoration / decontamination of land).

Interventions where the beneficiary will be CNADNR will target specific rehabilitation activities and rehabilitation of historically contaminated land (surface release and decontamination of contaminated soil).

Interventions where the beneficiary will be the Ministry of Economy / SC Conversmin refer to specific activities closing / rehabilitation / preservation of historically contaminated land mines and mining operations.

Project funding from the contaminated sites will be given to other relevant categories of beneficiaries, taking into account the maximum value for the indicators for this area of intervention (12 projects).

In addition, for projects initially financed from other sources (state budget, extra-budgetary funds) local public authorities may be beneficiaries of SOP funding, provided compliance with the institutional framework for projects financed by this Priority Axis (ADI membership, policy approval pricing, etc).

Support for project preparation, project management and supervision of works will also be given under this priority axis to those beneficiaries with less experience in the field. TA will be made available if needed.

Key Areas of Intervention

➤ *Development of integrated waste management systems and extension of waste management infrastructure*

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Acquisition and installation of selective collection systems;
- Construction of sorting, recycling and composting facilities;
- Acquisition of waste transport vehicles;
- Construction of municipal waste disposal facilities and transfer stations;
- Recovery of gas from landfills, where appropriate;
- Construction of adequate facilities for municipal hazardous waste (medical waste, electric and electronics waste, etc.) and other specific municipal waste streams (construction and demolition waste, etc.);
- Closure of non-compliant landfills;
- Technical assistance for project preparation, management and supervision, publicity and awareness campaigns (on selective collection, sorting, recycling, composting), institutional governance improvement, tendering and selection of waste services operators.

It should be noted that interventions related to the management of waste from large combustion plants that are subject to interventions under Priority Axis 3 are to be financed under that axis, as part of integrated projects, not as projects under Priority Axis 2.

In addition to the list of major projects included in Annex 2, it is expected to be funded approximately 21 non-major projects that will complement waste management systems at the county level. Also it is considering funding a project non-major medical waste treatment and disposal.

➤ *Rehabilitation of historically contaminated sites*

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Land restoration and cleaning using appropriate methods for specific type of contaminated sites, including polluted sites resulting from mining activities;
- Technical assistance for project preparation, option studies, management and supervision and publicity.

In addition to the list of major projects included in Annex 2, it is estimated the funding of approximately 10 non-major projects regarding the rehabilitation of historic polluted sites.

Indicators

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
New or completed integrated waste management systems at county/regional level	Number	0	2006	MECC	37
Old waste landfills and	Number	0	2006	MECC	1,500

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
dumps closed in rural areas (small)					
Old municipal waste landfills closed in urban areas	Number	17	2006	MECC	150
Pilot projects for rehabilitation of historically contaminated sites	Number	0	2006	MECC	12
Result					
Population benefiting from improved waste management systems	Number	0	2006	MECC	8,000,000

Detailed indicators related to the project implementation under this Priority Axis (i.e. for specific waste categories) will be provided in the monitoring system.

3.2.3 Priority Axis 3 “Reduction of pollution and mitigation of climate change by restructuring and renovating urban heating systems towards energy efficiency targets in the identified local environmental hotspots”

Objectives

- *Mitigation of climate change and reducing pollutant emissions from urban heating plants in the identified local environmental hotspots*
- *Ameliorate ground level concentrations of pollutants in the localities concerned*
- *Improve the health condition of the population in the localities concerned*

This priority axis will be supported by the Cohesion Fund.

Rationale

The reduction of emissions of harmful compounds into the air remains an important aspect of the national environmental policy, in spite of significant improvement in this field after 1990 when an economic decline was recorded and big polluters were closed. Romania obtained transition periods until 2013, respectively until 2017, for certain emissions (sulphur dioxide, nitrogen oxides and particulates) and certain installations under the large combustion plants Directive.

As well, by ratifying the Kyoto Protocol Romania committed itself to reduce the greenhouse gases emissions (GHG) with 8%, in first stage of commitment 2008-2012, as compared to the baseline year (1989).

Atmospheric pollution from urban heating systems has serious environmental consequences: climate change linked to greenhouse gas emissions, long-range transport of pollutants, damage to local air quality when conditions for atmospheric dispersion are poor. Romania still needs to make further efforts to reduce SO₂ emissions in order to comply with the requirements of the Gothenburg Protocol. In addition, major reductions in SO₂ emissions, as well as NO_x and dust emissions from Large Combustion Plant (LCPs), have to be recorded by 2013 in order to comply

with Directive No 2001/80/EC (a reduction of nearly four times from an interim ceiling of 540 thousand tonnes in 2007 to 148 thousand tonnes in 2013).¹⁹

Following the adoption of the GD No 586/2004, Romania is still in the process of developing the National System for Air Quality Assessment and Integrated Management in line with the requirements of the Air Quality Framework Directive. It is however clear that, in certain cases, urban heating plants, particularly LCPs, contribute to non-compliance with EU air quality standards. In relation to greenhouse gas emissions, Romania has benefited from the decline in industrial output. Nevertheless, the benefits from further reductions in greenhouse-gas emissions as a result of improved efficiency of heat generation and distribution in urban heating schemes are indisputable.

As indicated in the national strategy for energy, Romania is still significantly dependent on traditional fuels such as coal and fuel oil (46%) to provide the population in large agglomerations with heating and hot water services. The sulphur content of these traditional fuels is between 1.6% and 2%, so desulphurisation of emissions is the only way to enable these fuels to be used whilst achieving compliance with the Large Combustion Plant Directive (2001/80/EC).

According to the national strategy for thermal energy supply, 52% of the urban population benefits from centralised urban heating services and will be further connected to centralised systems in the medium and long term. This is mainly due to the increasing price of natural gas, the main alternative fuel; therefore, private facilities, usually based on natural gas - which is less polluting than traditional fuels - are not affordable to a large part of urban population.

Urban heating systems belong to territorial administrative units and are managed by the local public administrations, which are responsible for supplying the population with thermal energy. Investments in urban heating systems will have also a particularly importance for water system distribution network. The water needed for urban heating is supplied from water networks. Poor infrastructure of urban heating networks causes many times not only inefficient use of thermal energy, but also important losses in the water distribution networks. Investments for the rehabilitation of these two types of networks will reduce water consumption, ensuring a sustainable use of this valuable natural resource.

Strategy

Actions under SOP ENV envisage reduction of the negative impact on the environment and human health in those urban agglomerations that suffer most from pollution by old urban heating systems. Interventions will be based on a medium/long term local heating strategy. The main aim is to promote the *efficient use of the non-renewable energy sources* and, where possible, *the use of renewable or less polluting sources of energy for urban heating plants*.

Particular attention will be given to activities for upgrading of urban heating systems, which will lead to significant reduction of SO₂, NO_x and dust emissions in several environmental hotspots. In this context, the strategy is aiming to provide preliminary option studies, which will constitute the basis for the selection of investment activities.

An integrated approach will be taken to the implementation of projects in this Priority Axis, considering both demand-management and energy-efficiency measures and direct improvement

¹⁹ The required reduction in nitrogen oxide emissions from LCP is less dramatic, from 128 thousand tones in 2007 to 112 thousand tones in 2013.

of the environmental performance of urban heating boilers. The first element – demand-management and energy efficiency – also results in direct environmental improvement because it leads to reduction in pollution via a lower need for heat generation.

The main measures for achieving these proposed objectives and targets include the BAT-BREF implementation specific to LCPs for the purpose of desulphurization (DeSO_x) and reduction of CO₂ and nitrogen oxides (DeNO_x), reducing dust emissions from combustion gases and undertaking the required monitoring of the relevant pollutants. The co-generation alternative and use of renewable resources, less polluting, will also be supported where the option studies will indicate this solution.

Energy efficiency measures will concentrate on the rehabilitation of distribution systems, in line with Romanian Government policy. This policy for the restructuring of systems for thermal energy production and distribution is set out in the programme “*Urban heating 2006 – 2009, quality and efficiency*”. The objectives of this national programme are that centralized system for thermal energy production and distribution to meet a thermal efficiency of at least 80%, by eliminating the losses from networks for hot water and heating supply and by introduction of metering.

Under SOP ENV, projects may also include a public information campaign element, in order to encourage the up-take of energy efficiency measures, as these measures are not eligible from the Cohesion Fund and so cannot be supported under this Priority Axis.

Finally, in line with an integrated approach to environmental protection, projects under this priority axis may also include investment to improve the management of solid and liquid waste from urban heating plants in relation with the investment in reducing air pollution (notably the rehabilitation of slag and ash dumps).

The distinction between interventions regarding the LCPs under SOP ENV and SOP Increase of Economic Competitiveness is based on the character of the service provided, the main type of infrastructure and the type of beneficiaries. SOP ENV supports the LCPs within the municipal heating systems to reduce gas emissions at the level of the plant, as well as to improve the energy efficiency at the level of plant and distribution network, through retechnologization and reducing losses of hot water; SOP Increase of Economic Competitiveness finances LCPs providing electricity for the National Energy System for improving their efficiency and reducing gas emissions, in order to secure the electricity supply for the economy.

The selection of projects under this SOP ENV priority axis is based on a national strategy that prioritises interventions against pre-defined set of criteria, where reduction of the negative environmental impact, air pollution in particular, prevails. An indicative list of major projects (5 projects) for this axis is shown in Annex 2. In addition to the indicative list contained in Annex 2, is proposed to finance two non-major projects regarding the rehabilitation of district heating systems

The beneficiaries of this priority axis will be the local authorities of the selected municipalities or, as the case may be, their wholly owned urban-heating operating companies. Most of the municipalities that are potential beneficiaries under this priority axis already manage large investments, internationally co-financed, in relation with municipal public works. The assessment of the capacity of the beneficiaries to implement the SOP ENV operations will be based on an institutional analysis.

Besides the SOP ENV interventions, additional financing sources for urban heating systems will be attracted from external loans or within PPP arrangements.

Key Area of Intervention

➤ *Rehabilitation of urban heating systems in selected priority areas*

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Introduction of BAT (best available techniques) for SO₂, NO_x and dust reduction (de-SO₂, de-NO_x and reduction of dust emissions);
- Rehabilitation of boilers and turbines;
- Introduction of improved metering;
- Rehabilitation of non-compliant slag and ash landfills;
- Rehabilitation of heat distribution networks (including redesign of networks if justified by more cost-efficient reasons).
- Technical assistance for project preparation, elaboration of option studies, management, supervision and publicity, including public awareness campaigns.

Indicators

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Rehabilitated urban heating systems	Number	0	2006	MECC / MIAR	7
Option studies elaborated	Number	0	2006	MECC / MIAR	15
Result					
Localities in which the air quality is improved due to rehabilitated urban heating systems	Number	0	2006	MECC / MIAR	7
Reduction of SO ₂ emissions, from urban heating plants due to SOP interventions	Tonne	80,000	2003	MECC	15,000
Reduction of NO _x emissions, from urban heating plants due to SOP interventions	Tonne	7,000	2003	MECC	4,000

Detailed indicators related to the project implementation under this Priority Axis will be provided in the monitoring system.

3.2.4 Priority Axis 4 “Implementation of Adequate Management Systems for Nature Protection”

Objectives

- *Conserve biological diversity, natural habitats, wild species of fauna and flora*
- *Ensure efficient management of protected areas, including Natura 2000*

This priority will be supported by the European Regional Development Fund.

Rationale

The natural heritage of the Carpathian Mountains and the Danube basin are highly important for the entire Europe because of its unique flora and fauna, climate and landscape. Romania has a high level of flora and fauna species diversity. However, many plants and animal species are under pressure because of habitat fragmentation and excessive exploitation of the natural resources linked to economic development; the modification of the landscape is an important indicator for environmental deterioration. Amongst EU-25 and candidate countries, Romania is considered one with the highest number of endangered species.

From the EU perspective, Romania has to ensure the establishment of Natura 2000 network, in accordance with Birds and Habitats Directives and to prepare relevant protection measures for sites of community interest. Natura 2000 sites are estimated at about 15% of the national territory. As the future Natura 2000 network and its management will be closely linked to the national protected area network, appropriate management and monitoring system has to be developed and implemented for the entire protected areas network, supported by a **well-developed** management infrastructure.

In the same time it is also important to develop complementary measures to increase the conditions of habitats and species development through support dedicated to agricultural land restoration.

In order to develop the management framework for the protected areas, including Natura 2000 sites, there is a need to initiate and/or further develop several actions, such as: improvement/setting up of adequate administrative structures, development/review of management plans for protected sites, development of the specific infrastructure, establishment of monitoring systems, development of specific studies, inventories, maps, information and public awareness campaigns.

Strengthening the institutional system to provide control, law enforcement and sufficient capacity to prepare and implement management plans for protected areas is an essential need. The aim is to ensure effective management for protected areas, and thereby to stop degradation of biodiversity and natural resources and the associated risk for the environment and sustainable development.

To this end, a National Agency for Protected Natural Areas and Biodiversity Conservation will be set up during 2007. Support is needed for building financial, administrative and professional capacity of this Agency aiming to ensure a coherent long-term strategy and policy on nature conservation, and particularly to ensure effective management of the Natura 2000 system.

Support for Community co-financing for this priority axis is particularly important for Romania as significant financial burden is estimated in relation with Natura 2000 for measures needed to ensure the favourable conservation status of habitats and species of National and Community interest.

Strategy

Now that designation of protected areas (including Natura 2000) is nearing completion in Romania, the focus is moving towards the active management of the designated areas with an emphasis on strategic, long term development.

The purpose of this priority axis is to support biodiversity and nature conservation through development of an adequate management framework for protected areas, including Natura 2000 sites. This includes development of infrastructure for protected areas as well as maintenance, operation and monitoring activities. Raising public awareness for environmental protection and nature-friendly behavior – as basis for sustainable development – is also a key element considered.

This priority axis will support also measures to restore/increase surface area covered by forest vegetation, in particular to afforestation of degraded land unfit for effective agriculture according to Law 100/2010.

One of the benefits brought by these measures is the contribution to biodiversity protection, as the forest ecosystems represents the ground for habitats and species development. In addition to the positive influence on climatic conditions, the newly created forests contribute to increase local biodiversity by restoring habitats and ecosystems and creating transition zone favorable to the development of populations of insects, birds and mammals. These measure will also ensure better functional connectivity between ecosystems within and between Natura 2000 areas and in the wider countryside.

These measures (e.g.: afforestation) were designed also for ecological restoration of habitats and are in line with European and national strategic documents in the field of biodiversity protection.

The EU Strategy for Biodiversity propose to maintain and enhance ecosystems and their services. It is proposed that by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems.

The previous and updated National Strategy for Biodiversity introduce on the agenda the objective to protect, conserve and restore biological diversity through reconstruction ecosystems and habitats damaged. The specific measures envisage in particular afforestation of different type of lands whose usage is not appropriate to their purpose and where it is identified biodiversity losses.

Moreover, in order to ensure ecological balance at local, national and global afforestation is set as a national priority under the provisions of Forestry Code (Law 46/2008, art 88) and is implemented through National Afforestation Programme. In the same line, National Afforestation Strategy envisages strategic objective for sustainable management of forest resources with specific measure for improving the afforestation of 50,000 ha of degraded land unfit for agriculture.

The support granted by this measures covers the cost of technical documentation of afforestation (variable depending on forest area), works for planting (standard costs for the three types of area - plains, hills, mountains and the two categories of land - agriculture, non-agricultural), maintenance of plantations (which are increasing every year if planting pace is respected).

Particular support is envisaged for the preparation and implementation of management plans. This includes sections of spatial framework, inventory (natural features and socio-economic information), planning and management tools, including definition of environmental units and their evaluation, proposed zoning (reserve, priority for conservation, restricted use and general use), management objectives and guidelines. The latter provides for relevant legislation, human activities compatible with conservation, habitat improvement measures.

Linked to the overall purpose for nature conservation, support to the new National Agency for Protected Natural Areas and Biodiversity Conservation for strengthening its administrative capacity is also foreseen.

This priority axis will contribute to achieving of compliance with Birds and Habitat Directives in connection with setting up of the Natura 2000 network.

Actions will be coordinated between SOP ENV and National Rural Development Programme as well as with the Operational Programme for Fisheries, in relation with Natura 2000 network and afforestation measures, with a view to securing compensatory payments in line with EC Regulation No 1698/2005 and EC Regulation No 1198/2006 related to activities that serve environmental preservation.

PHARE TA is available for the preparation of a pipeline of projects to be proposed for ERDF financing under this priority axis. These projects will be developed within a large partnership framework, involving all the stakeholders, especially environmental NGOs. The consultation process will be coordinated by the IBs, as well as by the Regional Environmental Protection Agencies.

Also, during the preparation of the management plans for protected areas, to maximize the benefits of the management plans, the recommendation of SEA evaluator to involve in the public debate all the stakeholders that develop activities (such as owners in protected areas or stakeholders in the vicinity of protected areas) will be fully considered. Additionally, training for stakeholders and public awareness campaign for each biodiversity project are envisaged.

As the environmental NGOs can play a very important role in assuring the management within the protected areas, including for Natura 2000 sites, SOP ENV will encourage their involvement as potential beneficiaries for the operations financed through this Priority Axis.

Administrators or custodians of protected areas, National Agency for Protected Natural Areas and Biodiversity Conservation (NAPNABC), Biosphere Reserve “Danube Delta” Administration, public administrations, NGOs, research institutes, universities, museums are foreseen as beneficiaries for this priority axis. For those protected areas without administrator, the management responsibilities belong to the NAPNABC and/or the LEPAs.

The selection of projects under this priority axis will be done on a competitive basis, following calls for proposals.

Also for projects regarding ecological restoration through afforestation measures, initially funded from state budget, the beneficiary will be Ministry of Environment, Waters and Forestry, through Regional Department for Forestry and Hunting.

As an exception, the selection of projects for afforestation measure under this priority axis will be done using a dedicated call for proposals, with unique beneficiary.

Key Area of Intervention

- *Development of infrastructure and management plans to protect biodiversity and Natura 2000*

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Assistance in the preparation of management plans, scientific studies, inventories, mapping;
- Training and institutional capacity building of the Natura 2000 sites and protected areas management bodies;
- Ecological restoration of habitats and the reinforcement of species population (including afforestation of degraded land unfit for effective agriculture);
- Construction and improvement of infrastructure of national protected areas and Natura 2000 sites (building of visitors' and informational centres and information panels, risk management – fire prevention and control, etc.);
- Biodiversity support: reducing impact of infrastructure improvements on species affected by fragmentation of landscape (realisation of measures designed to overcome barriers on rivers and motorways);
- Setting up of the monitoring systems for the Natura 2000 sites and protected areas, including infrastructure and equipment for monitoring of the natural habitats and flora and fauna species conservation status;
- Preparation of information and publicity materials, awareness raising for the protected areas and Natura 2000;
- Acquisition of high biodiversity value land in order to become state public property.

Cross-financing (as defined in art. 34(2) of the Council Regulation No. 1083/2006) may be used within this priority axis, if needed.

