Ex-ante Evaluation
Operational Programme
Environment

Romania

(Final)

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Executive Summary

Objectives and approach of the ex-ante evaluation

The main objective of Ex-ante evaluation of Sector Operational Programme for Environment in Romania is to help ensure relevance and coherence of the drafted Programme with the Community strategic guidelines and the national and regional priorities; to optimise the allocation of budgetary resources, and improve programming quality. Ex ante evaluation focuses primarily on an analysis of the strengths, weaknesses and potential of the sector. It provides with a prior judgement on whether development issues have been diagnosed correctly, whether the strategy and objectives proposed are relevant, whether there is incoherence in relation to Community policies and guidelines, whether the expected impacts are realistic. It also provides the required foundations for monitoring and for future evaluations, by ensuring that there are explicit and quantified objectives. It helps to specify selection criteria for the selection of projects and to ensure that Community priorities are respected. Finally, it helps to ensure the transparency of decisions by allowing for a clear explanation of choices made and their expected effects. The Ex-ante evaluation is performed against the following criteria: relevance, effectiveness, efficiency, consistence and coherence, utility, sustainability and management and monitoring arrangements.

Methodology

Methodological approach proposed for this evaluation comprises six main components. In the appraisal of the socio-economic and sector analysis and the relevance of the strategy to the needs identified, the analysis of the SWOT forms the basis for defining the strategy, its policy objectives and activities. Evaluation of the economic rational, consistency and coherency of the strategy is the main component of the ex-ante evaluation. In this respect, appropriateness of the proposed strategy, its rationale, consistency and possible policy risks are evaluated, as well the reasons for establishing priorities, budget division, justification of the chosen thematic, spatial and financial priorities, complementarity and synergy between the priorities and the actions proposed. Appraisal of the coherence of the strategy with regional, national and EU policies verifies the relation between the policy objectives of the programme with other national, regional as well as the EU horisontal and cohesion policy objectives. Internal coherency is assessed to avoid efficiency problems and to ensure the availability of financial resources from national or regional policy instruments. Strategic Environmental Assessment (SEA) is a tool for minimizing the risk of potentially environmentally damaging projects through application of the SEA results in the selection of investment priorities. Evaluation of the expected results and impacts assesses the suitability of indicators for the proposed objectives, if they are measurable and if they can be used for future monitoring and evaluation. And finally, Appraisal of the proposed implementation system

addresses the quality of the implementation, monitoring and evaluation arrangements and their contribution to the efficiency of the Programme and to the efficient implementation of structural funds interventions through the National Strategic Reference Framework and National Development Plan.

The evaluation process is divided into three main stages: data collection and analysis, interviews with the key decision makers and responsible persons or participants in sectoral ministry and other related ministries as well as feed-back sessions with the drafting team

Main findings

The Sector analysis reflects the environmental status in Romania, the description is based on reliable statistical data and leads to problem identification and prioritisation, which provides the sufficient basis for SWOT analysis. The SWOT analysis itself is a summary of the current situation analysis for the environment sector in Romania covering all the topics concerned, distinguishing between thematic areas and prioritising problems. SWOT variables contain measurable targets, which lays the ground for strategy development and measure planning. Overall, the proposed strategy, the strategic objectives does not cause doubts about its relevance in relation to the identified problems, needs and potentials arising from the sector analysis.

In the water and waste water priority axis, the rationale part contains justification for scoping infrastructure upgrading and extension, its territorial coverage, estimating financial needs and analysing the institutional context. The development of integrated waste management systems and reduction of historical contaminated sites priority axis is well designed, consistent, clearly related to the sector and SWOT analyses, provides sufficient justification for intervention, there are clear priorities chosen and justified. The strategic objective under the reduction of pollution from district heating systems in selected priority areas priority axis is in compliance with the European Union and national policy documents, the rationale part contains justification for intervention, however, the list of measures, which still deserves certain consideration. There are no specific observations in regard to the implementation of adequate management systems for nature protection priority axis. The Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas priority axis is also well designed and properly structures. The technical assistance priority axis sufficiently addresses the needs of the parties involved in the programming, management and implementation of the Programme under evaluation in terms of scope and audience.

In general, the environment sector Operation al Programme is in compliance with the European strategies. Both the National Development Plan and the National Strategic Reference framework contain little linkages to the environment sector in Romania, which makes it difficult to assess their compliance. 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. More emphasis needs to be put on job creation issue, possibly, through inclusion of relevant indicators.

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 main deficiency relating to programme design is the lack of objectively verifiable indicators of achievement.

Main recommendations

It is recommended to unify measurement units throughout the text and edit the text itself in the sector analysis. For the SWOT analysis, the 'strength' part needs be supplemented, while the 'opportunities' part needs to be reduced to the factors external to the sector. In addition, land use management needs to be added to the 'weaknesses' part. And the 'Comments to SWOT Analysis' section needs to be adjusted accordingly. The main recommendation made in the evaluation of the programme design relates to setting objectively verifiable indicators as a means for improving programme design.

Under the water and waste water priority axis, it is recommended restructure and to shorten the rationale and strategy parts focusing on the essential issues. Merging floods prevention and water and waste water management under one priority axis may be considered as a means for simplification of programme implementation. In addition, the list of indicative measures may be reviewed and shortened. Under the waste management priority axis, it is advised to consider inclusion of environmental education activities in the list of activities, especially in the area of waste sorting in the urban areas. It may be important to consider increase financing for this specific priority axis. Under the air quality priority axis the main recommendations deal with reconsideration of objective related to public health, lack of references to other sectors operational programmes addressing environmental problems, reassessment of effectiveness of measures, inclusion of relevant indicators and editing of text. There is a need to include measurable indicators also under the nature protection and nature protection priority axes. Under the technical assistance priority axis, it is recommended to separate the list of activities by recipients, to include measure targeting land use planning; to include references to Human Resource development Operational Programme and to complete the table of indicators of achievement. Revisiting of relevant sections containing indicators of achievement is necessary to provide the basis on which programme results can be measured.

1 Introduction

1.1 Objectives of the evaluation

The main objective of Ex-ante evaluation of Sector Operational Programme (SOP) for Environment (ENV) in Romania is to help ensure relevance and coherence of the drafted ENV SOP with the Community strategic guidelines and the national and regional priorities chosen; to optimise the allocation of budgetary resources under the ENV SOP and improve programming quality through identification and appraisal of medium and long-term needs, the goals to be achieved, the results expected, the quantified targets, the coherence, if necessary, of the strategy proposed for the region, the Community value-added, the extent to which the Community's priorities have been taken into account, the lessons drawn from previous programming and the quality of the procedures for implementation, monitoring, evaluation and financial management.

Ex-ante evaluations are compulsory on the basis of art. 46 of the European Council Regulation laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and focus specifically on performance and results.

Ex ante evaluation focuses primarily on an analysis of the strengths, weaknesses and potential of the country, region or sector concerned. It provides the relevant authorities with a prior judgement on whether development issues have been diagnosed correctly, whether the strategy and objectives proposed are relevant, whether there is incoherence in relation to Community policies and guidelines, whether the expected impacts are realistic. It also provides the required foundations for monitoring and for future evaluations, by ensuring that there are explicit and, where possible, quantified objectives. It helps to specify selection criteria for the selection of projects and to ensure that Community priorities are respected. Finally, it helps to ensure the transparency of decisions by allowing for a clear explanation of choices made and their expected effects.

Ex-ante evaluation is performed against the following criteria:

- *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 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 and are they well embedded in the regional, national and Community policy objectives and interventions;
- *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?

1.2 Methodology

The evaluation process is divided into three main stages:

- *Document and data analysis* is carried out to assess the experiences and results of preceding programmes. This includes previous evaluations of the ENV SOP, ex-ante of the NDP, mid-term evaluation of the NDP and the monitoring results of the pre-accession programmes as well as updated statistical information and sector development reports. For external compliance, EU policy documents are used;
- *Interviews with key persons* refer to all decision makers and responsible persons or participants in the MEWM and other related ministries, who have taken part in the programme development at the different levels. The interviews serve to provide a broader assessment of the efficiency of the attainment of the objectives, as well as the procedures and the organisational structures;
- *Feed-back sessions* with the drafting team of ENV SOP and its complement serves as tool for communicating main findings in the evaluation process and sharing views on implementation of recommendations.

Methodological approach proposed for this evaluation comprises six main components and, in additions, assesses the readiness of the PC for implementation.

In the appraisal of the socio-economic and sector analysis and the relevance of the strategy to the needs identified, the analysis of the SWOT forms the basis for defining the strategy, its policy objectives and activities. The SWOT analysis is carried out against the following criteria: consistency, coherency, balance between SW & OTs, focus on impressionable factors and availability of measurable and operational factors. Assessment of the relevance of the strategy is assessed in relation to the identified problems, needs and potentials deriving from the sector analysis, to the identified trends and future challenges, balance between SO, WO, ST or WT, existence of logical links with the proposed priorities and measures in ENV SOP. Assessment of partnership is based on the level of involvement of stakeholders from relevant sectors and regions, their impact on in drawing conclusions, methods for achieving sufficient consensus concerning the conclusions from the SWOT.

Evaluation of the economic rational, consistency and coherency of the strategy is the main component of the ex-ante evaluation. In this respect, appropriateness of the proposed strategy, its rationale, consistency and possible policy risks are evaluated, as well the reasons for establishing priorities, budget division, justification of the chosen thematic, spatial and financial priorities, complementarity and synergy between the priorities and the actions proposed. Assessment of the consistency of the chosen strategy is made at the level of

global objectives based on evolving needs and key disparities (employment, income, horizontal issues, etc), as well as conformity to National and Community policies and priorities. Assessment of the thematic, geographic and financial concentration of proposed activities is made with a view to the regional and sector objectives formulated in the NSRF.

Appraisal of the coherence of the strategy with regional, national and EU policies verifies the relation between the policy objectives of the programme with other national, regional as well as the EU horisontal and cohesion policy objectives. Internal coherency is assessed to avoid efficiency problems and to ensure the availability of financial resources from national or regional policy instruments. External coherency of the proposed SOP with national and EU policies outlined in the Community Strategic Guidelines is to help ensure that the SOP's contributes to the achievement of the Lisbon objectives.

Strategic Environmental Assessment (SEA) is a tool for minimizing the risk of potentially environmentally damaging projects through application of the SEA results in the selection of investment priorities. The SEA process examines individual outputs of the planning process and proposes necessary amendments to maximize the environmental benefits and to minimise their negative environmental impacts and risks through the analysis of the context and likely future trends if the programming document is not implemented, identification of an optimal set of specific development objectives, priorities and measures, optimal monitoring and management arrangements and provision for early and effective consultations between the relevant authorities and the public, including citizens and organized stakeholder groups.

Evaluation of the expected results and impacts assesses the suitability of indicators for the proposed objectives, if they are measurable and if they can be used for future monitoring and evaluation and, if needed, helps identify relevant indicators meeting SMART criteria (specific, measurable, acceptable, realistic and timely) in order to quantify objectives and key disparities.

Appraisal of the proposed implementation system addresses the quality of the implementation, monitoring and evaluation arrangements and their contribution to the efficiency of the Programme and its Complement and, thus, to the efficient implementation of structural funds interventions through the NSRF and the ENV SOP. These arrangements are assessed taking into account the EU principle of transparency and partnership. Among other things, management system, division of responsibilities, competitiveness and transparency of the procedures, control and audit measures, effectiveness of monitoring system, legislative background for institutional structures, completeness of the rules and procedures, availability of adequate personnel, availability of IT system for monitoring and evaluation, risk analysis, partnership and involvement, the level of involvement of equal opportunities and environmental bodies in the implementation are assessed.

Assessment of the Programme Complement will be carried out in accordance with the methodological approach developed for the ENV SOP: analysis of previous evaluation results, assessment of the PC consistency with operational and global objectives, assessment of the proposed criteria for the selection of projects, assessment of the quantification of indicators, analysis of the expected impacts

and related results, and assessment of the quality of the implementation and monitoring arrangements. Each measure of the PC is summarized in a separate fact sheet followed by general assessment of its readiness for implementation.

1.3 Conceptual remarks

The first preliminary draft of the ex-ante evaluation report was prepared in the middle of October 2006 and contained the assessment of the socio-economic background and the SWOT analysis prepared by the MoEWM. Following the draft report and supporting recommendations for improvement of both sections, a debriefing meeting was held at the MPF, during actions for follow up on recommendations were agreed.

The second preliminary draft of the ex-ante evaluation report containing the analysis of strategy development and implementation arrangements was presented in the beginning of November 2006. The second preliminary draft ex-ante evaluation report was supplemented with a list of recommendations referring to strategy development, internal and external coherency of the strategy, rationale, setting priorities and their weighting, choice of measures and setting targets, as well as describing implementation arrangements. The recommendations made were in detail discussed in the second debriefing meeting held in the middle of November 2006. The same draft version of SOP ENV issued in April 2006 was used in the evaluation process, as it was at the disposal of the evaluator.

The third draft of the ex-ante evaluation report was prepared in the beginning of December 2006 and was based on the draft ENV SOP issued in October 2006. Also, the third debriefing meeting was held on the 9th of December 2006, during which outstanding issues were discussed with the representatives of the Ministries of Public Finance and Environment and Water Management. A list of actions for follow up was agreed between the parties.

It is to be noted that the Programme Complement was not made available to the evaluator at the cut off date of the third draft of the ex-ante evaluation report, therefore, it is not analysed in this evaluation report.

The present final draft ex-ante evaluation report contains the analysis and review of follow up on agreed recommendations and is based on the draft SOP version issued on 9 January 2007.

As evidenced above, iterative and interactive approach proposed in the methodology for this ex-ante evaluation has proved to be a valuable and effective tool for monitoring of follow-up on recommendations and facilitated continuous dialog between the partners.

2 Appraisal of the socio-economic analysis and the relevance of the strategy to the needs identified

Appraisal presented in this section is based on the analysis sector analysis of ENV SOP, Environment Status Report in Romania (2004), SWOT analysis and Strategy development analysis as part of desk research exercise. During the course of interviews, this information was further supplemented with the views of stakeholders and members of SOP drafting team. No previous evaluation reports were made available to the Evaluator.

2.1 Assessment of environment sector analysis in Romania

The analysis of the current situation contains description of (1) general issues related to environment in Romania, (2) water sector and flood prevention, (3) waste management, (4) air quality protection and (5) nature protection and biodiversity conservation. Summary of the current state of environment list the following areas: water resources, wastewater, public drinking water supply network, water pollution, flood risk, soil quality, waste management, climate change and air quality, emissions of atmospheric pollutants, biodiversity and nature protection, natural habitats and coastal erosion.

Sector description contained in Chapter 1 of the SOP ENV, although very descriptive and at times lacking analytical features, generally provides a sufficient picture of environment sector in Romania and forms an informative basis for the SWOT analysis and strategy development. Description of the sector is supplemented with quantified data and sufficient measurable base line indicators. The statistical data used in the sector analysis are consistent with the data available in the Environmental Status Report and national statistics.

However, there are inconsistencies in measurement units of indicators throughout the text, which at times makes comparisons difficult. For example, indicators used in describing general issues related to the environment sector in Romania (1.1) contain square kilometres, while summary of the current state of the environment (1.6) territory is measured in hectares.

Also, there are cases when different indicators are used in different chapters related to the same topic, however, this does not affect the reliability of conclusions drawn.

In the course of ex-ante evaluation, recommendations regarding restructuring the Summary section, prioritisation of existing problems, editing and shortening individual parts, such as *Surface and ground water pollution with nitrates* and *Water management utilities*, while the need for more justification in other

sections was identified. The latest version of draft ENV SOP issued in January 2007 reflects the comments by the ex-ante evaluator made.