Indicators

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Protected areas and Natura 2000 sites, with management plans in force	Number	3	2006	MECC / NEPA	240
Result					
Surface of protected areas and Natura 2000 sites benefiting from nature conservation measures	% of protected area surface	0	2006	MECC / NEPA	60

3.2.5. Priority Axis 5 “Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas”

Objectives

- *Contribute to a sustainable flood management in most vulnerable areas*
- *Ensure protection and rehabilitation of Black Sea shore*

This Priority Axis will be supported by the Cohesion Fund.

Rationale

Romania has been highly suffering from damaging floods over the past decade. Floods that occurred on an extended scale during 2005 and 2006 were of particularly catastrophic nature, affecting over 1.5 million people (93 people killed) and damaging an important part of the infrastructure. The flood caused damage was estimated in 2005 and 2006 at more than Euro 2 billion.

The recent flood events in Romania revealed weaknesses of the national and local administrations both in flood protection techniques and in response capacity after flood events. Therefore, Romania needs to change the flood management approach from the “passive action” to a “pro-active action” in order to reduce the potential havocs and the vulnerability to floods.

In this context, it is noted that the implementation of the Water Framework Directive No 2000/60/EC aims to establish a framework for the surface, underground and coastal waters protection. As well, the EU initiative to elaborate and implement an action programme concerning risk prevention, protection against flood and mitigation of risks and flood effects is particularly important. Within this working frame, it is mentioned that Member States need to elaborate flood risk management plans and risk maps for each hydrographic basin and coastal area in which the human health, the environment or the economic activities may be affected by the flood.

Another natural risk affecting the environment is associated with the erosion of the territorial coastline of Romania extending over about 240 km along the northwestern side of the Black Sea. In the past several decades, the Romanian Black Sea shore has been suffering from serious beach erosion problems. According to recent studies conducted by the National Research Institute for Sea Development, the northern side of the Romanian coastal area, which is designated as the Danube Delta Biosphere Reservation, is mostly affected (about 2,400 ha of beach lost over the past 35 years). The southern part is also in danger where the economic activity, including the tourism industry, is particularly strong. The coastal erosion not only threatens the tourism industry in summer season through the loss of beach area, but also endangers the safety of housing and public welfare.

Urgent measures are needed with a view to implement preventive measures against floods and coastal erosion.

Strategy

Risk prevention, a key element in Community Strategic Guidelines and EU regulations, is now more necessary than before due to increases in intensity of natural hazards. Therefore, a pro-active approach is needed to provide for safeguarding houses, assets and natural resources, as well as economic activities, in the areas with high-risk potential.

Support under this priority axis will focus on investments providing for adequate level of ***protection against floods*** by improvements of the economic, environmental, ecological and conservation status in the most vulnerable flood areas. The target areas for intervention will be

selected according to the relevant strategies on national and regional level. An indicative list of major projects (2 projects) for this axis is shown in Annex 2. In addition to the indicative list contained in Annex 2, it is estimated the funding of approximately 19 non-major flood protection projects.

Seen as a risk factor, rainfall may generate severe weather situations or abundant amounts on short sequences of time and can generate strong flash-floods.

In order to achieve a better protection status against floods, certain prevention measures are envisaged (e.g.: forecast and meteorological infrastructure investments). These will contribute to prevention actions in the occurrence of flooding and will help protect lives and reduce economic losses as much as possible.

These activities are consistent with the specifications of the National Strategy for Flood Risk Management medium and long term (approved by Government Decision no. 846/2010), regarding NMA responsibility for addressing flood risk by ensuring vigil weather forecasts and elaborating issue weather warnings and disseminate meteorological data and warnings.

According to information provided by the National Administration "Romanian Waters" (ANAR), new national system hydrological forecasting and warning is now in an advanced stage of implementation in Romania, namely the project DESWAT. Weather and hydrological modelling system is based on meteorological data provided ANM (estimates of rainfall - provided by the radar of the national network for weather monitoring and weather forecasts provided based on numerical models). All these data are used as input for hydrological forecasting systems and also to simulate hydrologic processes at different spatial and temporal scales. Using data provided by national meteorological network, upgraded due to the implementation of the project proposed by NAM, will contribute significantly to improve both the accuracy and the time and issuing hydrological forecasts and warnings, especially for small scale of floods (e.g. flash floods) and will ultimately support the institutions responsible for emergency management to avoid loss of life, and to generally reduce the damages caused by floods, particularly for extreme flood events.

In order to prevent flash floods, it is necessary to support works executed for torrents correction which, besides protecting forest land, ensure protection of water accumulation, villages, roads and rail transport infrastructure, other economic and social policy objectives and provide support for eco-hydrological restoration by strengthening banks and slopes in these basins.

Works for torrents correction are done with the declared purpose to mitigate flood waves, earthworks retention in sediments carried by flash floods, land consolidation bed adjacent rain forest roads and embankments basins etc.

Hydro technical solution to plan hydrographic network is designed in a series of several transverse hydraulic structures (dams) connected downstream of the first dam through a discharge channel. These transversal works shall have the following functions: regulation and strengthening river bed; flood control and retention of flood brought silt; creating favourable conditions for installation on forest vegetation on embankments of works and sources of alluvial land on shore.

Complementary measures are envisaged to enhance the actions and efforts of the competent authorities (e.g: General Inspectorate for Emergency Situations - GIES) in order to increase the endowment with intervention means, equipment, apparatus and material structures operative intervention to provide efficient emergency management caused by floods and hazardous meteorological phenomena

As a first step, a long-term strategy for flood risk management will be updated with PHARE support. This strategy will take into account the results of the research activities supported by the European Commission and the proposed Directive on floods. Particularly, the strategy will lead to a revision of the traditional, expensive, follow-up approach of flood fighting and the formulation of a programme for flood control development based on the concept of preventive flood mitigation.

The development of the first priority investment projects on flood risk prevention, to be proposed for EU co-financing, are supported from Phare, but also from national resources. Complementary actions in the field of flood risk management are envisaged under the National Rural Development Programme. While SOP ENV intervenes at the level of national watercourses, which are managed by National Administration of Romanian Waters, through specific works, the NRDP finance the interventions at the level of local small water streams presenting flood risk.

Moreover, the Regional Operational Programme will support the county units for emergency interventions by providing them with adequate endowment for efficient after flood management and other natural risks (earthquakes, erosion). Additional funding for supporting flood prevention measures is ensured from state budget.

Under this priority axis, support will be also given for the protection and rehabilitation of the southern Romanian Black Sea shore, aiming at stopping the *coastal erosion* and protecting the assets value of coastal zone and the safety of housing in the area. An indicative list of major projects under this priority axis is presented in Annex 2.

A master plan and a programme for Romanian Black Sea Coast protection with the horizon time by 2020 is near completion. Feasibility studies are currently being prepared with JICA support. Complementary investments under the national Programme for Black Sea protection will be supported from external loans and will cover the northern Black Sea shore.

The National Administration of Romanian Waters will benefit of interventions under this priority axis. NARW will submit applications for financing in line with the national priorities and with the detailed provisions and requirements indicated by the MA. NARW is an experienced organisation in implementation of large-scale investments of similar nature with the interventions indicated under this priority.

The National Weather Administration will be eligible for specific investments in flood risk prevention through the development of forecasting and meteorological warning system.

The National Forestry Administration (ROMSILVA) will be eligible for specific investments in flood risk prevention through works for torrents correction, funded initially from other sources (ex: budget state). The prioritisation, selection and support of these measures is done in accordance with programme objectives and strategy.

The General Inspectorate for Emergency Situations will be eligible for specific investments in flood risk management through development of adequate infrastructure to ensure efficient emergency management caused by floods, hazardous meteorological phenomena.

Key Areas of Intervention

➤ Protection against floods

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Infrastructure for flood prevention and reduction (including preparedness and response) of the destructive consequences of floods;
- Development of hazard and flood risk prevention maps, plans and measures, including public information and training in reducing risks;
- Technical assistance for project preparation, management, supervision and publicity.

➤ **Reduction of coastal erosion**

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Rehabilitation of Black Sea shore affected by erosion;
- Technical assistance for project preparation, management, supervision and publicity.

Indicators

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Projects on floods protection	Number	0	2006	NARW	21
Kilometres of seashore rehabilitated	km	0	2006	NARW	10
Result					
Population benefiting from floods protection projects in the SOP intervention areas	Number of inhabitants	0	2006	NARW	1,500,000
Reduction of incidence to floods risk in the SOP intervention areas	%	100%	2006	NARW	30%
Extension of coastal area	%	0	2006	NARW	30

3.2.6. Priority Axis 6 “Technical Assistance”

Objective

- Consolidate the system for management, monitoring, control and evaluation of SOP ENV implementation
- Ensure appropriate information to potential applicants about financing opportunities under SOP ENV
- Ensure the transparency in terms of financial assistance granted by Funds under SOP ENV framework

The establishment of this priority axis of SOP ENV was done in accordance with Article 44 of the Council Regulation No 1083/2006 laying down general provisions on ERDF, ESF and the Cohesion Fund. The *Technical Assistance Priority Axis within the SOP ENV is complementary to the Technical Assistance Operational Programme, managed by the Ministry of Economy and Finance.*

The technical assistance priority axis under SOP ENV will provide specific assistance for project identification, monitoring, evaluation and control, as well as for communication activities ensuring appropriate publicity of the programme interventions. This specific assistance is to be

complemented with horizontal assistance tools from Technical Assistance Operational Programme for the common needs of all structures and actors involved in the management and implementation of the structural instruments, with developing an effective single management information system able to provide also transparent information on fund absorption, with horizontal activities aiming at general public awareness on the role of the Community support and an overview understanding of the interventions of structural instruments.

This priority will be supported by the European Regional Development Fund.

Rationale

The aim of this priority is to ensure an efficient implementation of the entire SOP ENV. It will contribute to the increase of absorption capacity of EU funds by supporting projects identification, strengthening the administrative capacity of the Managing Authority and Intermediate Bodies, financing the activities regarding monitoring, evaluation and control for projects, as well as information and publicity actions for SOP ENV. A special attention will be paid in supporting projects identification to exchange information with the European research community in environmental field and transfer of “state of the art” knowledge. The studies developed for supporting project identification will fully consider the available data on innovation and friendly environmental technologies. Support for preparation of the next programming period interventions needed for environmental protection is also needed.

Strategy

The support for *SOP management and evaluation* will ensure technical and financial assistance for the process of designing, monitoring, evaluation and control, in order to ensure an effective implementation of the SOP ENV. In addition, information and evaluation activities aiming to support an effective and efficient transfer of knowledge and experiences resulted from research activities will be supported using as tools demonstration activities, information exchange platforms, specific training programmes. Having in view that water sector receives the highest contribution among SOP ENV priorities, attention will be paid to innovative solution that can help the development of an efficient management of water / wastewater facilities. In this respect, setting up information exchange platforms represent useful tools that can bring together all the relevant actors, such as scientists, engineers, decision makers and public and all the relevant economic sectors (industry, agriculture, rural development, etc.) that ensures direct interaction between all parties involved and a clear participatory structure for designing scenarios and technical-organisational solutions to the problems of water supply and wastewater management. Also, specific training and education programmes to overcome restrictions in the process of introduction of novel water technology, and to help those who will later on be responsible for the operation of technical devices and systems will be organised under this field of intervention.

The support for *information and publicity* of the programme will enhance the promotion of operations and will be applicable to all priority axes from SOP ENV. Information and publicity of the interventions financed from SOP ENV, both for general public, main stakeholders and potential beneficiaries (including regional, local and other public authorities, economic and social partners, NGOs, operators and promoters of the projects, any other interested factor), are intended to highlight the Community role and the transparency of financing opportunities under Structural and Cohesion Fund in the environment field.

Managing Authority and Intermediate Bodies are beneficiaries under this priority axis.

Key Areas of Intervention

➤ **Support for SOP ENV management and evaluation**

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Support related to Monitoring Committee meetings;
- Preparation of the necessary documents/strategies for project identification and justification;
- Preparation, appraisal and monitoring of the Programme and of individual operations, including the support of Intermediate Bodies for such activities, using consultancy services when needed;
- Preparation of audits and control missions and 'on the spot' checks;
- Evaluation of the SOP ENV, including on-going evaluations;
- Preparation of studies, analyses and reports focused on the monitoring of the impacts of the programme implementation, analyses of the effectiveness of the implementing structures, identification of the programme bottlenecks with the aim to formulate recommendations for operative improving effectiveness of the programme management;
- Training activities on the management of structural fund projects for the MA, IBs, beneficiaries;
- Acquisition of specific IT applications for SOP ENV;
- Remuneration of contractual staff to implement the above mentioned tasks;
- Thematic studies linked to SOP ENV implementation; thematic studies needed for preparation of environmental strategy for the next programming period;
- Demonstration activities aiming to apply state of the art concepts of integrated water management solutions and innovative technologies in environmental fields connected to key areas of intervention of the SOP ENV;
- Support for establishment of dissemination and information exchange platforms;
- Development and implementation of training and education programmes for staff adaptation to innovative technologies.

➤ **Support for information and publicity**

The operations to be developed under this key area of intervention will finance the following indicative activities:

- Elaboration and implementation of the Communication Plan of SOP ENV;
- Consultancy services for elaboration of information materials, preparation of assessment reports for the SOP ENV;
- Publicity and information activities – organization of workshops, preparation of information materials, development and update of the SOP's web site, dissemination of information materials, brochures, etc. for the general public as well as potential beneficiaries for SOP interventions.

Indicators

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Type of leaflets /brochures disseminated	Number	1	2006	MA SOP ENV	200

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Press conference	Number	0	2006	MA SOP ENV	20
Monitoring Committee meetings organized	Number / year	0	2006	MA SOP ENV	2
Call for proposals supported by TA	Number	0	2006	MA SOP ENV	5
Staff trained	Number /year	270	2006	MA SOP ENV	400
Applications assessed with TA support	Number	0	2006	MA SOP ENV	50
Evaluation reports	Number	0	2006	MA SOP ENV	2
Thematic studies / strategies	Number	0	2006	MA SOP ENV	10

3.3. Coherence and Consistency with Community and National Policies

3.3.1. Community Policies

SOP ENV was elaborated according to the community policies reflected in the following documents:

- Community Strategic Guidelines for Cohesion Policy 2007–2013
- Renewed Lisbon Agenda
- the 6th Environmental Action Programme
- the EU Sustainable Development Strategy

Community Strategic Guidelines for Cohesion Policy 2007 – 2013

In line with the Council Decision on Community Strategic Guidelines (CSG), SOP ENV addresses the deficits in basic infrastructure networks, as well as strengthening institutional and administrative capacity, in order to stimulate growth potential, so as to achieve and maintain high growth rates.

The investments foreseen to be financed under SOP ENV contribute to the economy growth through:

- ensuring the long-term sustainability of economic growth; in this respect SOP ENV will aim at improving accessibility to public utilities, with impact on increasing the attractiveness for business development, as well as safeguarding the economic activities in place, through risk prevention measures;
- decreasing the external environmental costs of the economy; the interventions financed under SOP ENV will reduce these costs either through supporting the introduction of technologies which reduce the level of pollution (in the water and waste management, as well as in the district heating systems) or through preventing natural risks and the economic costs which these may entail;
- stimulating the innovation and job creation (both on short and medium-term, during the project implementation, and on long-term, in relation with the management and running of the new constructed facilities – on water, waste, nature protection - many of these being based on innovative management systems).

Taking into account that Romania is eligible under Convergence objective and SOP ENV contribute to achieving the Romanian strategic goals established under this Objective through the National Strategic Reference Framework, the provision of environmental services is given high priority. In compliance with the recommended guidelines of CSG, the SOP ENV is oriented towards the significant needs for investments in environmental infrastructure in order to fulfil the acquis requirements in the fields of water (Priority Axis 1), waste (Priority Axis 2), air (Priority Axis 3), nature and species protection and biodiversity (Priority Axis 4). Moreover, a specific attention is given to risk prevention measures, especially as regards floods management, the natural risk that was identified in Romania as having the largest impact on population safety, as well as on economic activities, both through the costly damages and negative impact of the economic activities (Priority Axis 5).

SOP ENV will bring an important contribution to the achievement by Romania of the global objectives established for the new EU cohesion policy, such as speeding up the convergence of the least-developed Member State and regions by improving conditions for growth and employment through the protection and improvement of the environment as well as of the administrative capacity. In this regard, synergies of SOP ENV with other OPs within the NSRF framework that contribute to increasing and improving the quality of human capital, the

development of innovation and knowledge society, the adaptability to economic and social changes are considered.

In line with EU Cohesion Policy, SOP ENV contributes *to strengthening economic integration* by developing water and environmental infrastructure and enhancing access to services of general interest, by improving governance for a better quality of public policy, and by raising the skills of Romanian citizens in a growing sector as environmental protection.

Renewed Lisbon Agenda

SOP ENV is linked to the Renewed Lisbon Agenda objectives, related to growth and jobs. Providing basic water and environment infrastructure in the regions is a pre-requisite for long-term business development and more and better jobs creation. In the 4th Report on Romania and the Lisbon Agenda²⁰, it is mentioned that Romania's performances should be judged realistically, since the Romanian performances are not even close to those of EU-25 in most regards of the Lisbon Agenda and the Romanian priorities has to fit to the specific challenges. In order to address job creation and support for R&D as well as reform of the welfare state are important, however Romania has to deal primarily with economic restructuring, consolidate disinflation and improve the basic framework for business environment. Therefore, basic infrastructure is a key element for enhancing economic development in Romania.

SOP ENV will contribute to Lisbon priorities by putting a greater emphasis on:

- *Investing in urban and rural areas and thereby increasing their growth potential.* Further business development is envisaged by providing water, sanitation and heating infrastructure as well as by preserving the value of natural heritage in regions with potential to catch up rapidly with the rest of the EU, but where domestic funds are insufficient to open such opportunities.
- *Supporting the implementation of coherent strategies over medium to longer term in the field of environment,* by using the opportunity to apply a stable seven-year investment programme as basis for long term, sustainable development.
- *Developing synergies and Complementarities with other OPs within NSRF and other national policies.* Compliance with the environmental acquis and with the broader aims of sustainable development promoted in other OPs is strongly supported.
- *Mobilising additional resources.* Activities supported by SOP ENV leverage additional national resources, both public and private, for use in coherent national and regional development strategies.
- *Improving governance and innovative management systems.* SOP ENV priorities are designed to favour improvements in institutional capabilities in environmental field protection, in public policy design and implementation; in dissemination of a programme evaluation culture; in providing opportunities for PPP arrangements; increasing transparency in policy making decisions; enhancing regional cooperation; co-operation in assessing environmental effect of SOP ENV operations with cross-border impact; in exchanging of best practices and using benchmarking performance indicators across regions.
- *Promoting an integrated approach at regional level.* SOP ENV helps creating sustainable development actions by ensuring that economic, social and environmental factors are integrating in the regional strategies and plans for development of water and environmental infrastructure in urban and rural area.

²⁰ Group of Applied Economics (GEA): "Romania just before Accession – Sustaining growth and fostering jobs in an emerging economy" (4th Report on Romania and the Lisbon Agenda), Bucharest, November 2006.

Sustainable development

SOP ENV is closely linked to the **EU Sustainable Development Strategy and the 6th Environmental Action Programme (2001–2010)**.