While the essential issues are resolved in the Sector description section, there remains the need for extensive editing. There are a number of grammar mistakes, measurement units are missing, sentences are sometimes not easy to read.
Overall conclusions and recommendations

To summarise, the Sector analysis presented in Chapter 1 reflects the environmental status in Romania, the description is based on reliable statistical data and clearly leads to problem identification. The Summary of the current state of the environment follows the same structure as in the analysis itself. The summary clearly prioritises problems identified, analyses needs and potentials. It also leads to sufficient forecast of trends and future challenges, which all together provides the sufficient basis for proper SWOT analysis.

The main recommendations made in this report relate to unification of measurement units throughout the text and editing the text itself.

2.2 Assessment of SWOT analysis

The SWOT analysis, in the *strengths* part, identifies almost completed harmonisation of legislation with the environmental acquis, basic organisation structures and experience with pre-accession funds, availability of external technical assistance, variety and richness of nature, delimitation of protected areas and raised environmental awareness. The main *weaknesses* refer to poor infrastructure of water, waste water, waste collection and disposal, low quality of drinking water, high proportion of generated and landfilled waste, limited administrative capacity, low awareness of population, inefficient environmental management in almost all sub-sectors, lack of inter-sectoral communication. In the *opportunities* column, use of EU funds, private investment and commercial opportunities, development of a viable market of waste and raw materials and tourism potential. Besides that, there are a number of statements relating to reduction of differences between regions, implementation of legislation, decentralisation of management, application of partnership principle, development of investment plans, improvement of access to infrastructure, improvement of performance by public and private operators. In the *threats* column, limited capacity of beneficiaries, organisational, political and financial difficulties, high investment costs, increased pressure by growing economy, cooperation among various partners involved, availability of land, inappropriate use of EU funds are listed.

The SWOT analysis presented in Chapter 2 is structurally consistent with the sector analysis contained in Chapter 1. It is worth mentioning that Chapter 1 analyses the environment sector in Romania based on the information available for each of the listed thematic areas, like water, waste, floods, soil, air quality and climate change, biodiversity and nature protection, the same structure is followed in the SWOT analysis. From the contents point of view, the SWOT analysis can be regarded as a summary of the current situation analysis for the environment sector in Romania, as it covers all the topics concerned, clearly distinguishes between thematic areas and general issues pertaining the

environment sector as a whole and therefore provides the proper grounds for strategy development.

General strengths and weaknesses identified in the analysis are relevant to all the sub-sectors covered by the ENV SOP. There is one issue missing comparing to the previous versions of the draft SOP ENV, which is *land use management*, which, in the view of the evaluator, remains relevant for the entire environment sector requiring extensive infrastructure investments.

Statements listed in the 'strengths' and 'weaknesses' parts are internal to the sector, they derive from the sector analysis and are consistent with the latter. The 'threats' column and statements contained therein reflect external factors potentially influencing the sector. However, there are some contradictions in distinguishing strengths and opportunities. For example statements contained in the 'opportunities' part are internal to the sector. It is recommended either to delete or to move to the 'strengths' part the following statements:

- *Decentralisation in the management of environmental programmes;*
- *Full implementation of the partnership principle in decision making process in environmental protection sector.*

Also, in the 'strength' column, under the water and waste management components, one strength is identified for each of them respectively. It is believed that these two subheading can be supplemented with more strengths relevant to each of the sub-sectors.

Overall conclusions and recommendations

The SWOT analysis contained in the last version of the draft ENV SOP version dated January 2007 is regarded as a summary of the current situation analysis for the environment sector in Romania covering all the topics concerned, clearly distinguishing between thematic areas and prioritising problems according to their importance to the sector. SWOT variables contain measurable targets, which lays the ground for strategy development and measure planning.

As stated above, there remain several things to be resolved: the 'strength' part needs be supplemented with additional statements demonstrating additional strengths of the water and waste management sub-sectors, while the 'opportunities' part needs to be reduced by eliminating the listed statements which are internal to the sector. In addition, land use management needs to be added to the 'weaknesses' part, which was identified in the earlier versions of the draft ENV SOP, but omitted in the latest version of the document. And the 'Comments to SWOT Analysis' section needs to be adjusted accordingly.

2.3 Assessment of Relevance of the Strategy

The Strategy is designed to contribute to the achievement of the thematic priority *Develop Basic Infrastructure to European Standards*. It is stated that the ENV SOP strategy is based on the current situation analysis, national environmental strategies, and the NSRF. Overall strategy is designed to, first, support investments that improve accessibility to public utilities in Romania and create conditions for economic development in the region; and, second,

contribute to the improvement of the environmental protection as a pre-requisite for sustainable development. The Strategy identifies five specific objectives: (1) *Improvement of the quality and access to water and wastewater infrastructure*; (2) *Development of sustainable waste management system, by improving waste management services and reduction of historical contaminated sites in minimum 30 counties, in line with EU practices and policies by 2015*; (3) *Reduction of negative environmental impact caused by thermal plants in most polluted localities by 2015*; (4) *protection and improvement of biodiversity and of natural heritage*; and (5) *reduction of the incidence of natural disasters affecting the population*. There are five priority axes listed corresponding to these specific objective and one additional priority axis referring to Technical assistance.

Objectives of the strategy clearly derive from the analysis made in Section 1. The priority axes directly correspond with each of the strategic objectives stated, while the Technical Assistance priority axis is attributable to all five strategic objectives and five priority axes. Terms and definitions are clearly stated as compared to the earlier versions of the draft ENV SOP issued in April 2006 and October 2006 respectively.

It is important to note that strategic objectives fully cover the sector and, at the same time, emphasise the areas that need support most. The identified objectives are supported by measurable targets and set timeframe for achieving these objectives.

There were some uncertainties regarding defining objectives four and five, namely: *Protection and improvement of biodiversity and of the natural heritage by supporting the protected area management, including NATURA 2000 implementation* and *reduction of the incidence of natural disasters affecting the population, by implementing preventive measures in most vulnerable areas*. In the analysis part, marine and coastal environment is attributed to Nature protection area (1.5), while in the objectives section it listed under reduction of incidence objective. Similarly, in the analysis, floods management is part of the water management system, while in the strategy part it is translated into a separate objective. In the view of the evaluator, the issue still deserves attention and may be considered in the light of simplifying the programme implementation.

There remain several weaknesses relating to the programme design, mainly in identifying measurable indicators of achievement of these objectives. It has to be noted that programme level indicator *coverage of population* is too broad, not easily quantifiable and does not establish a timeframe for measurement.

Overall conclusions and recommendations

Overall, the proposed strategy, the set strategic objectives, which are based on proper SWOT analysis, does not cause any doubts about its relevance in relation to the identified problems, needs and potentials arising from the analysis contained in Section 1.

The main recommendation made in this section relates to setting objectively verifiable indicators as a means for improving programme design. This

recommendation is in more detail explained in the following sections of the ex-ante evaluation report.

2.4 Assessment of stakeholders' participation

Both the analysis and the strategy lack information about the stakeholders' participation at the SOP preparation stage, the consultations process is not sufficiently described in the SOP. Evidence provided during interviews suggests that there have been a number of formal events held on different occasions, during which the invited interested parties discussed decisions on priorities and weighting them.

However, not all the representatives from the NGO community interviewed by the evaluator were aware of significant change in funding mechanisms after Romania's accession to the EU in January 2007 and the increased need to secure their financial interests under the ENV SOP. Similarly, lack of information about funding opportunities under the SF was acknowledged by the interviewed representatives of business community.

So, it can be concluded that additional actions need to be taken at the level of SOP ENV to ensure more active involvement of social partners in the implementation of the SOP ENV by including them in the lists of potential beneficiaries.