The priority fields, which define the strategic actions for the environmental policy at European level in the 6th Environmental Action Programme (biodiversity and nature protection, health issues in relation with environmental quality, preservation of natural resources and waste management), are reflected in the priority axes of SOP ENV. In this respect, SOP ENV envisages sustainable investments in environmental infrastructure through development of regional management systems of water and waste utilities, and the development of management systems for nature protection and flood prevention.

In addition, SOP ENV includes the priorities established in the EU Sustainable Development Strategy as regards the responsible management of natural resources and human health. These will be achieved through attaining the appropriate standards of water supply and increasing the access of population to water and sewage systems, as well as through development of integrated management systems for waste and reducing air pollution in some hot spot areas.

All projects financed through SOP ENV will contribute to the protection and improvement of environment quality through ensuring the observance of polluter pays principle, precautionary and prevention principles. These projects will have to comply with the national legal provisions, harmonized with Community provisions on environmental impact assessment.

Equal opportunities

The environmental protection field complies both with the national legislation as regards the provisions on the equal opportunities and the *acquis communautaire*, by ensuring to all citizens the right to work, as well as the assertion of women in equal social conditions with men, benefiting, at an equal work volume, of equal salaries, as well as special protection measures.

New and particularly, better jobs, are created for both women and men through the environmental protection projects.

Integration of gender policies into sectoral policies, as well as the development of a „gender equality” culture will be promoted by carrying out joint actions of all stakeholders in public and private sectors, including the civil society, actions which will ensure the framework for the implementation of equal opportunities policy as a horizontal requirement.

MA for SOP ENV will promote and apply the principle of gender equality according to the provisions of the Law No 202/2002 on equality between men and women. In this respect, all the competition for employment of staff at MA and IBs has been done giving equal opportunities to men and women and the future competition will obey the same rules.

The equality principle will be applied for ethnic minorities, as well. The beneficiaries/contractors are obliged to comply with the legal provisions on gender equality and ethnic minorities, ensuring equal opportunities in job competition for all, without any kind of discrimination.

The SOP ENV will contribute to the improvement of living standards for Romanian citizens, including Roma people and other disadvantaged groups. When developing projects, a special

attention will be paid to the needs and interests of Roma communities located in the project area, either in terms of endowment with public utilities, or in relation with the possibility of using them as labour force for the new jobs created through the projects. Thus, SOP ENV will support the achievement of the Governmental programmes and strategies, approved by the GD No 522/2006, aimed at improving the Roma situation and integration, especially by improvement of their access to water and sewage systems.

Public procurement

The procurement of all contracts financed through SOP ENV shall be done in compliance with EU legislation and primary and secondary national legislation implementing the EU provisions on public procurement.

In order to ensure coherence with EU procurement policies, the Romanian authorities transposed the Directives No 17/2004/EC and No 18/2004/EC, by adopting the Law No 337/2006 for approving the Emergency Government Ordinance No 34/2006 on awarding of the public procurement contracts, public works concession contracts and services concession contracts. The secondary legislation was also adopted. This legislation also takes into account the provisions of the Commission interpretative Communication on concessions under Community law of 29 April 2000 and the Commission interpretative Communication on the Community law applicable to contracts awards fully or not fully subject to the provisions of the public procurement directives of 1 August 2006.

To enforce the legal provisions, the National Authority for Regulating and Monitoring Public Procurement (NARMPP) was set up. This body has the role to develop public procurement strategies, ensure coherence with Community acquis, ensure conformity in the application of legislation, fulfil EU Directive obligations, monitor, analyse and evaluate the methods used for awarding public contracts, as well as advice and train personnel involved in procurement activities. The NARMPP has set up the framework for Romanian national procurement methodologies and is providing advice and support.

Therefore, NARMPP has the following responsibilities:

- the elaboration of the strategy in the public procurement field;
- ensuring a coherent and harmonized national legal framework with the community acquis in the field of public procurement, by regulating the procedures for awarding public procurement contracts;
- ensuring a coherent application of the legislation in the field of public procurement by developing the implementing capacity at the level of the contracting authority;
- the fulfilment of the correlative obligations derived by applying the provisions of the EU Directives in the field of public procurement;
- monitoring, analysis, evaluation and supervision of the methods used for awarding public procurement contracts;
- ensuring a permanent communication channel with the structures within the European Commission, with the correspondent institutions from the member States of the European Union and with the national public interest organisms and representing Romania within the Consultative Committees, working groups and communication networks organised by the European Commission;
- methodological counselling of the contracting authorities in the process of awarding public procurement contracts, having a supportive role in order to ensure the correct application of the legislation in this field;

- initiation/sustaining projects or actions for training the personnel involved in specific activities related to public procurement, having a supportive role in developing the implementation capacity of the legislation at the level of the contracting authorities.

All public procurement contracts will be awarded in compliance with the new harmonised national legislation. The principles applied in contracting are: non-discrimination, equal treatment, mutual recognition, transparency, proportionality, efficiency of used funds and accountability.

The general procedures for concluding public procurement contracts are the open and the restricted tender. Only as exceptions, the competitive dialogue, the direct negotiation or offer request, the framework agreement, the electronic auction and the dynamic purchasing system are foreseen by the law. The General Inspectorate for Communication and Information Technology is the operator of the electronic system for public procurement (ESPP).

The contracts are published in the ESPP, in the National media and, where the relevant thresholds under Community Directives are applicable, in the Official Journal of the European Communities.

The eligibility and selection criteria make reference to the personal situation, the ability to exercise the professional activity, the economic and financial situation, the technical and/or professional capacity, quality assurance and environmental standards. The awarding criteria are: the most economically profitable offer or, exclusively, the lowest price.

The NARMPP provides training, courses and seminars for the main purchasers from central and local level, including institutions involved in the management of the SCF and potential beneficiaries.

The ex-ante control system in the public procurement field has become functional through the Emergency Government Ordinance No 30/2006 and the Government Decision No 942/2006 for approving the methodological norms for EGO No 30/2006. In this respect, the Unit for Coordination and Verification of Public Procurement (UCVPP) within the Ministry of Economy and Finance has been appointed as the body responsible for ensuring ex-ante verification of public procurement procedures, including those carried out under the Structural and Cohesion Funds programmes.

UCVPP works together with the NARMPP, the Managing Authorities and with any other public institution in the field of public procurement.

In order to improve the quality of the public procurement system and to ensure the compliance with the national legislation in the field, the Ministry of Economy and Finance, through its specialized structures at central and territorial level, verifies the process of contract awarding based on risk analysis and on a selective basis. For performing the task of verification, UCVPP shall appoint observers during all stages of the public procurement procedure. The observers will issue activity reports and if they detect inconsistencies during the procedure they will give a consultative opinion. The opinion will be sent to the NARMPP as well as to the authority hierarchically higher to the contracting authority. In case of projects financed through Structural and Cohesion funds, the opinion and the activity reports are sent also to the competent Managing Authority.

The contracting authority has the responsibility for the decisions made during the process of awarding public procurement contracts. The decisions made by the contracting authority are sent to the NARMPP and UCVPP.

This established system on the ex-ante verification procedure, as part of the entire management system of the SCF, is ensuring the efficiency and effectiveness of the use of the Funds by guaranteeing the compliance of the public procurement procedure with the national legislation and with the EU directives.

Any PPP intervention linked with SOP ENV will be settled following a transparent and competitive award procedure in accordance with the principles of the Treaty and the EU law.

Competition and State Aid

SOP ENV has been developed having regard to the Community rules on State aid. The provisions of Articles 87 and 88 of the Treaty in relation to state aid rules will be fully respected. Any public support under this programme must comply with the procedural and material State aid rules applicable at the point in time when the public support is granted.

Acting in accordance with its competence set out in the national legislation, the Competition Council, the national State aid authority²¹, has provided support to the OP Managing Authority in respect of State aid applicable rules and it is providing on-going operational advice and guidance, including the process of drafting normative or administrative acts by which state aid measures are instituted.

The Competition Council, acting as the Contact Point as regards State aid, between the European Commission on one side and Romanian authorities, State aid's grantors and beneficiaries on the other side, shall ensure the strict observance of the notification requirements. With regard to the block exemption regulations, all information required by the relevant regulations will be provided.

Notifications of state aid measures, respectively information on state aid measures subject to block exemptions, are submitted for consultative opinion to the Competition Council. Subsequently, the Competition Council will submit these notifications /information to the European Commission, through Romania's Permanent Representation to the European Union. Authorities, grantors and state aid beneficiaries are obliged to provide to the Competition Council all the required information, in order to be sent to the European Commission. For those operations where the public financing constitutes aid but does not fall under the above mentioned categories (e.g. "de minimis aid"), the relevant authorities will ensure compliance with the state aid regulations and procedures.

Within the programming period, the schemes designed by the granting authorities and /or ad hoc aid will be submitted to the Commission, whenever the EC rules request an *ex-ante* approval from the Commission. Specific obligations with regard to individual notification of aid granted under aid schemes will be respected. The Competition Council cooperates with the authorities, other state aid grantors and beneficiaries and supports them towards an adequate implementation of the *acquis communautaire*.

²¹ Competition Law No 21/1996, republished and the Government Emergency Ordinance No 17/2006 on the national procedures in the field of State Aid

Managing Authority will have the full responsibility to ensure compliance with State Aid rules in the context of Structural and Cohesion Funds. The actual implementation will be the responsibility of the Managing Authority. Questions demanded of applicants, the guidance given, as well as the provisions of the financing agreement will ensure that the applicants understand the limitations on assistance given and provide sufficient information to highlight any potential problems and corresponding obligations. Procedures will ensure that compliance is checked during claim checks and on the spot checks during verification and certification.

The SOP Annual Implementation Reports will detail the measures undertaken in order to ensure the compliance of all operations with State Aid rules with respect to the provisions of block exemptions (referring to: small and medium-sized enterprises, employment, training, SGEI and transparent regional investment state aid), “de minimis aid” and other types of state aid under notification obligation (such as: research, development and innovation state aid, regional state aid, risk capital, environmental state aid, etc.) In addition, any information required by the Commission and by the World Trade Organization regarding state aid schemes, individual state aids or “de minimis aid” shall be provided according to the applicable rules.

3.3.2. Coherence with national policies

In the context of Romania’s accession to European Union, SOP ENV represents one of the most important programming documents, which contribute to the implementation of sectoral and national environmental strategies, while observing the national development priorities as established through the National Development Plan 2007-2013 (NDP) and the strategic priorities for Structural and Cohesion Funds established in the National Strategic Reference Framework (NSRF). Thus, the priority axes of SOP ENV are in compliance with the Priority 3 “Protection and improvement of environmental quality” of the NDP 2007-2013, and the thematic priority “Develop basic infrastructure to European standards” of the NSRF. At the same time, SOP ENV is complementary to Romania’s other development priorities that lead to the sustainable development of the country.

Also, SOP ENV is based on the strategic objectives and priorities established in the national strategies/documents:

- National Environmental Action Plan;
- Complementary Position Paper for Negotiation Chapter 22 – Environment – and related sectoral Implementation Plans;
- Romania’s Sustainable Development Strategy until 2025;
- National Strategy for Waste Management;
- National Plan for Waste Management and Regional Plans for Waste Management;
- National Strategy for Protection against Floods;
- National Strategy for Atmosphere Protection.

3.4. Complementarity with other Operational Programmes and Operations Financed by EAFRD and EFF

Priority axes of SOP ENV are complementary to other key interventions financed through the other Operational Programmes (SOP Increase of Economic Competitiveness, ROP, SOP Human Resources Development, OP Technical Assistance), as well as from National Rural Development Programme and Operational Programme for Fisheries. Moreover, other

interventions that contribute directly to the improvement of the quality of environment or have a positive impact on the environment are foreseen in the other OPs.

Water and wastewater infrastructure

The investments in water and wastewater infrastructure are based on the Regional Master Plans. These Master Plans are planning documents for water and wastewater infrastructure, developed at regional / county level, which identify the geographic area (usually, at county level) where the management of water resources and wastewater would be better performed within a regional project (through the regionalisation of water services, in order to improve their quality and cost-efficiency). This area, which will be covered by a regional project, includes all agglomerations above 10,000 p.e. (mainly urban localities), but may also include some rural agglomerations between 2,000 p.e. and 10,000 p.e., where these investments are well justified from environmental, technical and economic points of view.

The needs of investment in water and wastewater infrastructure in the localities which are not included in the regional project (usually, rural localities) are also identified within the Regional Master Plan and will be addressed either under NRDP or through other financing sources.

Taking into account the above mentioned, it can be concluded that, under Priority Axis 1 “Extension and modernization of water and wastewater systems”, SOP ENV finances the large-scale regional integrated projects as they were identified in the Regional Master Plans. The NRDP supports small-scale projects in rural localities below 10,000 p.e., which are not included in the regional projects above mentioned, in order to support the development of rural economy and to improve the living conditions for rural population. This measure will be implemented from EAFRD.

In order to ensure the complementarity and demarcation between the two programmes in the water sector investments, an agreement was reached by the two Managing Authorities establishing the coordination system of projects.

Moreover, ROP finances small-scale individual projects in urban areas and spa resorts, under the condition not to be included in the regional projects developed under SOP ENV.

It has to be mentioned that the investments in water sector are based on agglomerations as defined under EC Directive No 91/271 on urban wastewater treatment and the urban and rural localities are defined according to the Romanian Law No 351/2001 on spatial planning.

Energy efficiency, mitigation of climate change and air quality

Priority Axis 3 of SOP ENV „Reduction of pollution and mitigation of climate change by restructuring and renovating urban heating systems towards energy efficiency targets in the identified local environmental hotspots” is complementary with the intervention under SOP Increase of Economic Competitiveness, regarding the improvement of energy efficiency and sustainable development of the energy sector, especially with the intervention on reducing the negative environmental impact of the energy system functioning and mitigation of climate changes.

SOP ENV supports the Large Combustion Plants (LCPs) operating within the municipal heating systems with the aim to reduce gas emissions at the level of the plant, as well as to improve the energy efficiency at the level of plant and distribution network, through retechnologization and

reducing losses of hot water. This intervention has a major contribution in ensuring the sustainability of investments in water infrastructure. SOP Increase of Economic Competitiveness finances LCPs providing electricity for the National Energy System for improving their efficiency and reducing gas emissions, in order to secure the electricity supply for the economy.

Rehabilitation of contaminated sites

As a complementary intervention to the SOP ENV intervention regarding the closure /environmental rehabilitation of historically contaminated/polluted sites, which have negative impact on natural environment and human health, Regional Operational Programme finances the rehabilitation of abandoned industrial sites, with the purpose of supporting business development. In this respect, the projects to be financed under ROP will include, in addition to land restoration and cleaning, construction of public utilities and business infrastructure in order to be reused for economic and social purposes.

Risk prevention

SOP ENV supports major investments in flood prevention on the main national rivers and which will be carried out by the National Authority “Romanian Waters”. Complementary interventions will be financed from EAFRD as support for local authorities that will undertake prevention works on the local water streams; the afforestation measures under NRDP will ensure the sustainability of the flood prevention works.

As regards the fire prevention measures, specific actions will be supported under NRDP, except for measures undertaken within the protected areas, according to the management plans developed under Environment SOP, as a specific component of a project.

Natura 2000

Priority Axis 4 “Implementation of adequate management systems for nature protection”, which envisages the management of protected areas, is closely linked with the compensation measures for the land owners within the protected areas. Actions will be coordinated between SOP ENV and NRDP and Operational Programme for Fisheries in relation with Natura 2000 network, with a view to securing compensatory payments in line with Council Regulation No 1698/2005 on EAFRD and Council Regulation No 1198/2006 on EFF, related to activities that serve environmental preservation.

Under the Priority Axis 4 of SOP ENV, elaboration and implementation of the management plans for protected areas will be financed, but no actions related to fishery are eligible. The latter are included in the Operational Programme for Fisheries, financed from European Fisheries Fund. The activities in the field of fishing and fish farming will be focused on: preservation, management and exploitation of live stocks, the development of fish farming, processing and trade in fish and fish products.

Technical Assistance

The technical assistance Priority Axis under SOP ENV aims to ensure specific support for the management and implementation of the SOP, including specific training of the personnel, as well as the information and publicity of the interventions financed through SOP ENV. Technical Assistance OP ensures the horizontal training on Structural and Cohesion Funds implementation,

SMIS maintenance and development, as well as the general measures on information and publicity of overall SCF assistance.

Other interventions aiming at improving the quality of the environment are financed through Transport SOP (sustainable development of the transport sector), Human Resources Development SOP (introduction of the environmental education in curricula, training programmes for enterprises in the field of sustainable development and environment protection), SOP Increase of Economic Competitiveness (eco-labelling, introduction of environment standards, promoting use of renewable energy resources), NRDP (agro-environment and afforestation measures, development of ecological agriculture, improvement of soil management).

4. FINANCIAL PLAN

General considerations

The financial plan of SOP ENV has been elaborated in correlation with the financial plan of the Romanian National Strategic Reference Framework 2007-2013. In line with the Art. 34, par. 3 of the Council Regulation No 1083/2006, both the Cohesion Fund and the European Regional Development Fund will be used to finance SOP ENV.

Taking into account SOP ENV priority axes, the financial allocation combines two approaches:

- the top-down approach resulted from the assessment of the national environmental objectives in line with the EU Accession Treaty, assessment done by the MECC with external support;
- the bottom-up approach resulted from feasible project proposals received by the Managing Authority for SOP ENV from regional and local level, as well as the projects prepared for financing under ISPA.

SOP ENV is one of the largest Operational Programmes developed under National Strategic Reference Framework. The EU contribution to SOP ENV represents about 23.1% of the total Structural Funds allocated to Romania under the “Convergence” Objective and the Cohesion Fund for 2007-2013, amounting to about Euro 4.412 billion. Along with the SOP Transport, SOP ENV benefits of allocation from both ERDF and Cohesion Fund. As it is shown in Table 13, ERDF will contribute to attain the environmental objectives with Euro 1.136 billion (25.74% of the total Community contribution to SOP ENV), and the Cohesion Fund with about Euro 3.275 billion (74.22%). A national contribution of approximately Euro 778,671,193 is added.

The annual breakdown has taken into account both the experience gained in project management during the pre-accession period and the issues related to the absorption capacity of funds. Also, an important consideration was given to the timetable necessary for developing major projects at an appropriate level of maturity. Thus, a cautious approach of the funds distribution has been considered for the first years after accession with an increasingly trend reaching a maximum peak in 2013, as shown in Table 13.