3 Evaluation of the rationale of the strategy and its consistency

3.1 Introduction

Assessment of the consistency of the chosen strategy in this section is made at the level of global objectives based on evolving needs and key disparities (employment, income, horizontal issues, etc), as well as conformity to National and Community policies and priorities, it provides an appraisal of the consistency between the strategic and specific operational objectives and the available resources. However, due to the absence of sectoral programmes in a number of instances (eg SDS, ES), the analysis is made on a sector by sector basis corresponding to each of the identified priority axes, while overall consistency of the strategy is assessed in the section below under Appraisal of the coherence of the strategy with regional and national policies and the Community Strategic Guidelines.

The latest draft ENV SOP version dated January 2007 contains well designed justification for the selected priorities. Although the newly introduced section 'Rationale for selected priorities' requires editing, it establishes clear horizontal links among the priorities chosen. Further, it relates priorities with the identified problems both at the national, regional and local levels and, finally, deals with the need to comply with the Community requirements.
Assessment of priority axes

3.1.1 Extension and modernisation of water and waste water systems

The *Extension and modernisation of water and wastewater systems* Priority Axis aims at provision of adequate water and sewerage services at accessible tariffs; provision of adequate drinking water quality in all urban agglomerations, improvement in watercourses and improvement of the level of WWTP sludge management.

Indicative operations refer to the construction/modernisation of water sources intended for the drinking water abstraction, water treatment plants, water and sewerage networks, wastewater treatment plants, sludge treatment facilities as well as metering, laboratory equipment, leakage detection equipment. In terms of expected results, it is foreseen that the number of localities provided with EU compliant water facilities will grow from 0 to 250, the number of population connected to basic infrastructure will grow from 52% to 70%, the number of EU compliant wastewater treatment plants will reach 200, percentage of adequately treated waste water will grow from 35% to 60% by 2013. The water and waste water sector accounts for 58.5% of total SOP funding.

In the rationale, there are 263 agglomerations of more than 10 000 inhabitants equivalent and 2 346 agglomerations of 2 000-10 000 inhabitants equivalent

mentioned which need to comply with the EU Directive by 2015 and 2018 respectively. The projected scope of intervention is to cover half of urban territory approximately, if calculated by number of towns.

The description in the rational suggests that there has been needs analysis carried out to allow for a quite realistic guess of what are the real needs of the regions in the water and waste water sectors and how are those needs balanced in the ENV SOP. During the course of interviews, it became clear that the needs analysis was carried out by the MA in response to the EU requirements.

Institutional context is also considered in the rationale: 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.

From the institutional point of view, considerable attention is given to the regionalisation aspect and creation of association among local authorities. While new structures – Regional Operating Companies – will be new players lacking large scale project management experience, it is suggested that capacity building programmes implemented under the ISPA and Phare Programmes will help address this deficiency. It could be quite risky to leave central implementation function with the newly established bodies, especially reportedly contradictory experience under the ISPA measure.

Although not disputing the need for complex solutions at the regional level, the list of indicative operations, which is rather broad, includes measures which are not purely environmental by their nature and may be reconsidered. For example, operations referring to construction/modernisation of water sources intended for the drinking water abstraction and construction/rehabilitation of water treatment plants may be reconsidered in favour of broader territorial coverage.

The sector description given in Section 1 of the ENV SOP suggests that floods prevention is part of water and waste water systems management. Similarly, the management system within the MoEWM is created so that the same directorate is responsible both for water and waste water and floods management. Therefore, merging these two topics could be considered. However, this is not considered as crucial element affecting the implementation of the SOP ENV, therefore, is viewed as purely optional.

Overall conclusions and recommendations

There has been a dramatic qualitative change in improving the Rationale and Strategy parts of this Priority Axis. As compared to the initial versions of the draft ENV SOP dated April 2006 and October 2006, the *Rationale* part is now supplemented with new paragraphs dealing with surface water usage for drinking purposes and quality of the latter. Also, there have been efforts made to

improve the *Strategy* part. This part has been supplemented with additional information on regionalisation aspect of investments under the SOP ENV and complementarity of actions, which has brought additional value to the strategy development. The list of indicative operations has been supplemented with new item, namely, technical assistance for project preparation. In the latest version of the draft ENV SOP issued in January 2007, the rationale part is significantly improved by introducing better justification for scoping activities, territorial coverage, proving the need for certain actions, estimating financial needs and analysing institutional context.

However, in the event of number of changes, the text in the Rationale and Strategy parts became at times unnecessarily long and too descriptive. Therefore, it is recommended to edit and restructure description under the entire Priority Axis with the aim to shorten it and focusing on the essential issues listed above.

Also, merging floods prevention and water and waste water management under one Priority Axis could be considered, as it could help simplify programme implementation.

And finally, list of indicative measures may be reviewed if it appears that financial reallocation in necessary.

3.1.2 Development of integrated waste management systems and reduction of historical contaminated sites

The objectives under this priority axis deal with the increase the connection rate to public sanitation services of adequate quality and at affordable tariffs; reduction in the quality of waste deposited in the landfills; increase in the quantity of recycled and reused waste and reduction of the number of old ecological burdens.

These objectives are to be met through the construction of new municipal waste disposal facilities and transfer stations; construction of sorting, recycling and composting facilities; acquisition and installation of selective collection systems; acquisition of waste transport vehicles, construction of adequate facilities for municipal hazardous waste and other specific waste streams under key are of intervention named *Development of integrated waste management systems and extension of waste management infrastructure*. The Priority axis accounts for 19.7% of SOP funding.

It is stated in the rationale that 177 municipal landfills in area of 490 ha must cease during 2007-2013 and in 101 non-compliant landfills gradual reduction of waste land-filled to meet 2.2 million tones a year should take place.

The need for this intervention is well justified in the rationale, the strategy development follows priorities established in the sector strategies and public needs for awareness raising are properly addressed. There are clear priorities set in the strategy and, in general, the strategy provides a good basis for future programming. Further improvements are visible in the draft ENV SOP version dated October 2006 in clarifying the objectives, improving justification and

strategy development. The list of indicative operations was replaced with the list of activities, in which technical assistance for project preparation, management and supervision is included, as well as for publicity and awareness campaigns. In the draft ENV SOP version dated January 2007, there are further improvements in clarifying terms and including references to other Priority Axes, which increases both vertical and horizontal consistency of the document.

However, there is one substantial issue remaining in the relating to this priority axis. It is evident from the statements contained in section 3.2.2 of the ENV SOP that the scope under the '*Development of integrated waste management systems and reduction of old ecological burdens'* priority axis is similar to the scope under the Priority axis 1 'Extension and modernisation of water and waste water systems', however, allocated funds differ almost three times. In the absence of cost benefit analysis at the SOP level, it is difficult to judge on concrete proportion, but it is suggested that there is a need for better balance of allocations between the relevant priority axes.

Overall conclusions and recommendations

The Development of integrated waste management systems and reduction of historical contaminated sites Priority Axis is well designed, consistent, clearly related to the Sector analysis given and SWOT analysis. Strategic objective formulated is in compliance with the EU and national policies, rationale provides sufficient justification for intervention, there are clear priorities chosen and justified. Measures chosen under the Priority Axis are considered as efficient and well suited to achieve the set objectives. However, it is advised to consider inclusion of environmental education activities in the list of activities, especially in the area of waste sorting in the urban areas.

And there remains one doubt regarding sufficiency of allocation. It is recommended to consider increase financing for this specific Priority Axis.

3.1.3 Reduction of pollution from district heating systems in selected priority areas

The third priority axis aims at reduction of pollutant emissions from district heating plants, amelioration of ground level concentrations of pollutants in the localities concerned and improvement in the health condition of the population in the localities concerned.

Indicative operations refer to rehabilitation of boiler and turbines rehabilitation of boilers and turbines, introduction of BAT (best available technique) for SO2, NOx and dust reduction, introduction of metering, rehabilitation of non-compliant slag and ash landfills and rehabilitation of hot water and heating distribution networks.

Rationale for this priority axis describes links between the energy and environment sectors in Romania, and provides certain justification for investments under the ENV SOP. Strategy for this priority axis follows similar approach – it focuses on inter-linkages between the energy efficiency issues referring to the restructuring of the centralised system of thermal energy

production and distribution to meet at least 80% efficiency by eliminating the losses from transport and interior networks for hot water and heating supply and by introduction of metering to apartment building and thermal centres and describes environmental impacts as an indirect effect.

Indeed, objectives of the Strategy aim at reduction of SOx and NOx, however, the chosen measures do not always indicate technological change leading to visible positive environmental effects. For example, rehabilitation of boilers and turbines without description of technologies to be used cannot be immediately regarded as an environmental measure. Interview evidence suggests that no technological change is planned, as both before and after modernisation dark coal of different calorific capacity will be used with a positive energy efficiency effect at the end. More justification is needed that rehabilitation of boilers and turbines will be funded under the ENV SOP only when technology shift from the existing fuel to cleaner one is demonstrated. Although it is evident that solutions will need to be found on a case by case basis, additional justification is needed that installation of environmental measures directly aiming at reducing air pollution (eg installation of filters) will be given the highest priority.

Further, including operation *introduction of metering* in the list of indicative operations is not well enough justified. It is regarded as an energy efficiency measure having only very limited indirect environmental benefit. Therefore, focus needs to be put on more efficient measures to improve air quality in the selected areas.

As a result of improvements of the rationale and the strategy development under the Reduction of pollution from district heating systems in selected priority areas Priority Axis in the draft version of ENV SOP as of January 2007, the strategic objective now meets the EU and national priorities and environmental indicator is included, but still needs to be quantified.

A separate indicative operation for public awareness raising and assistance in measuring impact is needed under this specific priority axis. It is described in the rationale part, but not yet included in the list of operations.

Just an observation, the third objective under this priority axis deals with improvement in the health condition of the population in the localities concerned. In the view of the evaluator, this sounds slightly overambitious, as there are no measures dedicated for achieving this objectives and there are no supporting indicators to measure improvements in public health sector. It is therefore suggested to exclude this objective.

<u>Overall conclusions and recommendations</u>

There has been visible improvement in designing air quality component in the draft ENV SOP version issued in January 2007. The strategic objective is now in full compliance with the EU and national policy documents, priority axis derives from the objectives formulated, rationale part contains justification for intervention under the chosen priority axis and strategy identifies one priority and contains the list of measures, which still deserves certain consideration.

There several issues which need to be addressed in relation to this priority axis:

- Objective relating to public health improvements under the Priority axis needs to be either supported by measurable indicators to measure its achievement or eliminated from the text;
- It is recommended to include references to other OP (Transport in this specific case) to demonstrate how air pollution from road services accounting for 31% of released pollutants is addressed;
- It is rightly stated in the rationale and strategy part that the energy efficiency sector is able to attract more private funding than the environment sector. Therefore, to use public funding in the most efficient manner, it is also recommended to assess effectiveness of measures chosen in terms of environmental impact and amend the list of indicative operations accordingly. More specifically, it is suggested that with regard to the rehabilitation of boilers and turbines conditionality for technology change from coal to cleaner type of fuel is included. If such change cannot be realised it is suggested to include installation of filters to reduce air pollution from the LCPs instead or in combination with rehabilitation of boilers and turbines. In both cases, emphasis should be put and priorities given to environmental measures;
- It is advised to reconsider inclusion of installation of metering measure, as having very limited indirect environmental impact;
- The indicators table still needs to be supplemented with measurable targets to measure environmental impact. It is suggested to include NOx reduction in the list of indicators;
- And finally, the text under this Priority Axis needs to be edited.

3.1.4 Implementation of adequate management systems for nature protection

This priority axis identified two main objectives: (1) conservation of biological diversity, of natural habitats, wild species of fauna and flora; and (2) ensuring efficient management of protected areas.

One key area of intervention is envisaged, namely, d*evelopment of infrastructure and management plans to protect biodiversity and Natura 2000*. Indicative operations refer to capacity building for the management bodies, elaboration of scientific studies, inventories, monitoring, mapping, and development and implementation of management plans for the protected areas and Natura 2000 sites. In the later version of SOP ENV these have been merged under one key area of intervention aiming at development of infrastructure and development of management plans to protect biodiversity and NATURA 2000 areas.

Despite general nature of justification provided in the rationale part, this priority axis is quite well designed in terms of how objectives relate to areas of intervention and how operation derive from the former. However, there is no base line indicator to measure the result achieved. Certain indicators can be taken from the sector analysis in Section 1 and used in this priority axis.

And most important comment in this priority axis is that the list of eligible applicants is not clear. Statement that administrators of protected areas and national Agency for Protected Areas and Biodiversity Conservation may benefit of

this priority axis is not sufficient. It is important to note that NGOs and other public interest entities are included in the list of eligible applicants, as this component of the programme deals with public awareness, information campaigns and local communities.

Overall conclusions and recommendations

The evaluator does not have specific observations in relation to the Priority axis.

One thing can be recommended to improve quality of programming of the nature protection component, namely inclusion of base line indicator to facilitate measurement of objectives to be achieved.

3.1.5 Implementation of adequate infrastructure of natural risk prevention n most vulnerable areas

This priority axis aims at contribution to a sustainable flood management in most vulnerable areas and Black Sea shore protection and rehabilitation. Similarly, two areas of intervention echo the same topics: protection again floods and reduction of coastal erosion. Indicative operations deal with construction works for flood prevention and reduction of the destructive consequences of floods, and development of hazard and flood risk maps and rehabilitation of Black Sea shore affected by erosion. The draft ENV SOP version issued in October contains one change under this priority axis – includes TA for project preparation, management, supervision and publicity.

This priority axis contains reference to the EU water Framework Directive and National Floods management programme. During the interviews, both the MA and Water Directorate representatives, responsible for floods management, reported that *Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas* was separated to comply with the EU policy documents and their requirements. From management point of view, it is dealt with under auspices of water management directorate.

In general, this priority axis is properly structured. The rationale lacks more specific features for justification, but there are clear programming trends, projects are being prepared with external support. However, there are no indicators to measure outputs and results under this priority axis for floods prevention component.

Initially, it was suggested that priority axis *Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas* is dealt with under the Extension and Modernisation of Water and Waste Water Systems Priority axis. However, to respond to the EU policies identifying it as a separate objective, the decision was taken to leave it as a separate item.

Overall conclusions and recommendations

This Priority axis is also well designed and properly structures. No need for major changes was identified by the evaluator during the course of ex-ante evaluation.

Just one issue which was identified earlier in the process, it remains valid also for the draft ENV SOP version dated January 2007 is the absence of objectively verifiable indicators for measurement of output and results under *Protection against floods* key area of intervention. It is necessary to identify and include the mentioned indicators.

3.1.6 Technical assistance

This priority axis is designed to ensure an efficient implementation of the entire SOP ENV, to contribute to increase of absorption capacity of EU funds by supporting project identification, strengthening the MA and IBs, financing the monitoring, evaluation and control activities. Indicative operations described in the text of SOP are divided into three lots1) support for SOP management and evaluation; (support for information and publicity: and (3) strengthening the administrative capacity of the institutions responsible for monitoring, enforcement, control of environmental legislation.

Under the first lot, *support for SOP management and evaluation*, future activities refer to general support to Monitoring Committees, preparation of strategies, missions, studies, while setting up mechanisms for project preparation, appraisal and contract management are not sufficiently covered by the TA component. TA for final beneficiaries is included in the individual priority axes, and this activity will mainly cover preparation of projects and compilation of project documents. There are also training activities for final beneficiaries foreseen under the TA priority axis. General impression is that the range of actions proposed cover the needs of the players involved in the SF programming, management and implementation. Maybe more focus needs to be put on training activities for the IBs and final Beneficiaries. Also, it is difficult to assess what share of support under this Priority axis will be dedicated to the MA and to the IBs respectively.