Table 13. Financing Plan of the SOP ENV giving the Annual Commitment of Each Fund in the Operational Programme

*Operational programme reference (CCI number): 2007RO161PO004
Year by source for the programme, in EUR*

	Structural Funding (ERDF) (1)	Cohesion Fund (2)	Total (3) = (1)+(2)
2007	50,580,264	221,792,472	272,372,736
2008	117,985,105	319,317,487	437,302,592
2009	149,019,785	429,487,432	578,507,217
2010	168,694,505	514,656,226	683,350,731
2011	206,330,853	554,815,177	761,146,030
2012	252,439,096	596,374,625	848,813,721
2013	191,602,587	639,374,524	930,977,111
Grand Total 2007-2013	1,136,652,195	3,275,817,943	4,412,470,138

Note: All fundings are for regions without transitional support

The financial allocation between the priority axes of the SOP ENV is based on the following considerations:

- Romania is seriously lagging behind with providing basic water and sanitation services. With the view to double the wastewater collection capacity by 2015 comparing with 2004, to increase the connection rate to the centralised water systems from 52% to 70% and to provide adequate waste management systems in 30 counties, significant resources are needed to cover these heavy investments.
- The environmental obligations in the EU Accession Treaty reflecting the above-mentioned ambitious targets are thus particularly demanding; especially, the implementation of the EU acquis in the water and waste sectors where the investment needs are significantly higher than in other environmental sectors, and this is reflected in the financial allocation for SOP ENV.
- The SOP ENV will be implemented over a limited period, 2007-2013, and with limited financial resources, therefore it cannot tackle all the problems faced by the environmental sector in Romania; in this respect, a strategic investment prioritization was considered.
- The provisions of the new acquis are observed, particularly indicating that:
 - Concentration principle is observed through the focus on a limited number of priorities (named priority axes), likely to have more significant impact;
 - A priority axis should may receive assistance from only one Fund – for SOP ENV case, either Cohesion Fund or European Regional Development Fund (Art. 54 (3) of the Council Regulation No 1083/2006).
- The strategy has also in view the implementation of environmental acquis by improving the investment and operating costs for the new assets – a must for sustainable investments.

An assessment of the costs associated to main areas of interventions and priorities was done on the basis of pre-accession intervention models, on the concrete project proposals from regional and local level, but also takes into account the results of the PHARE Project RO 0107.15.03 “Technical Assistance for the Elaboration of the Environmental Cost Assessment and Investment Plan” or other relevant studies²². The assessment also takes into account specific consultations with financial and economic experts that worked closely with the MA (JASPERS, PHARE project RO/2004/IB/OT/05 – twinning support for MA, IFIs and local experts).

Several assumptions and conclusions of the costs assessment that are relevant for SOP ENV are listed below:

- Water and waste management sectors require significantly higher investments than the other environmental sectors. Investments are designed to ensure progress with the environmental acquis compliance and to reduce gaps between Romania and other EU member states in the two fields.

²² ISPA TA 2003/RO/16/P/PA/012 “Technical Assistance for Institutional Capacity Strengthening of ISPA Final Beneficiaries in the Water and Wastewater Sector”, ISPA TA 2003/RO/16/P/PA/013 – Technical Assistance for project preparation in the environmental sector”; Phare RO 01/050101 “Support in the development of Improved management of municipal services in Romania, Linklater-BDO 2005; EBRD Working Paper – An affordability analysis for transition countries”, May 2005; German Ministry of Environment, “Financial aspects of water supply and sanitation in transboundary waters of South-Eastern Europe”, October 2005, World Bank study “Optimal size for Utilities”, January 2005; EC study No. 2005.CE.16.0.AT.016. “Strategic Evaluation on Environment and Risk Prevention under Structural and Cohesion funds for the period 2007-2013”, Ecolas, October 2006; PWH Coopers – Assessment of PPP opportunities in 4 counties of Romania, October 2005; Romanian Government Study on water supply and sanitation systems in the rural areas”, WS ATKINS International, February 2006.

- With the view to optimise the investment and operational costs (associated with the most heavy Directives compliance) while having in view the restricted capacities of resources, SOP investments must have a strong strategic approach that not only target legal compliance, but also wider regional development towards cost-efficiency. This is even more necessary since accessibility to clean drinking water and other basic needs is still a problem for a large number of Romanian citizens.
- The population is expected to decrease slightly whilst structural industrial change means that some resource intensive industries may be downsized. This is particularly relevant for the revenue-generating projects under SOP ENV.
- Increasing financial contributions from users of environmental services are envisaged up to affordability limits.
- On short and medium term, priority investments have to be focussed on replacements of worn-out infrastructure (e.g. noncompliant sewage plants, non-compliant landfills), but also new infrastructure to address the severe lack of basic utilities in many areas with higher population.
- There is need to complete investment programmes already started within the pre-accession programmes as basis for sustainable, long-term strategies.
- Large investments (Priority Axes 1 and 2) or pilot programmes (Priority Axes 3, 4 and 5) of SOP ENV interventions are expected to have a leverage effect for the regional economy.
- Lack of EU funding programmes would considerably extend the time and the cost to achieve compliance. Failure to achieve compliance is not only negative for environmental quality, but also increases the gaps with EU regions. Even with the assistance of the Structural and Cohesion Funds, full compliance cannot be achieved by the end of the programming period. Therefore, particular importance is attached to using synergies with complementary national and EU programmes as well as stimulating Private Sector Participation.
- The assessment has also taken into account a more regional approach to strategic investments aiming to optimize the costs, by using economies of scale. The regional interventions were assumed to reduce the costs for applicants and deliver efficiency gains by reducing duplication for appraisal, minimizing transaction costs to ensure value for money in terms of administrative overheads.
- The proposed SOP ENV investment interventions are relevant in relation with the strategic approach foreseen under each priority axis that target improved environmental quality, but also direct economic benefits, cost savings, increased resource efficiency, improved environmental services and new technological and market opportunities, development of long term strategies.

The proposed intervention rates have been assessed within the framework of PHARE RO/2004/IB/OT/05 – twinning, which supports the MA in the preparation for SOP management.

For Priorities Axes 1 and 2, the results are confirmed by several projects under preparation with ISPA support. The results are also accepted by JASPERS experts at the request of the MA.

For Priority Axis 3, the assessment takes into account similar projects in new MS.

For Priority Axis 4 and 5, it is taken into account that the proposed interventions are non-revenue generating projects and they are typically supported by public funds.

The above-mentioned assessment indicates how EU funds are not sufficient to complete the investments needed for the achievement of environmental standards in line with the EU acquis and to the relevant NDP objectives. Therefore, an efficient use of SOP allocations in *strong coordination with domestic funds available for environmental protection field*, in a complementary manner, is highly considered.

For water sector investments (linked to Priority Axis 1), other governmental programmes and NRDP available in particular for smaller urban and rural agglomerations will be developed in a close cooperation with SOP ENV, the common element being the long-term investment plans prepared at regional level for all water sector investments, regardless of source of financing. Due to the high-level investments needed in a relatively short period (estimated to 19 billion Euro by 2018, the maximum investment pressure being in the next 6 years), the water sector is not considered an attractive business for the private sector in the short term. However, the private sector is likely to involve more in the medium term investments if a sound basis for sustainable development of the water sector is assumed in the current programming period. The completion of the regionalisation process will support this process by overcoming the excessive fragmentation of the water sector and by creating more efficient management systems. These conclusions are also reflected in a study prepared for MECC, in a bilateral agreement, in 2004.

In waste management sector (linked to Priority Axis 2), private sector is expected to participate mainly in complementary activities to SOP interventions, particularly as waste management operators. Upon the completion of the infrastructure, most of the local authorities (SOP beneficiaries) will tender the concession of services for waste collection, transport, treatment and landfilling. However, private sector is already present in waste management sector in many large municipalities where the earlier investments resulted in affordable tariffs for the population.

It is also relevant that SOP ENV Priority Axes 1, 2 and 3 are addressing largely basic public services (water supply, wastewater collection and treatment, municipal waste management, urban heating) where investments are typically affordable if financed from public funds. Often with SOP interventions are estimated to take place in the same municipalities for more than one sector. Thus, considerations like affordability, municipal financing and indebtedness capacity (the latter capped to 30% of the municipal revenues) are directly influencing the financing gap and co-financing rates. Private investments would result often in a tariff increase that becomes unaffordable for the population and thus leading to investments, which are not sustainable. This is the case for most of the small and medium municipalities that are likely to apply for SOP interventions.

The contribution of Structural Instruments was calculated on the basis of the following considerations:

- For projects financed from ERDF, for the Priority Axis 1A the maximum rate for funding is 81.48%, for Priority Axis 2 the maximum rate for financing is 83.58% , for the Priority Axis 4 the maximum rate for financing is 90% and for the Priority Axis 6 the maximum rate for financing is 90%; For projects financed from CF, for the Priority Axis 1 the maximum rate for EU financing is 88.16%, for the Priority Axis 3 the maximum rate for EU financing is 58.99% and for the Priority Axis 5 the maximum rate for EU financing is 85.49%.

Overall, the Community cofinancing represents about 85% of the total allocation for SOP ENV.

The detailed financial allocation by Priority Axis is presented in Table 14. Romania's commitments for Chapter 22 – Environment for water and waste sectors have weighed very much in the financial allocation. Also, the need to support sustainable investments for these

sectors in the near future has been taken into account. The principle of concentration of resources to solve the major needs of environment has been observed. On the other hand, huge investments necessary for the basic infrastructure in water and waste sector represent the basis for the economic development of the country.

A detailed analysis is provided in the section “1.6. Summary of the current state of the environment”.

Table 14. Financial plan of the SOP ENV giving, for the whole programming period, the amount of the total financial allocation of each fund in the operational programme, the national counterpart and the rate of reimbursement by priority axis.

Operational programme reference (CCI number): 2007RO161PO004
Priority axes by source of funding (in EUR)

	Community Funding (a)	National counterpart (b) (= (c) + (d))	Indicative breakdown of the national counterpart		Total funding (e) = (a)+(b)	Co-financing rate* (f) = (a)/(e)	For information	
			National Public funding (c)	National private funding (d)			EIB contributions	Other funding
Priority Axis 1 CF	2,776,532,160	372,891,796	372,891,796	-	3,149,423,956	88.16%	-	-
Priority Axis 1A ERDF	100,000,000	22,728,555	22,728,555	-	122,728,555	81.48%	-	-
Priority Axis 2 ERDF	734,223,079	144,253,883	144,253,883	-	878,476,962	83.58%	-	-
Priority Axis 3 CF	229,268,644	159,371,487	159,371,487	-	388,640,131	58.99%	-	-
Priority Axis 4 ERDF	171,988,693	19,109,855	19,109,855	-	191,098,548	90%	-	-
Priority Axis 5 CF	270,017,139	45,822,236	45,822,236	-	315,839,375	85.49%	-	-
Priority Axis 6 ERDF	130,440,423	14,493,381	14,493,381	-	144,933,804	90%	-	-
Total	4,412,470,138	778,671,193	778,671,193	-	5,191,141,331	85%	-	-

National contribution

The SOP ENV is mainly oriented towards the development of management systems for environmental infrastructure according to the national strategies in the relevant environmental sectors. These systems are designed to provide population with public services at European standards or to ensure them protection against natural risks. Therefore, the beneficiaries of the SOP ENV are public authorities, at local or central level, or entities providing services of general economic interest (such as providers of public services or NGOs) or acting in market failure conditions. In this respect, the interventions were analysed one by one, resulting in a decision

that the national contribution will be ensured through public funds (from state and local budget) for SOP ENV.

In order to ensure the co-financing from the state budget, the multi-annual budgetary programming is in place and budgetary flexibility has been enshrined in the State Budget Law for 2007.

As for the contribution of local budgets to the projects co-financed by the EU Funds, many municipalities are in a disproportion to the outstanding investment needs. Accordingly, the national authority intends to limit the co-financing rate of the local budgets to a minimum level (between 2 and 5% of the eligible costs of a project) that still can assure some incentives for sound implementation. The ineligible costs will be done by the beneficiaries.

It has to be stressed that the financial table of the SOP ENV identifies the maximum Community contribution and the national co-financing at Priority Axis level, and not at project level. It is recognised that the actual rate of financing at project level will be affected by the number of projects that will be implemented and by the restrictions stemming from state aid regulations or by the rules on **revenue generating projects**. These factors have been taken into account when the financial plan of the SOP ENV was drawn up.

Where the assistance entails the financing of revenue-generating projects, the eligible expenditure shall be calculated according to Art. 55 of the Council Regulation No 1083/2006.

In this respect, it is expected that revenue generating projects may appear under Priority Axis 1 “Extension and modernization of water and wastewater systems”, Priority Axis 2 “Development of integrated waste management systems and reduction of historically contaminated sites” and Priority Axis 3 “Reduction of pollution from district heating systems in selected priority areas”.

A higher Community support is foreseen to complement the national support for SOP ENV for Priority Axes 1, 1A, 2, 4, 5 and 6. At macro level, this is justified by the limited capacity of the national economy to support not only development of environmental infrastructure, but also implementation of significant national programmes aimed at enhancing economic development in Romania.

For Priority Axes 1 and 2, the EU intervention rates must be seen in the light of a long-term sectoral development. Most of the OPs' potential beneficiaries, representing public authorities, are already responsible to repay loans associated with investment programmes started in the pre-accession period. On the other hand, they will have to implement other investment programmes in the future, which will ensure the extension of the investment undertaken in the current programming period. Since the OPs' interventions will not be sufficient to meet, in most cases, environmental targets required by the EU standards, additional funds for future investments needed beyond 2013 in this respect must be taken into account.

Operations supported under Priority Axes 1 and 2 generate indeed revenues through charges paid by households, businesses and industry for the services provided. With the application of “polluter pays” principle and “cost recovery” principle, as required by the law, the tariff levels will have to increase over the OP implementation period. However, an appropriate tariff adjustment policy is closely observed to ensure that tariffs remain within affordable limits and that the operations are sustainable over their economic lifetime, this being the minimum requirement.

Apart from that, most of the beneficiaries need substantial subsidies to make the projects financially viable over their lifetime. Only a limited number of major municipalities would be able to cover some part of the capital cost of the new investment (in the sense that the flow of revenue can repay a loan to a bank or some other financing bodies), but the majority of small and medium size localities are not in the situation to cover capital costs. Part of it is, however, cross-subsidised by major municipalities in the regional projects. It is also taken into account that smaller municipalities have typically lower population and lower density, therefore the estimated specific costs of investments are even higher.

Categorisation

SOP ENV contains the indicative breakdown of funds allocation by categories (Annex 3 of SOP ENV), in line with the provisions of Articles 37, par.1 (d) of the Council Regulation No 1083/2006 and according to the Commission Regulation No 1828/2006. The categorization represents the ex-ante estimation on how the funds allocated under SOP ENV are intended to be spent according to the codes for the dimensions 1 (Priority Theme), 2 (Form of finance) and 3 (Territory type) of the Annex II of the Commission Regulation No 1828/2006. This information will help the Managing Authority to monitor the programme implementation by investment categories and to provide to the Commission uniform information on the programmed use of the Funds in the annual and final implementation report (ex-post information), according to Art. 67, Council Regulation No 1083/2006.

According to the NSRF, Romania is committed to contributing to the achievement of Lisbon goals and regards the principle of Lisbon earmarking as an important tool for monitoring at national and Community level the actual performance in gearing Structural and Cohesion Funds towards Lisbon-related areas of intervention.

The indicative level of Lisbon expenditure under SOP ENV is estimated at about 5% of the total allocation of EU funds, according to the categories listed in Annex IV of the Council Regulation No 1083/2006 plus the actions devoted to strengthening the administrative capacity (which is a particular priority for Romania in the context of the Lisbon Agenda, as stated in the NSRF and the National Reform Programme). Nevertheless, the Romanian authorities consider that SOP ENV has a much more important contribution to the Lisbon objectives than it is reflected in the Lisbon earmarking codes, as explained in the previous chapters.

5. IMPLEMENTATION

General provisions

The implementation mechanism of SOP ENV, one of the 7 Convergence OPs aiming to contribute to the objectives set up by the National Strategic Reference Framework, is well in progress. The aim is to have a full operational institutional structure, setting clear roles and responsibilities for all the bodies involved.

In setting up an appropriate mechanism for delivering the SOP ENV during the 2007-2013 programming period, several principles and assumptions have been taken into account as follows:

- The Government of Romania opted for a *decentralisation process* in moving from pre-accession to post-accession funds. It is envisaged that *a more flexible mechanism, with clear roles and responsibilities of key stakeholders while keeping the appropriate expertise to each level of competence would lead to an efficient use of EU funds.*
- At the same time, the Romanian authorities are committed to build *on the strengths of existing pre-accession programmes*, including local expertise and partnership working. It is particularly relevant that the majority of the potential Structural and Cohesion Funds (SCF) beneficiaries under this OP are local public authorities, currently recipients of ISPA, PHARE or other internationally financed projects. Building on the existing expertise will be also reflected in the prioritisation of projects with a strong evidence base and embedding best practice in project development and management.
- In line with the NSRF and others OPs, SOP ENV is designed to reflect both the CSG and domestic priorities towards regional development. To this end, and considering the Government's proposal for a decentralised approach, the local and regional structures will have a considerably increased role in planning and managing the EU assistance becoming available under SOP ENV. This would enable *a more strategic approach to project selection, reduce costs for applicants and deliver efficiency gains by reducing duplication of appraisal and other processes.*
- It is particularly important that the SOP ENV implementation mechanism *enables strategic investment in order to maximise the impact of the Funds.* This mechanism will need to respect the roles and functions set out in the Regulations on SCF, ensure strong and effective national and regional partnership, provide for clear accountabilities and minimise transaction costs to ensure value for money in terms of administrative overheads.
- Institutional arrangements for SOP ENV will also need to ensure a *strong coordination role of domestic funds with SCF available for environmental protection field*, in a complementary manner, to contribute to the achievement of environmental standards in line with the EU acquis and to the relevant NSRF objectives. Achieving this coherence must be effective at a strategic and operational level, without becoming overly bureaucratic and burdensome.
- The overall strategy and mechanism for SOP ENV implementation is intended to maximise cost efficiency and ensure complementarity with domestic and other external funding streams.

Relevant stakeholders involved in SOP ENV implementation are presented in Annex 1 and in the next section.

5.1. Management

General framework for SOP ENV implementation

The programme will be managed at several levels.

The **Managing Authority** (MA) for SOP ENV is the Ministry of European Funds that will be responsible for the programme implementation. In this capacity, the MEF will act as an overall policy planner, financial manager and process leader. MA has a particular role in ensuring strategic overview of SOP.

The **Intermediate Bodies**, in number of 8 (eight), are set up for each of the eight development regions (NUTS II) in Romania. They will play an important role in SOP implementation at regional level, acting as interface between MA and beneficiaries. The MA shall delegate certain tasks to the Intermediate Bodies (hereinafter IBs). Their main responsibilities will be related to programming, monitoring, controlling and reporting activities. They have also been involved in the monitoring of ISPA projects in their region and in the development of grant schemes of environmental projects run under PHARE. The delegation of activities from the MA to the IBs is regulated by a written agreement.

The **Beneficiaries** (Bs) will play the main role in the management and implementation of the interventions approved under SOP ENV. They will also be responsible for the tendering and contracting of the services and works related to their projects. Most of the beneficiaries of the SOP ENV are local public authorities, but also state organisations or NGOs. Support for less experienced partners to benefit from SOP ENV is envisaged by making use of technical assistance budget.

The implementation and financing mechanism for each approved project under SOP ENV will be governed by a Financing Agreement signed by the MEF.

The **Monitoring Committee** will be established for the SOP ENV having the main role to monitor the effectiveness and quality of the programme implementation. It will also represent a forum for links to the social partners and the Commission.