Under the third lot of indicative operations, namely '*Strengthening the administrative capacity of the institutions responsible for monitoring, enforcement, control of environmental legislation'* there are no activities listed. It is therefore suggested to supplement the heading with a list of activities, as it is the case under the (*a)* and (b) lots, or to remove (c) lot from the text.

As regards the indicators, it is not clear which indicator relates to which of key areas of intervention, as it is done under other priority axes. Also, the base line value column needs to be filled in to provide the basis to objectively measure the listed outputs. And finally, the results part is missing in the *Indicators* table. These issues remain to be addressed.

<u>Overall conclusions and recommendations</u>

The TA priority axis is sufficiently designed to address the needs of the parties involved in the programming, management and implementation of the ENV SOP. Also, this priority axis has been improved in the course of ex-ante evaluation in terms of broadening scope of operations and broadening audience.

There are still issues to be considered that would help improve structuring this Priority Axis:

- It is recommended to separate the list of activities under (a) lot to demonstrate better which share of assistance will be given to the MA, the IBS and the final Beneficiaries;
- It is recommended to supplement (c) heading with the list of proposed activities;
- It is recommended to include measure targeting land use planning;
- It is recommended to include references to HRD OP to demonstrate that there is no overlap in the implementation of the proposed activities;
- There is still the need to complete the table of indicators to provide the basis for measurement of effectiveness of the actions proposed under the TA Priority Axis.

4 Appraisal of the coherence of the strategy with regional and national policies and the Community Strategic Guidelines

Analysis in this section deals with the relation between the policy objectives of the programmes with other national, regional as well as the EU policy objectives (horisontal and cohesion objectives). For the analysis purposes the review of the European Sustainable Development Strategy, the 6th EU Action Programme, the National Development Plan (NDP), Ex-ante Evaluation Report of the ND, the draft National Strategic Reference Framework (NSRF) 2007-2013, the Complementary Position Paper of Romania Chapter 22 – Environment, also EU policy documents on Employment and Equal Opportunities, have been reviewed. The desk research of the above-mentioned documents was followed by the course of interviews with relevant task managers within the Ministry of Environment and Water Management (MEWM) and members of SOP drafting team. And finally, the information obtained was fine tuned with the evaluators of other OPs to ensure internal consistency of the evaluation exercise.

4.1 External assessment of the coherence with EU policies

The overall aim of the renewed **EU SDS** is to identify and develop actions to enable the EU to achieve continuous improvement of quality of life both for current and for future generations, through the creation of sustainable communities able to manage and use resources efficiently and to tap the ecological and social innovation potential of the economy, ensuring prosperity, environmental protection and social cohesion. Specifically to environmental protection, the EU SDS aims at safeguarding the earth's capacity to support life in all its diversity, respect the limits of the planet's natural resources and ensure a high level of protection and improvement of the quality of the environment, also to prevent and reduce environmental pollution and promote sustainable consumption and production to break the link between economic growth and environmental degradation.

The **EU Strategic Guidelines 2007-2013 for Cohesion Policy in Support of Growth and Jobs (SGCP)** overall aims at increasing growth potential and productivity and strengthen social cohesion, placing the main emphasis on knowledge, innovation and the optimisation of human capital. To achieve this objective, the SGCP focuses on strengthening the synergies between environmental protection and growth through (1) ensuring the long term sustainability of economic growth; (2) decreasing external environmental costs to the economy (e.g. health costs, clean-up costs or damage recovery); and (3) stimulate innovation and job creation. Recommended guidelines for action deal with **infrastructure investment** to comply with environmental legislation in the fields of water, waste, air, and nature and species protection; **promotion of land use planning** clearly linking the investments to the development of

innovative and job-creating business; **promoting sustainable use of energy**; and undertaking **risk prevention** measures through improved management of natural resources and more innovative public management policies. The SGCP distinguishes between the Cohesion Fund focusing generally on infrastructure investments in water, waste and air pollution, while the Structural funds should in general support the promotion of environmental management systems, dissemination of clean technologies and the rehabilitation of contaminated sites.

The 6th EU Action Programme deals with enhanced implementation of environmental legislation, integration of environmental concerns into other policies, working with the market and individual citizens to promote good environmental performance and promotion of land use planning and timely decision making. It identifies four main objectives: (1) to stabilise the atmospheric concentrations of greenhouse gases at a level that will not cause unnatural variations of the earth's climate; (2) to protect and restore the functioning of natural systems and halt the loss of biodiversity in the EU and globally; (3) to achieve a quality of the environment where the levels of man-made contaminants do not give rise to significant impacts on risks to human health; and (4) to ensure the consumption of renewable and non-renewable resources does not exceed the carrying capacity of the environment. It also states that the implementation of the Programme will be undertaken in a context of an enlarged EU ensuring broad involvement of stakeholders.

In this respect, the ENV SOP is compliant with the above described documents, however, promotion of land use planning and promotion of sustainable use of energy need to be given more attention in the text of SOP.

4.2 Assessment of the compliance with the NSRF, national and regional policies

The NDP for Romania has the overall objective t***he rapid reduction of the social and economic development disparities between Romania and the EU member states.*** Protecting and improving the quality of the environment is identified as one of the sixth national development priorities. It states that Romania still has to significantly invest in the environment infrastructure, especially in the water, solid waste and air quality sub-sectors. In addition, Romania has to invest in the development of efficient environment management systems, especially in the water and solid waste sub-sectors. General objective of the NDP directly linked with the environment sector is *the protection of the environment quality, in accordance with Romania's social and economic needs, thus leading to the significant improvement of the quality of life by encouraging the sustainable development*. Specific objectives refer to: (1) improvement of life standards by providing public utilities services at the requested quality and quantity standards, for the water and waste water sector; (2) improvement of environmental quality, focused on conforming at relevant Directives of European Union through improvement of water quality; soil quality, air quality and improved natural resources management. However, the Ex-ante evaluation report of the NDP concluded that *environment was treated as a subset of infrastructure without an adequate analysis of the wider environmental issues. The key issue, in the view of the Evaluators, may have been those requiring immediate attention, but no justification was given for their prioritisation. In*

addition, environmental impacts of oil and gas extraction, contaminated land and significance of mountains was not properly covered, and the final issue of biodiversity not adequately covered.

Although the CGCP should form the basis for preparing **NSRF for Romania**, the latter contains only indirect linkage to the environment sector. According to the NSRF, the global objectives of the Structural Instruments are: *to reduce the social and economic development disparities between Romania and the EU Member States*, and *to reduce the disparities with the EU by generating an additional 10% increase in Romania's GDP by 2015*. In order to achieve these overall objectives, Romania intends to follow ***four thematic priorities*** with clear indicative financial weighting:

- Develop basic infrastructure to European standards (60%);
- Increase the long-term competitiveness of Romanian economy (15%);
- Development and more efficient use of Romania's human capital (20%);
- Building an effective administrative capacity (5%).

The SWOT analysis of the NSRF points out just one strength for the environment sector, under general infrastructure heading, namely *rich natural resources. Identification of weaknesses refers to the underdeveloped basic facilities in the water, sewerage and waste disposal areas, poor environmental management and low environmental awareness.* The strategy for the NSRF identifies the following priority areas:

- Extension and modernization of water and wastewater infrastructure;
- Improved waste management;
- Improved air quality;
- Nature protection;
- Risk prevention.

Although the NSRF is not subject of this Ex-ante evaluation, its design supports the external evaluators' for the NDP view that environment is treated as a part of infrastructure investment, and environmental management and environmental awareness are not adequately addressed in the NSRF itself. Similarly, the ENV SOP deals mainly with the infrastructure investment.

The Romanian Sustainable Development Strategy (RSDS) and the Romanian Environmental Strategy (RES) appear to be outdated and therefore could not be used for the purpose of this ex-ante evaluation. These strategic documents have been replaced with a set of statements containing references to individual sectors, but due to its limited scope and reference, this has not been used in the course of evaluation.

4.3 Compliance with the EU cross-cutting issues

The proposed strategy, its priorities and the operational objectives in general terms coincide with the so-called cross cutting themes of the European Union on employment, equal opportunities, information and environment.