The **Certifying Authority** for all OPs, including the SOP ENV, is established at the Ministry of Economy and Finance. The responsible directorate within the MEF is the “Certifying and Paying Authority” (CPA) built up on the National Fund office, making use of the pre-accession experience. The above-mentioned responsibilities will be performed by the “Certification Unit” within the CPA.

Within the CPA, there are two separate units, “Certification Unit” and “Payment Unit”, each of them being under the coordination of distinct Deputy General Director.

Competent body for receiving the payments from the European Commission in respect of SOP ENV is the Certifying and Paying Authority, through the “Payment Unit”.

The **body responsible for making the payments to the Beneficiaries** of SOP ENV is the Certifying and Paying Authority, through the “Payment Unit”.

Moreover, a Paying Unit is established in the MEF – MA for dealing with payments for Priority Axis 6 - Technical Assistance.

Financial control shall be performed on several levels for SOP ENV - by the IBs, MA and Ministry of Economy and Finance. The detailed procedures to ensure an adequate mechanism of financial control have been prepared.

The Audit Authority, an associated body to the Court of Accounts, on one hand, and the internal audit within the MEF, on the other hand, will ensure the system audit for SOP ENV.

According to the provisions of Emergency Governmental Ordinance No 34/2006, the responsibility for organizing tender procedures (including the preparation of tender documents) for individual projects belongs to the Contracting Authority. For SOP ENV, the Contracting Authority is represented by the **Beneficiaries of the projects**. The *verification* of the compliance of the public procurement process with the legal requirements will be under the responsibility of the following two central bodies established for this purpose:

- Unit for Coordination and Verification of Public Procurement (UCVPP), set up at the level of Ministry of Economy and Finance which will perform the *ex-ante control*;
- National Authority for Regulating and Monitoring Public Procurement (NARMPP), which will perform the *ex-post control*.

The MA and IBs will cooperate closely with the national institutions designated to ensure ex-ante and ex-post control.

The Authority for the Co-ordination of Structural Instruments (ACIS) is the institution entrusted with the coordination of management and delivery of the Structural Instruments in Romania, assuming the responsibilities assigned to the “CSF Managing Authority” in Government Decision GD No 128/2006 modifying GD No 497/2004. ACIS is located within the Ministry of Economy and Finance, according to the GD No 386/2007. Its tasks are to coordinate the programming, development and implementation of Operational Programmes under the NSRF to ensure coordination and coherence between the programmes and also with the Rural Development Programme and Operational Programme for Fisheries.

A detailed description of the role and responsibilities of the main bodies involved in the management and the control of the SOP ENV is given below:

Managing Authority (MA) for SOP ENV

According to GD No 497/2004 as amended by the GD No 1179/2004 and GD No 128/2006 regarding the establishment of the institutional framework for coordination, implementation and management of structural instruments, the Ministry of Environment and Sustainable Development is designated as Managing Authority for SOP ENV. The MA is organized as a general directorate – General Directorate for the Management of Structural Instruments - according to GD No 368/2007.

The MA in the MEF is responsible for the effectiveness and correctness of SOP ENV management and implementation. The main responsibilities of the MA are to:

- a) Coordinate and ensure the general management of SOP ENV;
- b) Prepare SOP ENV in partnership with all stakeholders, ensure the correlation with NSRF objectives, and the complementarities with the others SOP and ROP; negotiate the SOP ENV with EC;
- c) Prepare procedures and guidelines for SOP ENV Implementation (appropriate procedures and guidelines will be made available by the MA to IBs and beneficiaries);

- d) Ensure that projects selection is carried out in accordance with the selection criteria approved by the Monitoring Committee of SOP ENV;
- e) Assess the institutional capacity of the SOP beneficiary before the project approval;
- f) Ensure compliance with national and EC policies on state aid, in close cooperation with responsible bodies, public procurement, environmental protection, equality of opportunities for men and women and non-discrimination;
- g) Set up a system for gathering reliable financial and statistical information for SOP ENV; establish appropriate monitoring and evaluation indicators; present such data in the form of an agreed electronic format to the relevant stakeholders - Monitoring Committee, Certifying and Paying Authority, ACIS, European Commission;
- h) Draw up and submit to the European Commission the annual and final reports for implementation of SOP ENV, after their approval by the Monitoring Committee
- i) Ensure that Beneficiaries and other bodies involved in the implementation of operations maintain either a separate accounting system or an adequate accounting code for all transactions relating to the operation according to the national accounting rules;
- j) Ensure adequate financial and management control for SOP operations at all levels – MA, IBs, Bs; ensure correctness of actions financed within the framework of the SOP ENV;
- k) Ensure identification, reporting and correction of irregularities; provide for remedial measures in the events of faults or defects occurred;
- l) Meet the obligations concerning information and publicity of the SOP ENV;
- m) Set up an adequate management and control system at the level of SOP ENV; ensure that the tasks delegated to IBs in relation to the verification of expenditures are properly carried out;
- n) Ensure that the Certifying and Paying Authority receives all necessary information on the procedures and verifications carried out in relation to expenditure for the purpose of certification;
- o) Provide the Commission with information to allow it to appraise major projects.
- p) Ensure that the evaluations of SOP ENV are carried out according to the Council Regulation No 1083/2006;
- q) Ensure the proper functioning of SMIS;
- r) Chair and ensures the secretariat of the Monitoring Committee;
- s) Ensure an adequate audit trail for SOP ENV.

In the framework of the Regions for Economic Change initiative^{23,24} the Managing Authority commits itself to:

- Make the necessary arrangements to welcome²⁵ into the mainstream programming process innovative operations related to the results of the networks in which the region is involved;
- Allow in the Monitoring Committee the presence of a representative (as an observer) of the network(s) where the Region²⁶ is involved, to report on the progress of the network's activities;

²³ Communication from the Commission "Regions for Economic Change", COM(2006) 675 final, 8.11.2006, {SEC(2006) 1432}, http://ec.europa.eu/regional_policy/conferences/regionseconomicchange/doc/comm_en_acte.pdf

²⁴ Commission Staff Working Document accompanying the Communication from the Commission "Regions for Economic Change", SEC(2006) 1432/2, http://ec.europa.eu/regional_policy/conferences/regionseconomicchange/doc/staffworkingdocument_en.pdf

²⁵ Create the channel to appropriate priority for financing.

²⁶ A Region can be a Region (NUTS 2) or a Member State (e.g. when no Regional level foreseen in the OP).

- Foresee a point in the agenda of the Monitoring Committee at least once a year to take note of the network's activities and to discuss relevant suggestions for the mainstream programme concerned.
- Inform in the Annual Report on SOP ENV implementation of the regional actions included in the Regions for Economic Change Initiative (where applicable).

Intermediate Bodies for SOP ENV

According to the GD No 497/2004 and GD 368/2007, Intermediate Bodies for SOP ENV are organisations subordinated to MEF and set up for each of the 8 Development Regions (NUTS II). The IB is organized as a specific body coordinated by an Executive Director. This body reports directly to the Managing Authority for SOP ENV, and are coordinated from the methodological point of view by the MA, within MEF. Each IB will receive tasks regarding programming, monitoring, financial control and reporting on the basis of a Delegation agreement signed with MA.

Intermediate Bodies were established through GD No 368/2007 regarding the organisation and functioning of the MEF, which repeals GD No 121/2007, and are public organisations, financed from the state budget and directly subordinated to the MEF.

The 8 IBs are:

- IB for SOP ENV Bacau for Region North-East
- IB for SOP ENV Galati for Region South-East
- IB for SOP ENV Pitesti for Region South-Muntenia
- IB for SOP ENV Craiova for Region South-West
- IB for SOP ENV Timisoara for Region West
- IB for SOP ENV Cluj-Napoca for Region North-West
- IB for SOP ENV Sibiu for Region Centre
- IB for SOP ENV Bucuresti for Region Bucharest-Ilfov

IBs are to undertake, on a Delegation agreement basis, in particular the following responsibilities delegated from the Managing Authority for SOP ENV:

- a) Coordinate SOP ENV priorities with other investment programmes at regional level;
- b) Promote partnership at regional level;
- c) Provide support to beneficiaries on SOP ENV procedures related to programming and implementation of operations;
- d) Receive project applications at regional level and carry out administrative and eligibility check of applications²⁷;
- e) Check technical documents and studies elaborated by beneficiaries within SOP operations;
- f) Gather data necessary for monitoring and evaluation of programme implementation at regional level;
- g) Prepare supporting documents for the annual and final reports of the SOP ENV;
- h) Support to MA in institutional assessment of Bs;
- i) Monitor the projects under SOP ENV implementation at the level of the respective region;
- j) Check the applications for reimbursement prepared by Beneficiaries;

²⁷ For major projects, in the first part of the programming period, these activities are performed by MA.

- k) Perform on-the-spot checks, including ex-post ones;
- l) Confirm the correctness of claims, progress in implementation, payments and take-overs of the works etc.;
- m) Verify the Beneficiaries whether they maintain a separate and complete accounting system or an adequate accounting code for all the transactions related to the concerned operation;
- n) Detect the potential irregularities at the regional level and reports them to the MA;
- o) Ensure the awareness and publicity actions, at the level of the region; ensure dissemination of information on SOP financing opportunities;
- p) Ensure input of data into SMIS system;
- q) Verify that the co-financed product is delivered and expenditures comply with national and EC rules;
- r) Confirm the outputs/results of the executed SOP operation.

The IBs play a crucial role in the implementation of SOP ENV by verifying that the co-financed operations are performed and the related expenditure comply with EC and national rules. In this regard, the IBs monitor physical progress as a basis for checking the applications for reimbursement. In addition, project appraisal and selection is seen as a dynamic process, being estimated that the appraisal of applications will be gradually transferred to the Intermediate Bodies, starting with the second wave of SCF projects (2010) while the selection remains at the level of the MA. However, a gradually increase of the responsibilities to the regional IBs in programming and selection process is a key mid term objective.

Beneficiaries

The beneficiaries within the framework of the SOP ENV may be municipalities, associations of municipalities, companies owned by municipalities, public entities and NGOs.

The beneficiary will be responsible for:

- a) elaboration of the applications for the provision of assistance, including the identification, assessment and preparation of the project, including the financial plan;
- b) preparation of the project contract documents; procurement of services and works approved under SOP ENV according to the national public procurement legislation;
- c) the public procurement procedure and the signature of appropriate contracting documents with contractors;
- d) proper implementation of the project according to contracts concluded with the selected contractors;
- e) verification and payment to contractors based on approved verified invoices;
- f) operating of a separate project accounting system or of an adequate accounting code for all transactions;
- g) internal financial control and an independent annual audit of the organization;
- h) keep project dossiers to provide adequate audit trail oriented on financial flows;
- i) regular and ad-hoc reporting to the Intermediate Body on the progress in the project;
- j) elaboration and submission of data to the Intermediate Body for monitoring;
- k) regional and local publicity and information billboards at the construction sites in accordance with appropriate EU rules and with the Communication Plan.

The beneficiaries will be responsible for the eligibility of proposed and claimed projects expenditures and, during the implementation of the projects, for complying with the contracting terms.

In submitting the applications for reimbursement, the Beneficiaries will substantiate the incurred expenditures and their compliance with the project requirements contained in the Financing Agreement on the funds to be allocated within the assistance. All applications for reimbursement must be supported by confirmed invoices.

The beneficiaries must make the project documents available at any time for inspections carried out by authorized persons or entities. The documents will be archived in compliance with applicable regulations.

Specific provisions for adequate SOP ENV Implementation

The MA has prepared the Framework Implementation Manual for the SOP ENV as well as detailed implementation procedures for an efficient and effective management and control systems. Also, job descriptions for all positions within MA and IBs have been elaborated. MA has also prepared and made available for future SOP ENV beneficiaries guidelines on projects preparation and implementation. They also include detailed provisions for adequate audit trail of the SOP operations.

The majority of the SOP ENV interventions will be implemented through local authorities and utilities companies by local governments as project beneficiaries. About half of the potential beneficiaries of SOP operations have acquired an important experience in implementing projects as part of the pre-accession programmes, in developing cost effective capital investments and lower cost maintenance arrangements. They have adequate implementation units in place, specifically designed to manage major investments built with EU/IFI funds. In the context of regional strategic approach, they will represent the driving force in supporting smaller municipalities that lack the capacity and skills necessary to implement investment projects. Less experienced beneficiaries will be assisted by the MA and IBs in setting their own procedures and will have TA support under SOP for project preparation, contracts management, works supervision and other specific support.

The proposed beneficiaries of the Priority Axes 1 and 2 are paid specific attention due to the intensive reorganization process linked to the regionalisation of water and environmental services at a more regionalised level. The regionalization process is closely monitored by the MA and IBs to ensure that adequate organizations are in place and have sufficient capacity to implement long-term investment plans and SOP ENV operations in medium term.

The regionalisation process in the water sector is currently in different stages: while some areas of the country have completed it, some others are well in progress, in line with pre-defined own action plans.

The Laws No 51/2006 on community services of public utilities (with subsequent amendments) and 241/2006 on water and sewerage services (with subsequent amendments) represent the legislation on which basis an appropriate contractual framework has to be established.

Taking into account that the Regional Operating Companies will be contracted by direct award, this newly established legal framework has to prove that 'in-house' requirements established by case law of the European Court of Justice applies and, that the AoM/IDA, which is a contracting authority, controls the ROC concerned in the same way as the Municipalities controls their own departments ("similar control" criterion), and that the ROC carries out the essential part of its activities together with the controlling AoM/IDA ("essential part of activities" criterion), while being entirely in public property.

The above legal framework, is reflected also in an incorporation act for the set up of the ROC and a Delegation contract between the AoM/IDA and the ROC that fulfil the following criteria:

- the public competence related to the management of the water and wastewater services is transferred by the Local Public Authorities (Municipalities) to the AoM/IDA;
- AoM/IDA delegates the management of services to ROC;
- AoM/IDA is the contracting authority and, at the same time, it controls ROC by the power of exercising, on behalf of the Municipalities, their shareholders rights;
- ROC is totally owned by the competent Local Public Authorities and the opening of its capital to private shareholders is explicitly excluded;
- the ROC's activity is limited to the management of the water and wastewater services for the granting authority according to the delegation contract;
- the control exercised by AoM/IDA over ROC enables it to have a decisive influence over all strategic and significant decisions of the company;
- the ROC obtains the possibility to subdelegate services by open competition to third parties, in compliance with public procurement law.

The Managing Authority checks the fulfilment of the above criteria during the appraisal and selection process.

In order to allow the long-term sustainability of the regionalized structure the AoM/IDA together with the ROC will have to arrange the transition of tariff systems differentiated by the associated Municipalities to a unique tariff system as indicated in the methodology annexed to the Order no. 65/2007 issued by National Authority for Public Services Reglementation.

A complete institutional assessment report will be presented for each beneficiary as part of the application for EU funds. Beneficiaries of regional projects are required to submit evidences as follows: association of municipalities (committed to a regional investment); the existence of a regional operator (that covers the services project area) registered in line with the national legislation; a contract/agreement between association of municipalities and water services provider; a commitment of the associated local authorities to adopt a unique tariff system; adequate capacity in place to implement future investments and provisions for efficient operation of newly built investment facilities.

Potential beneficiaries in the water sector that represents more than 60% of the estimated SOP interventions are also benefiting from PHARE and ISPA support for institutional reorganisation and strengthening, currently available in most of the counties across the country. Existing TA support is designed not only to improve the institutional capacity of the beneficiaries, but also to ensure familiarisation with EU acquis requirements and principles.

With reference to the relatively new structures of IBs, aiming to enforce their capacity, they are currently benefiting of an intensive training on SCF management. It includes *on-the-job training* provided within PHARE twinning available at each IB; transfer of experience on EU procedures by temporary delegation of the IBs staff to the MA; transfer of experience in the water sector projects by temporary delegation of local staff of the National Administration Romanian Waters to the IBs. With the view to ensure the transfer of expertise in implementation of EU co-financed projects *from the Regional Development Agencies (RDAs)* - currently playing the role of PHARE implementing authorities at the level of each region - *to the IBs*, a protocol was signed at the

level of each region and is now functional. The IBs have participated together with RDAs in the selection of PHARE projects in the field of environmental protection at regional level and are supporting the MECC in the monitoring of ISPA projects.

As well, *intensive training programmes* on SCF and project management topics supported from PHARE, ISPA and MECC budget are in place for MA, IBs and potential beneficiaries of the SOP ENV.

The staffing situation of MA and IBs, in terms of number and expertise is now satisfactory. The MA staff has acquired considerable experience in programming and monitoring of pre-accession programmes that will be of use to a certain extent for POS management. Where additional expertise is still needed for MA and IBs – appraisal of projects, legal aspects linked to management of contracts, evaluation of programme results, specific technical studies and analyses linked to SOP ENV – external TA will be used under specific Priority Axis 6. For major projects, JASPERS support is also envisaged.

Principles of Selection and Approval of Projects under SOP ENV

Project appraisal will be performed to ensure that applications fully meet the criteria established in the Council Regulation No 1083/2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund, and that benefits to the area are maximized.

In line with the Art. 60 of the Council Regulation No 1083/2006, the MA will ensure that operations are selected for funding in accordance with the criteria applicable to the SOP ENV and that they comply with applicable Community and national rules for the whole implementation period.

Furthermore, in line with the Commission Regulation No 1828/2006, the MA shall ensure that beneficiaries are informed of the specific conditions concerning the products or services to be delivered under the SOP ENV operation, the financing plan, the time-limit for execution and the financial and other relevant information.

Project appraisal and selection is seen as a dynamic process, being estimated that the appraisal of applications would be gradually transferred from the Managing Authority to the Intermediate Bodies, while the selection decision remains at the level of the MA. A gradual increase of the responsibilities of the regions (IBs) in programming and selection process is a key mid term objective.

The MA will provide for the assessment of the beneficiaries, with the view to ensure that they have sufficient capacity to fulfil these conditions before the approval decisions taken.

The MA will make available for the potential beneficiaries clear and detailed information on at least the following:

- (a) the *conditions of eligibility* to be met in order to qualify for financing under and operational programme
- (b) a *description of the procedures* for examining applications for funding and of the time periods involved
- (c) the *criteria* for selecting the operations to be financed
- (d) the *contacts* at national and regional level who can provide information on the SOP ENV.

The principles of SOP ENV project preparation and selection shall be made available by means of national publicity.

Guidelines for the applicants, drawn up by the Managing Authority for SOP ENV, considering the implementation rules for SCF (Commission Regulation No 1828/2006), shall be completed and made available to the potential beneficiaries.

Application forms will be available on the Internet and at the IBs, which are also to provide assistance for the applicants.

Projects appraisal and selection under SOP ENV involve a **joint working procedure** of the IBs for SOP ENV and the MA SOP ENV

The final decision on projects selection is taken by the MA, which informs the project applicants about its decision (including reasons of rejection for the non-successful ones and information about the next selection sessions).

Projects with global costs exceeding Euro 50 million are considered “major projects” and they will be submitted for appraisal and decision by the European Commission. The EC decision shall define the physical object, the amount to which its co-financing rate for the priority applies and the annual plan of commitment appropriations of the ERDF/CF.

The MA ensures that the project selection system complies with the partnership and transparency principles. After consulting the relevant partners during project preparation and appraisal process, the projects will be selected if their maturity can ensure their proper implementation.

The following general selection criteria will be applied:

1. Relevance of the project;
2. Quality of the project;
3. Capacity of the beneficiary.

Based on these, the detailed selection criteria are elaborated and submitted to the Monitoring Committee for approval and made public.

5.2. Monitoring and evaluation

Monitoring and reporting system

Monitoring is an on-going process and has an important role to play in the management of the operational programme, in confirming that it is making good progress, determining whether or not the programme continues to pursue the original targets and in identifying potential problems so that corrective action can be taken.

The OP monitoring system takes into account the needs of different user groups and different levels of the management structures. The potential users of information are the stakeholders who have their own areas of responsibilities and, therefore, their distinctive information needs, as follows:

- Beneficiaries,
- Intermediate bodies,

- Managing authorities,
- Monitoring committees,
- Government of Romania,
- European Commission,
- External evaluators,
- Environmental NGOs, wider public etc.

The monitoring system is based on a regular examination of the context, resources (inputs), outputs and results of the programme and its interventions. It is composed of a mechanism of coherent information including progress review meetings and progress reports providing periodic summaries, which incorporate key information from the physical and financial indicators. The purpose of the reports is to provide updates on achievements against indicators and milestones and they will be written in a standard format allowing for comparison between reports over time.

The core piece of information to be provided in the reports is related to indicators capturing the progress of the interventions vis-à-vis the goals set in the programming phase. In this respect, a system of indicators for each OP has been developed under the coordination of ACIS. Although adapted to the specific feature to the OP, the indicator system pursues the uniformity of the core data allowing information to be bottom-up aggregated at different levels of interventions (projects, key area of interventions, priority axes, OP, NSRF), themes, sectors, etc. The system will be detailed with guiding elements providing a common understanding throughout the stakeholders, such as a comprehensive lists of monitoring and evaluation indicators, definition of each indicator, responsibilities, periodicity and ways of data collection and processing, as well as indicators tables to be generated by SMIS providing a clear picture of the interventions' context and progress. Whenever appropriate, the indicators will be broken down by different criteria (territorial, gender, target groups, size of the recipient etc.).

The use and improvement of the set of indicators as part of the monitoring system is a continuous task during the programming period. ACIS and the Managing Authority will check periodically the reliability of the information collected and will coordinate an on-going process of improving the functioning of the monitoring system. Evaluations and quality check of the monitoring system concerning its coverage, balance, and manageability will be carried out. The individual indicators will be assessed in terms of their relevance, sensitivity, availability and costs.

The Monitoring Committee will be consulted on the indicators system at an early stage of programme implementation as well as during the entire programming period in order to verify that:

- the indicator system as a whole has been set up properly, and
- the information is sufficient for its own work.

Although the monitoring system will be largely responsible for generating output data, some output, and most result data may require additional efforts (e.g. surveys, field work, collecting information from other organisations). On the other hand, official statistics generating context indicators will need to be supplemented with surveys, studies or other techniques of data collection and interpretation. The specific needs for complementary information and related planned activities will be included in the OP and NSRF Evaluation Plans that are described in Evaluation section of this document.

Monitoring Committee

The Monitoring Committee shall be set up through Governmental Decision within three months after the decision approving the operational programme. The main responsibility of the Monitoring Committee is to ensure the effectiveness and quality of the implementation of the SOP ENV.

Members of the Monitoring Committee shall include representatives of the Ministry of Environment and Sustainable Development, Ministry of Economy and Finance, IBs, representatives of other ministries (MIAR, MDPWH, etc.), Competition Council, representatives of civil society and NGOs and European Commission. A representative of the EIB and of the IFIs may participate in an advisory capacity if these financial institutions provide a contribution to the SOP ENV. In the framework of Regions for Economic Change Initiative, the Monitoring Committee will comprise as an observer, one representative of the network where Romania is involved.

The Monitoring Committee (MC) will ensure the monitoring of SOP ENV implementation and will observe the accomplishment of SOP ENV objectives through a rational use of the allocated resources.

The Monitoring Committee will have the following attributes:

- a) it shall consider and approve the criteria for selecting the operations financed through the SOP ENV; the selection criteria shall be revised in accordance with programming needs;
- b) it shall periodically review progress made towards achieving the specific targets of the operational programme on the basis of documents submitted by the Managing Authority;
- c) it shall examine the results of implementation, particularly achievement of the targets set for each priority axis and the evaluations referred to in the Art. 48 (3) of the Council Regulation No 1083/2006;
- d) it shall consider and approve the annual and final reports before they are sent to the Commission;
- e) it shall be informed of the annual control report and of any comments the Commission may make after examining that report;
- f) it may propose to the Managing Authority any adjustment or review of the operational programme likely to make possible the attainment of the Funds' objectives or to improve its management, including its financial management.
- g) it shall consider and approve any proposal to amend the content of the Commission decision on the contribution from the Funds.

The MC shall draw up and adopt its own rules of procedure within the national institutional, legal and financial framework, as well as the decision-making procedure. The MA SOP ENV chairs the Monitoring Committee and ensures its Secretariat.

Evaluation

Regulatory framework

Evaluation of SOP ENV is seen as a tool for assessing the relevance, efficiency, effectiveness of the financial assistance deployed, as well as the impact and sustainability of the results achieved and will be performed in line with the general rules for determined in the Council Regulation (EC) No 1083/2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund (Articles 37, 47 – 49).

The requirement to conduct systematic evaluation activities of the Operational Programmes and the general rules for those activities are provided for in the Council Regulation (EC) No 1083/2006 of 11 July 2006, laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund (Articles 37, 47 – 49).

In accordance with Articles 47-49 of the Council Regulation No 1083/2006, three main types of evaluations will be carried out for SOP ENV:

- *An ex-ante evaluation*
- *Ongoing evaluations* (during the period of implementation of the OP)
- *Ex-post evaluation.*

Ex-ante evaluation

Ex-ante evaluation aims to optimize the allocation of budgetary resources and improve programming quality. It identifies and appraises medium and long-term needs, the goals to be achieved, the results expected, the quantified targets of the SOP ENV, the coherence of the strategy proposed with the Community's priorities and the quality of the procedures for implementation, monitoring, evaluation and financial management.

For the programming period 2007-2013, the ex-ante evaluation was carried out for all OPs by an external evaluator (a single contractor). The ex-ante evaluation has also included the Strategic Environmental Assessment, done in compliance with the requirements of the Directive No 2001/42 on the assessment of the effects of certain plans and programmes on the environment. The management of the ex-ante evaluation contract was ensured by the Authority for the Coordination of Structural Instruments (ACIS) through the Evaluation Central Unit in close cooperation with the Managing Authorities and other main stakeholders.

Ongoing evaluations

Ongoing evaluations to be carried out during the period of implementation of the SOP ENV shall be of three types – *a) interim, b) ad hoc* and *c) with a cross-cutting theme*, as follows:

The Interim Evaluation will aim at improving the quality, effectiveness and consistency of the assistance and the strategy and implementation of operational programme. The interim evaluation will support the OP management process by analyzing problems, which occur during the implementation and propose specific solutions to improve the operation of the system.

Ad-hoc evaluations will be carried out where programme monitoring reveals a significant departure from the goals initially set or where proposals are made for the revision of operational programmes. Ad-hoc evaluations can also address either implementation or management issues of an individual Priority Axis or Key Area of Intervention, or can be “thematic”.

Interim and ad hoc evaluations will be managed by the evaluation function of the Managing Authority and will be conducted externally, by independent evaluators.

Evaluations with a cross-cutting theme will be carried out where the evaluation is of a horizontal nature and completion of the evaluation demands involvement from more than one operational programme. These evaluations may examine the evolution of all or a group of Operational Programmes in relation to Community and national priorities. They may also examine particular management issues across all OPs.

Evaluation with cross-cutting themes will be managed by Evaluation Central Unit of the Authority for Coordination of Structural Instruments and will be commissioned to external consultants.

Specific objectives, evaluation questions, tasks and expected results of *interim*, *ad-hoc* and *cross-cutting evaluations* will be defined separately for each evaluation to be conducted.

Ex-post evaluation

Ex-post evaluations shall be carried out by the Commission, for each objective, in close cooperation with the Member State and Managing Authorities, according to Art. 49 par. 3 of the Council Regulation No 1083/2006.

The Commission may also carry out *strategic evaluations*, as well as evaluations linked to the monitoring of operational programmes, in accordance to art. 49 par.2 of the Council Regulation No 1083/2006.

Institutional framework for evaluation

The national institutional framework for evaluation comprises 2 levels:

- an overall coordination level, ensured by the **Evaluation Central Unit** established within the, Ministry of European Funds;
- a functional level, composed of the **evaluation unit established within the MA SOP ENV**.

The **coordination role** of the Evaluation Central Unit can be summarized as follows:

- (i) Carrying out cross-cutting evaluations;
- (ii) Providing capacity building activities to support and develop the operational capacity of the evaluation units established in the Operational Programmes Managing Authorities.
- (iii) Providing overall quality assurance activities to ensure the quality of all evaluations.

The evaluation unit established within the SOP ENV Managing Authority will be responsible for managing the following types of ongoing evaluations:

- (i) *Interim evaluations* and
- (ii) *Ad hoc evaluations*.

The evaluation unit will act in co-operation with the Monitoring Committee and will interact on a constant basis with the Evaluation Central Unit. The executive summary of the evaluation reports will be made available to the public through the internet page of the MEF and MA SOP Environment.

Evaluation Plan

The MA evaluation unit will draft an OP Evaluation Plan, which will comprise the indicative evaluation activities it intends to carry out in the different phases of the programme implementation, collection of complementary data that is not delivered by the monitoring system, the indicative human and financial resources allocated for each evaluation activity, the actions aimed at capacity building, as well as the incumbent responsibilities. This planning shall be done in accordance with the Community Regulations on Structural Instruments; the methodological working papers on evaluation issued by the European Commission; the methodological working papers on evaluation issued by MEF - Evaluation Central Unit.

Operating arrangements

Each OP will have an Evaluation Steering Committee, which should convene for each evaluation exercise. A Strategic Evaluation Steering Committee will be established also at the level of NSRF for evaluations with cross-cutting themes. The steering committee will fulfil, as a minimum, the following tasks: set the terms of reference for individual evaluations, facilitate the evaluator's access to the information needed to perform his/her work; support the evaluation work, particularly from the methodological standpoint; ensure that the terms of reference are observed; exercise quality control in relation to the evaluation performed.

Under the coordination of the Evaluation Central Unit, a follow-up mechanism of the evaluation recommendations will be applied by the SOP ENV Managing Authority.

As concerns the **availability for the public** of the evaluation results, at least the executive summary of the evaluation reports will be made publicly available. The means of communication will be readily identifiable and accessible.

5.3. Financial management and control

The Ministry of Economy and Finance is designated to fulfil the role of **Certifying Authority** for all OPs, being responsible for drawing up and submitting to the Commission certified statement of expenditure and applications for payment in line with the provisions of Article 61 of the Council Regulation No 1083/2006. The responsible directorate within the MEF is “Certifying and Paying Authority” (CPA) built up on the National Fund office, making use of the pre-accession experience. The above mentioned responsibilities will be performed by the “Certification Unit” within the CPA.

Within the CPA there are two separate units “Certification Unit” and “Payment Unit”, each of them being under coordination of distinct Deputy General Director.

The **competent body for receiving the ERDF, ESF and Cohesion Fund payments from the European Commission** in respect of all OPs is the Certifying and Paying Authority through the “Payment Unit”.

For SOP ENV, the **body responsible for making the payments to the Beneficiaries** is the CPA through the “Payment Unit”. Also, a Paying Unit is established within MA for dealing with payments for Priority Axis 6 - Technical Assistance.

An associate body of the Romanian Court of Accounts has been designated as **Audit Authority** for all OPs, in line with the requirements of Article 59 of the Council Regulation No 1083/2006. The Audit Authority is operationally independent of the Managing Authorities, Certifying and Paying Authority.

Certifying and Paying Authority – shall be responsible in particular for:

1) *Certification of expenditure*, which means drawing up and submitting to the Commission certified statements of expenditure and applications for payment in computerized form.

Those functions are performed by the Certification Unit.

It is certifying that:

- the statement of expenditure is accurate, results from reliable accounting systems and is based on verifiable supporting documents;

- the stated expenditure complies with applicable Community and national rules and was incurred in respect of operations selected for funding in accordance with the criteria applicable to the programme.

Within this purpose, the task of the Certifying Authority is to ensure that the received information on the procedures and verifications carried out in relation to expenditure and included in expenditure statements provides an adequate basis for certification, which entails:

- to verify the compliance of the claimed amounts with the SMIS database;
- to verify the correct calculation of the total amount of eligible expenditures;
- to take account of the results of all audits carried out by or under the responsibility of the Audit Authority/internal audit body or European Commission;
- to maintain accounting records in computerized form of expenditure declared to the Commission;
- to keep a debtor ledger.

2) Receiving payments from the Commission (responsibility of the Payment Unit)

- to receive from the European Commission the amounts from ERDF, ESF and CF, as pre-financing, intermediate and final payment;
- to draw up and submit annually to the EC the provisional forecast of likely applications for payments for the current financial year and for the subsequent one;
- to return to the EC non-eligible expenditures, recoveries as a result of an irregularity or the funds that were not used, including interest of late payment.

3) Making payments to the beneficiaries of SOP ENV and SOP Transport and transferring the EU Funds to the paying units within the ministries that are Managing Authorities for the other OPs (responsibility of the Payment Unit)

- to make payments to beneficiaries from the ERDF and CF and the co-financing amounts, for SOP ENV and SOP Transport;
- to transfer the funds from the ERDF and ESF to the paying units, for the other OPs.

The Managing Authority of SOP ENV is responsible for managing and implementing its Programme efficiently, effectively and correctly in line with the provisions of Article 60 of the Council Regulation No 1083/2006. The Managing Authority will work closely with the designated Certifying and Paying Authority in fulfilling the responsibilities of financial management and control to ensure that:

- Money is used most effectively to achieve the objectives of each OP;
- Use of resources is publicly accountable to the EU and the Member State;
- Budgetary control is effective so that commitment is sustainable within each OP and financial planning profiles are adhered to;
- Contracting is within budget;
- Procurement of goods and services under projects financed:
 - takes place;
 - conforms to EU and Member State rules;
 - represents value for money;
- Financial statements sent to the European Commission and other bodies are correct, accurate and complete:
 - correct - funds are applied correctly;
 - accurately – free from errors;
 - complete – all relevant items have been included;

- Payments to Beneficiaries are made regularly and without undue delay or deductions;
- Co-financing resources are provided as planned;
- Payments are properly accounted for;
- Irregularities are notified in line with EU regulations;
- Any sums wrongly paid out are recovered swiftly and in full;
- Unused or recovered resources are re-committed within the respective OP;
- De-commitment is avoided – particularly in relation to the n+3/n+2 rule;
- Closure of each OP takes place smoothly and on time.

Before submitting the application for reimbursement, the Beneficiary verifies the accuracy, actuality and eligibility of expenditure according to the national legislation on internal control.

Within the purpose of expenditure certification to the European Commission, checks for SOP ENV are carried out on three levels:

- 1) verification of expenditures at IB level;
- 2) verification of expenditures at MA level;
- 3) certification of expenditure at Certifying and Paying Authority level.

Verifications carried out at the IBs level are based on the delegated tasks from the MA, relying on an assessment of its administrative capacity. The MA will base it on a reasonable assurance that the delegated tasks are properly performed by the IBs. The tasks performed in that sense will not duplicate checks carried out at IB level. The MA will remain responsible for the tasks delegated to the IBs.

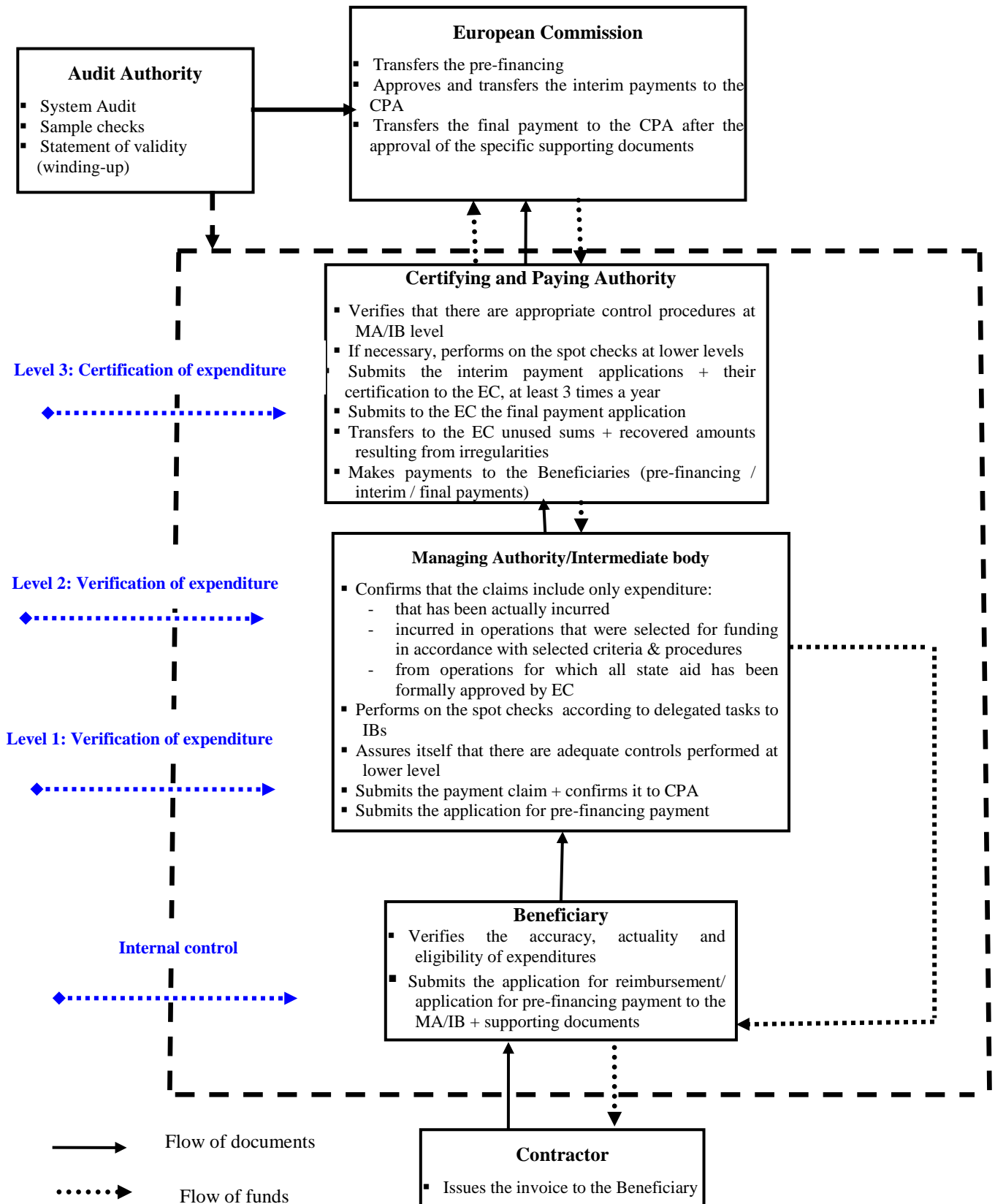
Regarding the payment process at the Ministry of Economy and Finance level, there was taken the decision to have two payment flows:

- a) direct payment for European Union financial contribution and co-financing amounts from the Certifying and Paying Authority to the beneficiaries, in the case of SOP ENV and SOP Transport, and
- b) indirect payment, through the paying units that are established near Managing Authorities, for the other operational programmes (SOP Increase of Economic Competitiveness, Regional OP, OP Technical Assistance, SOP Human Resources Development, OP Administrative Capacity).