Although it is envisaged that the measures to be taken will create new and better jobs, the ENV SOP does not indicate or quantify the level of expected improvements. The proposed actions will expectedly contribute to the EU

objectives for equal opportunities between women and men and for social cohesion. And finally, the proposed actions will respect the EU principle and rules for the environment.

Compliance of the ENV SOP with the EU and national policies on Public Procurement cannot be assessed, as the preparation of the proposed Public Procurement Mechanism was about to be finalised at the cut-off date of the evaluation report.

4.4 Results of Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment was carried out in accordance with the requirements of the European Council Directive on assessment of the effects of certain plans and programmes on the environment (2001/42/EC) and Romania Governmental Decision No.1076/8.07.2004 for setting up the environmental assessment procedure of certain plans and programmes (Of.J.no.707/5.08.2004). Full SEA report is annexed to this Ex-ante evaluation report (Annex 1).

The SEA report found that the ENV SOP that the programme itself and the key areas of intervention were likely to have significant positive effects, with exception for the construction activities where they were foreseen. Comparison of both ENV SOP versions issued in April and October 2006 respectively leaded to the conclusion that the latest version as of October 2006 would have more positive environmental effect as well as regards the transparency and sustainability, since it separated two distinct environmental objectives, sought to improve the overall balance of positive and adverse environmental impacts of the ENV SOP and better correspond to the priorities provided in the guidelines for SF. The ex-ante evaluation report expressed the need for more environmental management measures to complement infrastructure investment to maximize environmental effects.

The SEA Report proposed to reorganize the *analysis of the current situation* by merging chapters 1.6 with 1.1 in order to give a better overview of overall situation in environmental sector in Romania, to supplement the SWOT analysis with environmental issues, to complement and modify the global and specific objectives of the programme, to modify formulation of some of the key areas of intervention in order to strengthen the environmental effects of the actions envisioned under them and complement with the conditions of the implementation. Similar conclusions and recommendations, however, with more emphasis on the socio-economic factors, were drawn also in the ex-ante evaluation report.

The SEA team recommended alternative formulations of the general objective, additional recommendations for alternatives were proposed for the strategic objectives. The SEA report also contained the proposal for monitoring of environmental effects during the programme implementation through setting environmental criteria to help evaluate environmental performance of projects proposed for funding within the ENV SOP. Also, this was the subject of the ex-ante evaluation report, which found the lack of environmental monitoring criteria and addressed the need to include such criteria in the ENV SOP.

Priority Axes *Setting up of adequate management systems for nature protection and flood risk prevention in selected priority area* were considered by the SEA report as likely to have most significant positive environmental effects. This complemented the ex-ante evaluation report which presented similar conclusions in this respect.

In the analysis of the priority axes, in the SEA report, recommendations were provided for each of the key areas of intervention. Several suggestions for possible alternatives and modifications of Priority Axes were provided, with the major one being to include the industrial disasters into the priority axis 5. The ex-ante evaluator did not have such observations.

Several issues, such as the need to monitor the environmental norms while designing and constructing water and wastewater installations, waste sorting and selective collection systems were emphasised in the SEA report. Recommendations were also made to use the recovered old dumping sites for aforestation and for utilization of the reusable materials recovered during the rehabilitation of the old ecological burdens. The need to involve the public and NGOs as well as the need for their capacity development was addressed. Public debates as a means to increase ownership of protected areas was suggested. Besides that, training for stakeholders and public awareness campaign for each biodiversity projects were recommended. The main concerns shared in the SEA report were related to the construction and rehabilitation works of concrete barriers, which should not be supported. EIA was recommended as a tool to help find the best alternatives. There was a risk named, more specifically, relating to insufficient analysis and weak coastal erosion management plans that could lead to wrong decision and measures that would increase the coastal erosion, therefore the need to apply impact assessment methods, expertise and assessment tools on a case by case basis was identified. The ex-ante evaluation report partly addressed the findings contained in the SEA report. Main concerns raised in the ex-ante evaluation report, as compared to the SEA report, dealt with involvement of wider public and including environmental education measures under a number of priority axes.

To ensure proper monitoring of environmental effects of the programme a set of environmental indicators was proposed. The indicators were coordinated with those used in the national environmental monitoring system and well as the indicators applied by the EEA indicators. The SEA aimed at the establishment of indicators to monitor effects for each of the environmental objectives. In order to ensure proper monitoring, the SEA report recommended to incorporate the environmental indicators into the overall system of monitoring the ENV SOP implementation impacts; to integrate the environmental indicators into the project selection and evaluation system and also use them for the monitoring project implementation; to integrate project implementation system into overall programme implementation monitoring system as regards environmental performance, to make the results of environmental monitoring public regularly, to ensure sufficient personnel and professional capacities for environmental monitoring; to raise environmental awareness among future applicants and beneficiaries and, finally, to include environmental NGOs into the monitoring committees to be established. In this respect, the SEA and the ex-ante

evaluation reports supplement each other. The same issues were raised in both reports and assessed from various perspectives. On the other hand, the ex-ante evaluation report used the indicators proposed in the SEA report as means for future measuring of environment effects and, thus, impact of the Programme.

The key conditions and mitigation measures proposed in the SEA report included SEA and/or EIA processes under each of the priority axes. In this respect, the ex-ante evaluation did not make similar observations, but rather focused on socio-economic aspects of the future performance of the programme as well as environmental impact measurement. However, the need to include environmental management and monitoring tools was also observed in the ex-ante evaluation report.

During the assessment, as a means to prevent or reduce adverse effects on the environment, a system for environmental evaluation was proposed. The system for environmental evaluation was designed in two stages: for pre-project environmental evaluation and formal environmental evaluation during the process of formal project appraisal and selection. A draft recommended form for project proposal evaluation from the point of view of possible environmental impact was elaborated. More specifically, the SEA report recommended to incorporate measures that should be taken to minimise, reduce or offset the likely significant environmental effects in the areas of interventions, to incorporate the proposed environmental evaluation of project applications into the overall system of project appraisal and selection, to ensure sufficient personnel and professional capacities for environmental areas within the project evaluation, to ensure that the applicants are informed sufficiently about environmental issues and about possible links of the draft projects to the environment. Similar observations were made in the ex-ante evaluation report, however, the latter addressed broader scope of project selection criteria.

To conclude, the SEA report and the ex-ante evaluation report focused on similar topics and assessed them both from the socio-economic and the environmental point of views. The proposed environmental monitoring system, the proposed environmental measures and environmental indicators elaborated during the SEA process were used in the evaluation of the overall future performance of the ENV SOP.

4.5 Overall conclusions and recommendations

The ENV SOP generally is in compliance with the EU strategic documents.

Both the NDP and the NSRF contain little linkages to the environment sector in Romania, which limits the evaluator's capacity to assess their compliance.

The Romanian SDS and ES are far outdated and have no role in relation to evaluation of this ENV SOP, therefore, no assessment is made in this respect.

General conclusion is that, in the main, the ENV SOP identifies the main problems of the Romanian environment sector, prioritises them according to their importance and addresses to the level possible. However, as stated in the

NDP, *also Romania has to invest in the development of efficient environment management systems, especially in the water and solid waste sub-sectors.*

The proposed SOP, 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. More emphasis needs to be put on job creation issue in the ENV SOP, possibly, through inclusion of relevant indicators.

5 Evaluation of the expected Results and Impacts

5.1 Quantification of objectives at programme and priority level

The ENV SOP identifies two strategic trends and five programme level objectives. There is one programme level indicator, namely coverage of population benefiting from improved environmental services. However, this indicator is quite difficult to use for measurement, as it is rather general.

There are no objective specific indicators of achievement attributable to strategic objectives at the SOP. It is recommended to add objectively verifiable indicators to support measurement the achievement of the identified strategic objectives.