Alternatively, the transfer of funds could be switched from direct payment flows between the Certifying and Paying Authority to beneficiaries to indirect payment flows (through paying units within the Managing Authorities) for SOP ENV and SOP Transport in order to adapt to forthcoming implementation requirements.

Description of the financial flows for the SOP ENV is presented in Fig. 10.

Fig. 10. Financial flow of the SOP ENV



Irregularities

The objective of this section is to describe the identification and reporting of any suspected fraud or other irregularity and corrective action deemed necessary as a consequence of the investigation of an irregularity.

The legal basis is represented by Commission Regulation No 1828/2006 setting out rules for the implementation of Council Regulation No 1083/2006 and of Regulation No 1080/2006, Council Regulation No 2988/95 on the protection of the European Communities' financial interests and the Romanian Government Ordinance No 79/2003 with subsequent modifications and completions which settles the ways of control and recovery of sums from non-reimbursable EU financial assistance.

According to the regulations, the member states are responsible for preventing, detecting, and correcting irregularities and recovering amounts unduly paid together with interest on late payments where appropriate. The member states shall notify these to the Commission and keep the Commission informed of the progress of administrative and legal proceedings.

As well, the member states bear the responsibility for investigating irregularities, acting upon evidence of any major change affecting the nature and the conditions for the implementation or control of operation or operational programmes and making financial corrections required. The required financial corrections are made in connection with the individual or systematic irregularities detected in operations or operational programmes.

The principles of handling irregularities identified within the SOP ENV are:

- Detection of irregularities is a duty for all the levels of implementing process (Beneficiaries, Intermediate Bodies, Managing Authority, Certifying and Paying Authority);
- Managing Authority is responsible for prevention and correction of irregularities and recovering amounts unduly paid within the SOP ENV;
- Prevention of irregularities is ensured by adopting Procedure Manuals for all the activities of the implementing process, by following closely the prescribed procedures, by management control of the MA and by providing methodological guidelines on dealing with irregularities;
- Suspected irregularities identified at the level of Beneficiaries, Intermediate Bodies and Managing Authority are immediately reported to the Managing Authority. Managing Authority has established a special office dedicated for investigating irregularities;
- Managing authority investigates the suspected irregularities usually in cooperation with the body previously detecting the irregularity. External support will be used where needed;
- When an irregularity is confirmed, the MA undertakes steps to recover amounts unduly paid or to proceed with an appropriate financial correction;
- MA is responsible for notifying the detected (suspected) irregularities in accordance with requirements of the regulations (quarterly notification, urgent cases, reporting of follow-up-Non recovery).

Irregularities involving loss of EU funds of less than 10,000 Euro are not required to be reported to the Commission under Commission Regulation (EC) No 1828/2006 unless the Commission requests it.

Therefore, irregularities of over 10,000 Euro and all irregularities committed intentionally must be reported to the European Commission. These reports are centralized and checked by the Certifying and Paying Authority and then are forwarded to the Anti-Fraud Department (DLAF) for transmission to OLAF on a quarterly basis. The Certifying and Paying Authority receives the reports from the MAs and it must include any reports on irregularities within the Certifying and Paying Authority itself.

In order to allow a proper process of prevention, detection and reporting of irregularities, at the level of the MA and IB, an irregularities officer is appointed. The irregularities officers appointed at the level of the IBs prepare quarterly and ad-hoc reports and submit them to the MA. The irregularities officer appointed at the level of the MA prepares quarterly and ad-hoc reports and submits them to the Certifying and Paying Authority.

Any person involved in the implementation of an OP can report the suspected case of fraud to the irregularities officers of the Certifying and Paying Authority, MA, IB or to the Internal Audit Units of the Certifying and Paying Authority, MA or IB either formally or anonymously. The person reporting the suspected case will have no further involvement in the irregularity process for personal security reasons.

Suspected irregularities will be analysed and investigated by the competent services and dealt with in line with the internal procedures on irregularities for SOP ENV and to the Romanian legal framework in force.

Internal audit

Within all ministries involved in the implementation of the Operational Programmes have been established Internal Audit Units that are independent from the structures performing the tasks of Managing Authorities (or Intermediate Bodies) and are directly subordinated to the heads of the institutions concerned.

The methodological coordination of these Units is ensured by a special unit within the Ministry of Economy and Finance, namely the Central Harmonizing Unit for Public Internal Audit.

The attributions of Central Harmonizing Unit for Public Internal Audit

- Developing and implementing uniform procedures and methodologies based on international standards agreed by the European Union, including internal audit manuals and audit trails.
- Developing risk management methodologies.
- Developing the Ethical Code of the internal auditor.
- Endorsing the methodological norms on PIA, specific to the different domains of activity in the field of public internal audit.
- Developing a reporting system for the results of all public internal audit activities and elaborating an annual report.
- Verifying whether norms, instructions, as well as the Ethical Code are respected by internal audit services in public entities; it may initiate the necessary corrective measures in co-operation with the Head of the respective public entity.
- Co-ordinating the system of recruiting and training in the field of public internal audit.

The tasks of the Public Internal Audit Unit

Public Internal Audit Unit within the MEF has specific audit manuals for the European Funds. According to the law, the tasks of the Internal Audit Unit are the following.

- Performing internal audits activities in order to assess whether the financial management and control systems of the public entity are transparent and comply with the norms of lawfulness, regularity, cost-effectiveness, effectiveness and efficiency;
- Informing CHUPIA on the recommendations not followed by the head of the audited public entity and of their consequences;
- Reporting periodically on the findings, conclusions and recommendations resulted from its audit activities;
- Preparing an annual overview of its activities in the annual report;
- Reporting immediately to the Head of the public entity and to the inspection unit in case of detecting any serious irregularities or fraud cases.

Audit Authority

Romania has established an **Audit Authority** for all Operational Programmes through Law No 200/2005, which will perform the functions established in the Article 62 of the Council Regulation No 1083/2006, including preparation of audit strategy and submission of annual control reports.

The **Audit Authority** is an associated body to the Court of Accounts, operationally independent from the Court of Accounts and at the same time independent from all the Managing Authorities and Certifying Authority.

In accordance with the provisions of the Law No 200/2005, Article 14², the Audit Authority has the following responsibilities:

- system audit, sample checks and final audit;
- checks and external audit for the structural and cohesion funds;
- annual checks of the management and control systems;
- checks of the statements of expenditure, on the basis of an appropriate sample;
- carries out appropriate checks in order to issue winding-up declarations at the closure of the programmes;
- checks the existence and correct use of the national co-financing.

Assessment of the compliance of the management and control systems

As required by Article 71 of the Council Regulation No 1083/2006, an assessment of the compliance of the management and control systems for SOP ENV will be submitted to the Commission before the submission of the first interim application for payment or at the latest within twelve months of the approval of the OP.

5.4. Information and Publicity

MA for SOP ENV is responsible for providing an effective promotion and a transparent SOP ENV publicity, according to Article 69 of the Council Regulation No 1083/2006.

MA for SOP ENV, with support from the 6th SOP priority axis (TA), will undertake actions and elaborate publicity materials in order to provide information regarding the financing

opportunities to the potential project beneficiaries, economic and social partners, National Agency for Equal Opportunities, NGOs. A special web page for SOP ENV will be and it will contain: SOP ENV, application forms, project selection criteria, information about the ongoing projects, relevant national and community legislation concerning environmental projects.

The MA will also inform the general public about the role of the European Community in the provision of financial assistance through ERDF and CF. The final results of the projects will be made public. The EU logo will be placed on all promotion materials, application forms, grant decisions, information tables, in line with the Commission Regulation No 1828/2006 setting out rules for the implementation of Council Regulation No 1083/2006.

MA SOP ENV is responsible for the elaboration of the Communication Plan that will include the above mentioned provisions. This is drafted and will be submitted to the EC within 4 months after SOP ENV approval, as required by the EC regulation.

5.5 Single Management Information System

Concept of the Single Management Information System

The Single Management Information System is a nation-wide web-based information system, supporting all Romanian organisations implementing the National Strategic Reference Framework and Operational Programmes. The system is addressing the needs of all management levels (Managing Authorities, Intermediate Bodies, Certifying and Paying Authority etc.) and through all the stages of the programme cycle (programming, tendering, contracting, monitoring, evaluation, payments, audit and control). SMIS main characteristic is that it provides its users with a single mechanism for assisting them in accomplishing their everyday tasks.

As a monitoring tool, SMIS is the main provider of information on progress regarding the implementation, at both project and programme level, allowing monitoring reports to be automatically generated.

The SMIS has been developed under the coordination of ACIS and in close cooperation with the representatives of all structures involved in the management of Structural Instruments. During the implementation period, the SMIS will be managed and further developed by ACIS.

SMIS design and functionalities

The SMIS design follows three main principles: data *availability* (data are directly available following the request of an authorized user); data *confidentiality* (data are provided only to those users authorized for accessing that specific piece of information); data *integrity* (data processing should occur only by authorized users under authorized means). As means for implementing the three aforementioned principles the system supports multiple users categorized into a number of user groups/roles. In that way user permissions are easily organized and managed and the access to information can be thoroughly audited and logged in a flexible way.

In order to provide an effective management tool, the functional model of the SMIS is based on a set of subsystems, which together reflect the broad range of functionalities the System is designed to perform, as follows:

- *Programming* which allows the registration and the modification of the main information on the NSRF broken down at lower levels on OPs, priority axis, key area of intervention and operation;
- *Project management* (registration and the modification of the main information on projects, including the contracts²⁸);
- *Monitoring* which allows observing the NSRF progress at all levels, where appropriate against targets previously set; it also allows automatically bottom-up aggregation of the *actual value* of the core data which are registered at lower levels of the System;
- *Audit and Control* which registers the control and audit findings;
- *Funds flow*, which deals with payment request forecasts, inflows, project revenues, suspensions and recoveries of funds.

Data will be introduced in SMIS at the appropriate level, based on clearly defined user rights profiles. The access to the system will be granted based on username/password, obtained from ACIS following a specific procedure, which involves the heads of the institutions managing the Structural Instruments.

SMIS Coordinators' network

At the level of the Managing Authorities, Certifying and Paying Authority and Audit Authority, SMIS Coordinators have been designated, responsible for collecting and pipelining the needs of their institutions, concerning the improvement of the system and for up keeping the integrity and uniformity of the procedures followed in the implementation of Structural Instruments.

Among the SMIS Coordinators' tasks and responsibilities, the following can be mentioned:

- To act as an interface between OP MA and ACIS on the one hand and OP MA and IBs on the other hand, concerning SMIS issues;
- To collect and disseminate information from and within the institution they represent;
- To be the first line of help desk function;
- To be in-house trainers of users, including for the new employees.

Electronic data exchange with the European Commission, according to Art. 40-42 of the Commission Regulation No 1828/2006, will be done through an interface between SMIS and the the System for Fund management in the European Community 2007-2013 (SFC2007).

²⁸ A contract is a legal commitment concluded between the Beneficiary and the Grantee or Provider of the services, works or supplies necessary to implement a part of a project.

6. PARTNERSHIP

The development of the SOP ENV observed the partnership principle as stated in the Art. 11 of the Council Regulation No 1083/2006. The partnership for SOP ENV continued the one developed in the elaboration of NDP 2007-2013 priority “Protection and improvement of environment quality”.

In a first stage, MECC identified and analysed the main factors concerned about the strategic content of the documents mentioned above, taking into consideration a possible contribution from them, the expected results and the key results area influenced by their participation in elaboration of the strategic documents (key results area). Therefore, there were identified as partners: the institutions subordinated or coordinated by MECC (National Environmental Protection Agency, Local and Regional Environmental Protection Agencies), other institutions of central public administration (ministries – MEF, MDPWH, MIAR, MARD) and also the European Commission. Other partners, such as local authorities, economic operators, NGOs, national and natural park administrations were identified upon their role in identifying and attaining the strategic objectives for NDP and SOP ENV. Also, the environmental research institutes, university fields, professional associations were considered specific partners with a very important role in ensuring scientific support in environmental field.

This process was also supported by the previous collaboration of MECC with different partners – economic operators, active NGOs in environmental field, employers unions and professional associations – for the negotiation of Chapter 22 – Environment and carrying out certain environmental programmes and projects.

Following the identification of the main partners, the legal framework was elaborated in order to set up the coordination of NDP contribution /SOP drawing up. Thus, through the Minister Order No 231/18.03.2005 the working group at technical level was set up in order to ensure the elaboration of SOP ENV.

In this context, started the activity of drawing up the SOP ENV in partnership with all relevant partners. The advisory meetings were organized at sectoral level in the fields of water management, waste management, biodiversity conservation and energy, fields identified by MECC and its partners as priorities and strategic intervention to be supported in the following programming period. These meetings were attended by representatives of the following bodies:

- National Environmental Protection Agency and Regional Environmental Protection Agencies;
- Public authorities with responsibilities in environmental community acquis implementation (MEF, MIAR, MPH, National Administration “Apele Romane”, NEPA);
- Universities – Romanian Academy, Bucharest University, Bucharest Technical University of Constructions;
- Research institutes (National research and Development Institute for Environmental Protection ICIM Bucharest, Pedologic and Agrochemical Research Institute ICPA, Research and afforestation Institute ICAS, “Danube Delta” National Institute Tulcea);
- National Regulatory Authority for Public Municipal Services - ANRSC;
- Employers unions and professional associations (Romanian Water Association, Romanian Salubrity Association, ECOROM Packaging, REMAT Ownership and Professional Organization, ARAM);
- National Commission for Materials Recycling;
- National Parks administrations, National Forest Regie Autonome;

- Environmental NGOs;
- Operators of large combustion plants under the coordination of MIAR.

Many of the partners invited at the meetings and who supported the process of drawing up the NDP/SOP ENV will be members of the Monitoring Committee for SOP ENV.

Partners' consultation had also a regional dimension, at the level of each Regional Environmental Protection Agency. In this respect, meetings were organized with the participation of local authorities (municipalities, prefectures, local and county councils, water management directorates), active NGOs in environmental field at regional level, Regional Development Agencies, Local Environmental Protection Agencies.

MECC and representatives of IBs participated also in consultative meetings organized in 2005 by MEF at local level - NDP 2007 – 2013 Road show – occasions when the priority 3 of NDP – Environmental quality protection and improvement, as well as environmental priorities of SOP ENV were presented and debated. In the framework of the information campaign on NSRF and OPs (August - December 2006), representatives of the MECC and the regional IBs presented the Priority Axes and strategic orientation of the SOP ENV, in order both to acknowledge and to consult the relevant stakeholders.

As well, several consultation meetings were held with the representatives of the European Commission during the preparation of SOP ENV and their observations and opinions were taken into consideration.

Summing up, the MA has acknowledged the need of an extended partnership framework as an essential condition for the programming process of the Structural and Cohesion Funds. As detailed above, during the drafting of the SOP ENV, particular attention was paid to the partnership principle by involving an advisory group on a broad basis, including civil society, NGOs, research institutes, decentralised entities, ministries and supervisory bodies.

One of the best examples of application of partnership principle in elaborating SOP ENV was the collaboration with NGOs active in nature protection field. At the beginning, MA SOP ENV proposed a joint priority both for protection against natural disasters and biodiversity conservation. After long debates and clear arguments presented by NGOs, especially linked with financial allocation, MA decided to establish separate priorities for these fields of intervention. In the report of the NGOs coalition for Structural Funds (a group of NGOs to observe the involvement of NGOs in this process and application of partnership principle in elaboration of Sectoral Operational Programmes), the collaboration with MECC in elaboration of SOP ENV was highly appreciated.

With regard to the importance of decentralised interventions, regular consultation of regional or local authorities has taken place. While it is evident that pre-accession funding covers to a large extent the project pipeline of heavy investments, required by the acquis, in the first phase of the programming period, the second phase of project implementation will depend much more on a bottom-up approach where involvement of relevant stakeholders and an adequate involvement of the civil society is envisaged. Particular reference to NGOs involvement includes participation in the Monitoring Committee, opportunities to participate in the tender for public awareness measures attached to major investments as well as opportunities to apply as beneficiaries under the relevant priority axis for nature protection. The Managing Authority is interested to contribute to a sound development of the civil society in all stages of SOP ENV development and implementation.

The SOP document and related supported documents have been made available for all stakeholders, and adequate time has been allowed for comments and suggestions. Since January 2006, all versions of SOP ENV have been made public on MECC and MA SOP Environment website, both in Romanian and English versions. In this way, the MA has allowed to all stakeholders to send comments and suggestions. Reactions have been received, especially from private sectors requesting financing opportunities under Priority Axes 1 and 2. The MA did not accept their proposals based on “polluter pays principle”. Many of them have been guided to other sectoral programmes that can support business development, such as SOP Increase of Economic Competitiveness and Regional Operational Programme.

Also, within SEA process a public debate was organised on 17th January 2007, the announcement of the meeting being made in mass media and on MECC’s website 45 days before the meeting. NGOs (UNESCO ProNatura, REC, Terra Mileniul III, Actiunea Civica Directa, Environmental Experts Association), United Nations Development Programme, ownership and professional associations (Romanian Water Association, Romanian Salubrity Association, ECOROM Packaging, REMAT Ownership and Professional Organization, ARAM, COGEN), consultancy companies, central ministries and local authorities actively participated in the debate. The comments received were linked with the following issues:

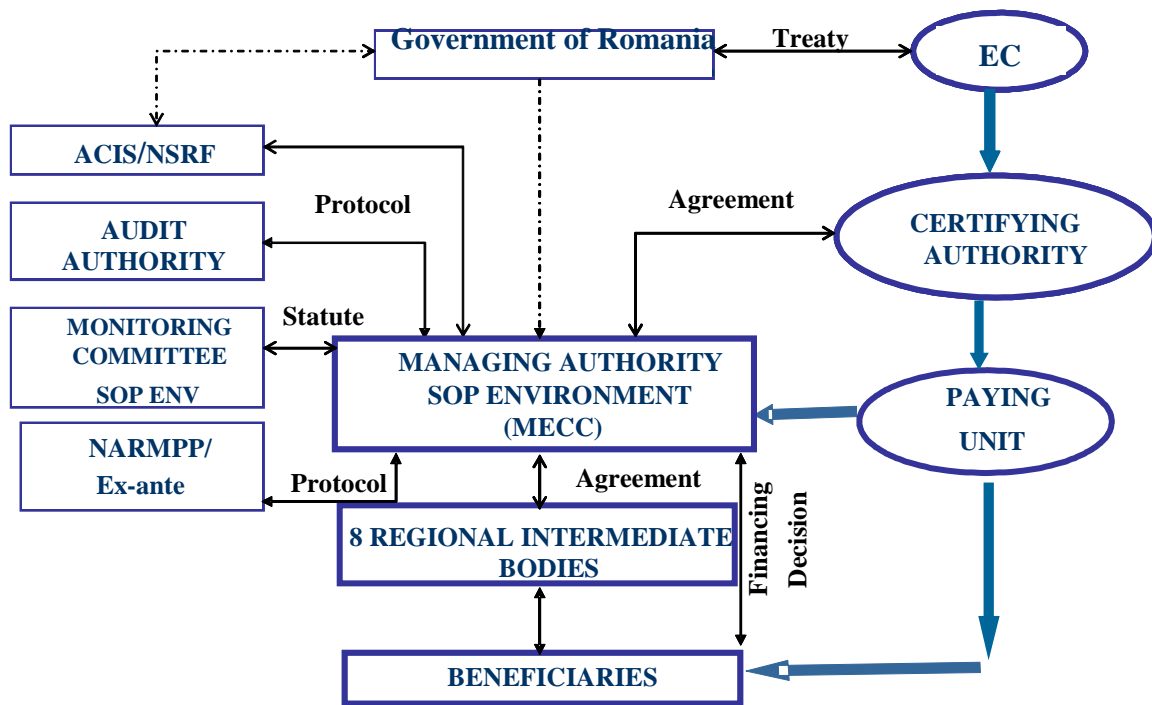
- Eligibility of expenditure as well as specific guidance for applicants should be made public in order to support project preparation;
- Complementarity among different programmes in SOP ENV should be improved in order to avoid confusion among potential applicants and financing opportunities
- Non-availability of latest environmental data, especially for water sector, caused by the low capacity of local authorities and other institutions to provide appropriate data on time;
- In spite of many seminars, workshops, meeting organised in the last couple years, there is not-enough awareness raising among local politicians nor their involvement in decision making on issues on environmental projects;
- NGOs are not foreseen as clear beneficiaries in SOP ENV;
- Externalisation of services on evaluation of SOP ENV and on projects appraisal;
- Opening the financing opportunities under SOP ENV for private sector under the key intervention area on rehabilitation of historically contaminated sites, taking into account that there are some private companies which already have projects prepared;
- Approval of the SOP ENV and necessity to earlier start the projects;
- Mitigation of likely negative impact on environment during construction phase of the projects.

The discussions on rehabilitation of contaminated sites is an example of contradictory position between MA and representatives of private sector, which took longer than the other subjects, MA argued that the subject of contaminated sites, apart from old landfills, is too wide and no overall national strategy is currently available to justify one intervention or another. Therefore, the objective of this programming period is to prepare a long-term strategy on contaminated sites, a detailed inventory on categories and then, based on an objective prioritization, pilot projects can be financed under SOP ENV to serve for investments for other financing instruments during and beyond 2007-2013. It is not less relevant that structural instruments intervene mainly in the case of market failure and that the polluter pays principle have to be observed.

The comments made by the interested public during the SEA process are thoroughly taken into account by the MA in the final version of SOP ENV and the result of the consultation process was made public as well. As a result, the chapter on complementarity has been substantially improved and NGOs have been introduced as potential beneficiaries under Priority Axis 4.

ANNEXES

ANNEX 1. SOP ENV Implementation Scheme



**ANNEX 2. INDICATIVE LIST OF MAJOR PROJECTS
FOR SOP ENV**

**Priority Axis 1 “Extension and modernization of water and wastewater systems”
Cohesion Fund Financing**

<i>No.</i>	<i>Project Location</i>	<i>Project Title</i>	<i>Status</i>
1.	Giurgiu	Extension and rehabilitation of water supply and sewerage system in Giurgiu county	Approved
2.	Teleorman	Extension and rehabilitation of water supply and sewerage system in Teleorman county	Approved
3.	Călărași	Extension and rehabilitation of water supply and sewerage system in Călărași county	Approved
4.	Brașov	Rehabilitation and extension of water supply and sewerage system in Brașov county	Approved
5.	Cluj+Sălaj	Extension and rehabilitation of water supply and sewerage system in Cluj și Sălaj counties	Approved
6.	Gorj	Extension and rehabilitation of water supply and sewerage system in Gorj county	Approved
7.	Olt	Extension and rehabilitation of water supply and sewerage system in Olt county	Approved
8.	Sibiu	Extension and rehabilitation of water supply and sewerage system in regions Mediaș, Agnita și Dumbrăveni, Sibiu county	Approved
9.	Tulcea	Rehabilitation and extension of water supply and sewerage system in Tulcea county	Approved
10.	Cluj (Turda – Câmpia Turzii)	Extension and rehabilitation of water supply and sewerage system in region Turda-Câmpia Turzii	Approved
11.	Vrancea	Rehabilitation and modernisation of water supply and sewerage system in Vrancea county	Approved

<i>No.</i>	<i>Project Location</i>	<i>Project Title</i>	<i>Status</i>
12.	Arad	Extension and modernization of water supply and sewerage system in Arad county	Approved
13.	Bistrița-Năsăud	Extension and modernization of water supply and sewerage system in Bistrița-Năsăud county	Approved
14.	Dâmbovița	Extension and rehabilitation of water supply and sewerage system in Dâmbovița county	Approved
15.	Iași	Extension and rehabilitation of water supply and sewerage system in Iași county	Approved
16.	Brăila	Rehabilitation and modernisation of water supply and sewerage system in Braila county	Approved
17.	Alba	Extension and rehabilitation of water supply and sewerage system in Alba county	Approved
18.	Ilfov	Rehabilitation and modernisation of water supply and sewerage system in Ilfov county	Approved
19.	Satu Mare	Extension and rehabilitation of water supply and sewerage system in Satu Mare county	Approved
20.	Vâlcea	Extension and rehabilitation of water supply and sewerage system in Vâlcea county	Approved
21.	Hunedoara	Extension and rehabilitation of water supply and sewerage system in region Valea Jiului, Hunedoara county	Approved
22.	Bacău	Extension and rehabilitation of water supply and sewerage system in Bacău county	Approved
23.	Buzău	Extension and rehabilitation of water supply and sewerage system in Buzău county	Approved
24.	Neamț	Extension and rehabilitation of water supply and sewerage system in Neamț county	Approved
25.	Prahova	Rehabilitation and modernisation of water supply and sewerage system in Prahova county	Approved
26.	Covasna	Extension and modernization of water supply and sewerage system in Covasna county	Approved
27.	Harghita	Extension and rehabilitation of water supply and sewerage system in Harghita county	Approved

<i>No.</i>	<i>Project Location</i>	<i>Project Title</i>	<i>Status</i>
28.	Mureș	Extension and rehabilitation of water supply and sewerage system in Mureș county	Approved
29.	Constanta- Ialomița	Rehabilitation and modernisation of water supply and sewerage system in region Constanța - Ialomița	Approved
30.	Bihor	Extension and modernization of water supply and sewerage system in Bihor county	Approved
31.	Dolj	Extension and modernization of water supply and sewerage system in Dolj county	Approved
32.	Sibiu+Brașov	Extension and rehabilitation of water supply and sewerage system in Sibiu și Brașov counties	Approved
33.	Botosani	Extension and rehabilitation of water supply and sewerage-treatment system in Botosani county	Approved
34.	Maramureș	Extension and rehabilitation of water supply and sewerage system in Maramureș county	Approved
35.	Caraș-Severin	Extension and rehabilitation of water supply and sewerage system in Caraș – Severin county	Approved
36.	Timiș	Extension and modernization of water supply and sewerage system in Timiș county	Approved
37.	Hunedoara	Extension and rehabilitation of water supply and sewerage system in Hunedoara county	Approved
38.	Mehedinți	Rehabilitation and modernisation of water supply and sewerage system in Mehedinți county	Approved
39.	Suceava	Extension and rehabilitation of water supply and sewerage system in Suceava county	Approved
40.	Galați	Rehabilitation and extension of water supply and sewerage system in Galați county	Approved
41.	Argeș	Extension and rehabilitation of water supply and sewerage system in Arges county	Approved
42.	Municipiul București	Extension and rehabilitation of water supply and sewerage system in Bucharest municipality	Approved

<i>No.</i>	<i>Project Location</i>	<i>Project Title</i>	<i>Status</i>
43.	Vaslui	„ Rehabilitation and extension of water supply and sewerage system, waste water treatment plants Vaslui, Bârlad, Huși și Negrești” – faza II	Approved



Priority Axis 2 “Development of integrated waste management systems and rehabilitation of historically contaminated sites”

Key Area of Intervention 2.1 Development of integrated waste management systems and extension of waste management infrastructure

European Regional Development Fund Financing

<i>No.</i>	<i>Project Location</i>	<i>Project Title</i>	<i>Status</i>
1	Giurgiu	Integrated solid waste management system in Giurgiu county	Approved
2	Maramureş	Integrated waste management system in Maramureş county	Sent to EC
3	Bistriţa-Năsăud	Integrated solid waste management system in Bistriţa-Năsăud county	Approved
4	Vrancea	Integrated waste management system in Vrancea county	Approved
5	Dolj	Integrated waste management system in Dolj county	Under preparation
6	Alba	Integrated waste management system in Alba county	Approved
7	Cluj	Integrated waste management system in Cluj county	Approved
8	Suceava	Integrated waste management system in Suceava county	Approved
9	Caraş-Severin	Integrated waste management system in Caraş-Severin county	Approved
10	Hunedoara	Integrated waste management system in Hunedoara county	Sent to EC
11	Mureş	Integrated waste management system in Mureş county	Approved

<i>No.</i>	<i>Project Location</i>	<i>Project Title</i>	<i>Status</i>
12	Sibiu	Integrated waste management system in Sibiu county	Approved
13	Arad	Integrated solid waste management system in Arad county	Approved
14	Neamț	Integrated waste management system in Neamț county	Approved
15	Galați	Integrated waste management system in Galați county	Under preparation
16	Timiș	Integrated waste management system in Timiș county	Approved
17	Iași	Integrated waste management system in Iași county	Approved
18	Constanța	Integrated solid waste management system in Constanta county	Sent to EC
19	Bihor	Integrated waste management system in Bihor county	Under preparation

Priority Axis 2 “Development of integrated waste management systems and rehabilitation of historically contaminated sites”

Key Area of Intervention 2.2 Rehabilitation of historically contaminated sites
European Regional Development Fund Financing

<i>No</i>	<i>Beneficiary</i>	<i>Project title</i>	<i>Status</i>
1.	MECC	Project for decontamination of historically contaminated petroleum sites	Under preparation
2	Ministry of Economy/ Conversmin	Project for rehabilitation of historically polluted sites after mining industry activity	Under preparation

Priority Axis 3 “Reduction of pollution and mitigation of climate change by restructuring and renovating urban heating systems towards energy efficiency targets in the identified local environmental hotspots”

Cohesion Fund

No.	Beneficiary	Title	Status
1	Iasi Municipality	Rehabilitation district heating system in Iasi municipality in order to comply with the environmental legislation and increasing the energy efficiency	Approved
2	Timisoara Municipality	Rehabilitation district heating system in Timisoara municipality in order to comply with the environmental legislation and increasing the energy efficiency	Approved
3	Bacau Municipality	Rehabilitation district heating system in Bacau municipality in order to comply with the environmental legislation and increasing the energy efficiency	Approved
4	Oradea Municipality	Rehabilitation district heating system in Oradea municipality for 2009 Rehabilitation district heating system in Iasi municipality for 2009-2028 period in order to comply with the environmental legislation and increasing the energy efficiency	Approved
5	Valcea County	Rehabilitation district heating system in Ramnicu-Valcea municipality for 2009-2028 period in order to comply with the environmental legislation and increasing the energy efficiency	Approved

Priority Axis 5 “Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas”

**Key Area of Intervention 5.1 - Protection against floods
Cohesion Fund**

No.	Beneficiary	Title	Status
1	RWNA	“WATMAN - Information System for Integrated Water Management- Phase I”	Approved
2	RWNA	“Measures for Flood Risk Reduction in Prut-Barlad Catchments”	Approved

Priority Axis 5 “Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas”

Key Area of Intervention 5.1 Reduction of coastal erosion

No.	Beneficiary	Title	Status
3	RWNA	Protection and Rehabilitation of the Southern Black Sea Coast in the Constanta Municipality Area and Eforie North Area	Under finalisation

ANNEX 4. Romania – environmental needs assessment fiche²⁹

Total estimated required environmental investments in 2007-2013: about €18 bn Euro out of which ca €6.4 bn were foreseen from the EU funds)

Note: The total estimated cost for compliance with the environmental EU Directives is about **29.3 billion Euro up to 2018, out of which:**

- 5,4 billion Euro – state budget and local budget (18%)
- 9,9 billion Euro- EU funds (34%)
- 7,8 billion Euro – private sector (27%)
- 6,2 billion Euro- other sources [Environmental Fund, international projects (other than those financed with EU support, foreign loans, etc.(21%)].

However, **the highest investment pressure** is foreseen **for the next 7 years** based on the following:

- many of the transition periods for various EU directives are agreed up to 2013
- minimum investments are needed as a first phase of long term investment plans in the water and waste sectors as to ensure sustainable development

WATER PROTECTION – about €12 bn total estimated in 2007-2013 period (for the whole sector); **about €5.4 bn foreseen from the EU funds**

➤ **The key issues:**

- **Waste water treatment** about €9.5 bn needed for wastewater collection and treatment, out of which €4.8 bn estimated in the period 2007-2013.
 - 71% of the waste water are untreated or insufficiently treated and flows directly into natural receivers
 - only 52% of Romania's population is connected both to water and sewage services
 - all territory of Romania declared sensitive area; advanced treatment (more expensive) required for agglomerations larger than 10,000 p.e.
- **Drinking water** – about €5.6 bn needed for drinking water of which €3.8 bn estimated in the period 2007-2013.
 - only 65% of the population of Romania benefit from mains drinking water supply and indoor plumbing

➤ **Transitional periods:**

- for compliance with the acquis for wastewater collection, treatment and discharge - by 2015 for a number of *263 agglomerations* of more than 10,000 population equivalent (p.e.) and by 2018 in *2,346 agglomerations* of between 2,000 and 10,000 p.e.; however, **until 2013 are most of the interim deadlines.**
- for compliance with **Directive No 98/83/EC** on drinking water quality for various parameters, in phases by 2015 (for 1774 agglomerations of less than 10,000 p.e. and for 134 agglomerations of more than 10,000 p.e.), but **until 2013 most of the interim deadlines are foreseen.**

²⁹ Note: The figures presented in this fiche were provided in the context of Romania's negotiations on the environment chapter of the acquis communautaire, and **date from the end of 2004**. They are in constant, rather than current prices and for both these reasons the figures for estimated contributions from EU funds cannot be directly compared with the financing plan presented in SOP ENV.

- Investments also required for **anti-flooding measures** – **about €237 mil. foreseen EU support.**
- **The provisional list of major projects is presented in Annex 2 above. The projects are prepared** with ISPA support and external loan. The estimated investment cost is 50-100 mil. Euro per project. They will be integrated water/wastewater projects (groups of projects), each covering several agglomerations in a county/river basin area, aiming to optimise the investment and operational costs and to significantly contribute to compliance with EU directives (in line with commitments under Chapter 22- Environment).

All major projects are linked to a condition of reorganisation the water services in the project area aiming to ensure a good quality of services, at affordable tariffs, and an efficient operation of facilities to be build within SOP framework. ISPA and PHARE TA is currently available in 35 of the 42 counties of Romania with the view to increase the performance of the regional water companies that will implement EU co-financed measures.

WASTE MANAGEMENT – **about €2.4 bn estimated in 2007-2013 period (for the whole sector), of which €750 mil foreseen from EU funds**

➤ **The key issues:**

Municipal waste management mostly inadequate:

- only 0.25% of the total municipal waste collected is reused, while over 99% is landfilled
- a large number of non-compliant landfills, most of them illegal; a number of 236 landfills of the 251 registered municipal landfills in urban area do not comply with environmental standards;
- there are no organized waste management services in most of the rural areas, this leading to a high number of unauthorized landfills (approx. 2,700 small dumping sites);
- the main method of waste disposal remains landfilling; only a small proportion is utilized as a secondary raw material and recycled.

➤ **Transitional periods**

- for compliance with Landfill Directive No 1999/31/EC by 2017 for certain types of landfills of waste: municipal landfills – transition periods by 2017; temporary storage of industrial hazardous waste – 2009; industrial non-hazardous waste landfills – transition periods by 2013. **A number of 177 municipal landfills³⁰ (around 490 ha) situated in urban area must cease the landfilling during 2007-2013.** Also, for closure of 101 non-compliant waste landfills type b in urban areas, gradual transition periods were granted during 16 July 2009 – 16 July 2017.
- Other transitions were agreed for certain targets in the field of packaging waste by 2013, aiming to considerably reduce the quantity of waste to be landfilled.

➤ **Other provisions of the Landfill Directive No 1999/31/EC**

- The biodegradable municipal waste going to landfills must be reduced to 50% of the total amount (by weight) of biodegradable municipal waste produced in 1995, by 2013.

³⁰ According to the Implementation Plan for Directive 99/31/EC on landfill of waste.

- **The provisional list of major projects in the waste management sector is presented in Annex 2, above.** These projects are prepared with ISPA support. The estimated investment cost is 25-30 mil. Euro per project. They will be integrated waste management projects, based mainly on county area and will include construction of waste disposal facilities, introduction of selective collection aiming to achieve the recycling targets, public awareness and involvement of population in selective collection process as well as closure of non-complying landfills. The major projects are expected to significantly contribute to compliance with EU policies and practices (in line with commitments under Chapter 22 - Environment).

Improvement of waste management services is a condition linked to investments in the waste sector. Support for concession of waste related services is also foreseen under SOP ENV when needed.

AIR PROTECTION – about **€400 Mil. EU funds foreseen for LCP Directive (under SOP ENV and SOP Increase of Economic Competitiveness)**

➤ **The key issues:**

- For implementation of **LCP Directive**, about €2.1bn estimated in the period 2007-2013.
- In many urban agglomerations, LCP, particularly the municipal heating plants are the main pollution source due to old technologies and long-term under-investments, thus are highly polluting the environment and represent a threat to the population health.
- Related investments for energy efficiency are foreseen under SOP Increase of Economic Competitiveness coordinated by Ministry of Economy and Finance.

➤ **Transitional periods:**

Romania obtained transition periods until 2013, respectively 2017 for certain emissions (sulphur dioxide, nitrogen oxides and particulates) and certain installations under the large combustion Directive.

BIODIVERSITY – about **€150 Mil. foreseen from EU funds**

➤ **The key issues:**

- Amongst EU-25 and candidate countries, Romania has one with the highest number of threatened species.
- From the EU perspective, by the accession date, Romania has to ensure the establishment of Natura 2000 network, in accordance with Birds and Habitats Directives and to prepare relevant protection measures for sites of community interest.
- Strengthening the institutional system to provide for control, law enforcement and sufficient capacity to prepare and implement management plans for protected areas is an essential need. The aim is to ensure effective management for protected areas, and thereby to stop degradation of biodiversity and natural resources and the associated risk for the environment and sustainable development.