5.2 Evaluation of expected results

In the water and waste water sector, it is expected to connect 18% of population to basic water services and treat 25% of waste water with support provided under the ENV SOP. In the waste sector, it is expected that 8 million inhabitant will benefit from strategic projects for waste management. There are no results foreseen to be achieved under the waste management component. In the air quality sector, it is expected that the support will result in 8 rehabilitated LCPs, however, it is not stated how this will result in changes in air quality. In the nature protection sector, it is not possible to judge the potential result, as there is no base line value given to allow comparison of situation before and after support to be provided under the ENV SOP. In the risk management sector, there are no results indicated as a result from floods prevention measures, while for coastal zone rehabilitation the indication of 10 km rehabilitation is given. And finally, there are no results expected from the technical assistance component.

So, in many instances, weaknesses relating to design of programme relate to absence of objective specific, measurable and objectively verifiable indicators of achievement. In all the listed cases, the indicators need to be reviewed and adjusted to facilitate measurement of stated objectives.

5.3 Overall conclusions and recommendations

The programme design proposed in the draft ENV SOP 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 main deficiency relating to programme design is the absence of objectively verifiable indicators of achievement. Revisiting of relevant sections containing indicators of achievement is necessary to provide the basis on which programme results can be measured. A list of proposed indicators to measure achievements

at the programme, priority and output level is annexed to this ex-ante evaluation report.

6 Appraisal of the proposed implementation systems

6.1 Introduction

As stated in the ENV SOP, the establishment of the implementation system is still in its finalisation phase. It is assumed in the draft ENV SOP that the implementation of the Programme will be gradually decentralised, will build on the pre-accession experience and will seek to maximise the impact and provide for sufficient coordination.

6.2 Management

The Certifying Authority (CA), established at the Ministry of Public Finance (MPF), will provide reimbursement of eligible expenditures to final beneficiaries. The SOP ENV will be managed by the Managing Authority (MA), a dedicated structure within the MEWM created for managing the SF in the environment sector. The MA ENV comprises four directorates altogether reporting to the Vice-Minister of MEWM. There are eight Intermediary Bodies (IBs) established within the eight Regional Environmental Protection Agencies (REPAs) and led by Deputy Directors of the REPAs. Although the IBs are integral structures of the REPAs, there are subordinated to the MA within the MEWM. There are no Monitoring and Technical Committees set at the date of the ex-ante evaluation.

There has been a considerable progress in describing implementation arrangements in the draft ENV SOP January 2006, as compared to the previous version issued in April 2006. However, as the creation of the system is not finalised, there remain unresolved issues in the text of SOP that need further clarification.

There are formal structures created and described in the ENV SOP which provide a clear picture on allocation of functions to individual structures. First, division of functions between the MA and the IBs is generally described in the text of SOP ENV. It is also stated that the implementation and financing mechanism for each approved measure under SOP ENV will be governed by a written agreement signed by the MA and Beneficiary. This is expected to allow for flexibility as the implementation progresses. Second, the management and control functions are not sufficiently separated in the proposed system. However, there is no project administration function assigned either to the MA or the IBs, which may become an unexpected administrative burden and the implementation proceeds. Therefore, it is extremely important to acknowledge at this stage and to allocate the necessary resources so that this function is subsequently properly fulfilled. So, it is recommended to supplement the list of responsibilities attributable to the MA with this specific function. It is also advisable to review the allocation of TA to ensure that proper training is provided in contract management to the body having this responsibility.

In the draft agreement between the IBs and the MA, the responsibilities of the MA include drawing procedures manuals, performing analysis and approval of organizational set-up of the IBs, supporting and strengthening the IBs, informing them about changes in the procedures, EU Commission opinion and other EU and national decisions affecting SOP ENV implementation, while the responsibilities of the IBs include amending their organisational structures, providing information to the MA, maintaining databases and complying with all procedure manuals for the performance of the delegated tasks, which include information and publicity, preparing project portfolio, carrying out administrative checks for submitted applications, monitoring, reporting, verification of reimbursement claims, carrying out on the spot checks, maintaining the SMIS database, ensuring adequate audit trail, managing human resource programmes, including IB personnel training.

This appears to be a reasonable share of responsibilities, at least at this stage. As mentioned above, when the implementation progresses, the bilateral agreements between the MA and the IBs allows for redistribution of responsibilities, if such need is identified in the process. On the other hand, the process of shifting functions may be treated as an additional administrative burden itself. It is just important to have in mind that delegation of functions from the MA to the IBs needs to be adequately reflected in the re-distribution of planned financial or human resources under the TA Priority Axis.

There have been a number of detailed recommendations made in the course of ex-ante evaluation specifically dealing with the responsibility for project selection, compliance with public procurement rules, contract and financial management, administrative function for contract between MA and Beneficiaries processing and allocation of adequate financial and human resources based on splitting the functions.

As a general observation, it is advisable to restructure this part to reflect the following responsibilities of the MA: general coordination and programme management, project management, financial management, information management, compliance with national and EU policies, and reporting. Also, it is advisable, in this section, to include other players and list their responsibilities, for example bodies responsible for compliance with the public procurement rules.

It needs to be noted that a number of recommendations addressed the future functioning of the IBs, namely, clarification of carrying out formal evaluation and administrative check; specification of data for monitoring and evaluation as well documents for the annual and final reports of the SOP ENV; and clarification of the irregularity reporting system.

Similarly, the relationship between IBs and the bodies responsible for the compliance with the public procurement procedures has been clarified in due course. Just one issue relating to monthly reporting, in the view of evaluator, needs to be considered. As reporting involves a substantial amount of work, monthly reports could be too heavy burden for Beneficiaries. Therefore, quarterly reporting could be imposed instead.

There are several observations arising from the analysis of implementation arrangements. First, although it is stated in the SOP that the Certifying Authority (CA), established at the Ministry of Public Finance (MPF), will provide reimbursement of eligible expenditures to final Beneficiaries, it is not included in the list of management structures. In fact, the CA will hold the responsibility for financial management of the programme (as described under *Financial management and control* heading in 5.3), however, it does not appear in the description of management structures. It is recommended to include the CA in the description of management structures and list its responsibilities in brief in relation to programme implementation. Otherwise, this section gives the impression that the MA is fully responsible for ENV SOP implementation.

Second, if there are other bodies that will be involved, even though partially, in the implementations of the programme, for example, public procurement or state aid, they need to be listed in this sections, their responsibilities clearly defined and relationship with the MA, IBs and Beneficiaries established.

Fourth, it is the impression of the evaluator that time needed for completion of certain operations and capacities of the institutions involved are not realistically assessed. For example, check of claims for reimbursement in various forms is foreseen at four levels – Beneficiaries, IB, MA and CA. In the view of evaluator, this needs to be simplified where possible by excluding at least one party from the chain.

The general description of project selection criteria and procedures provides the basis on which detailed selection criteria can be elaborated and presented for the Monitoring Committee approval.

6.3 Financial management

General financial management procedures are well described and clear. However, there are several issues which require explanation. In the description of MA functions, more specifically, 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* (…) contracting is within budget, procurement of goods and services under projects financed conforms to EU and MS rules, represents value for money, payments to Beneficiaries are made regularly and without undue delay or deductions, co-financing resources are provided as planned, payments are properly accounted for, any sums wrongly paid are recovered swiftly and in full. These are responsibilities need to be attributable to the CA and in some cases to Beneficiaries; or wording in the introductory paragraph needs to be changed into *Managing Authority will* ***assist*** *the designated Certifying and Paying Authority in fulfilling the responsibilities of financial management and control* ***in carrying out the following functions***.

6.4 Overall conclusions and recommendations

As a result of analysis of three draft versions of the ENV SOP of Romania, one of them being issued in April and the second in October 2006, while the third dated January 2007, it is possible to conclude that there is a significant move from

purely large scale investment exercise towards a more environmentally and civil society development oriented programme. Although the main focus remains on infrastructure investment, the need for environment management measures is recognised in the last draft version of the ENV SOP, and which is already partly addressed.

The draft ENV SOP under evaluation identifies the main problems of the Romanian environment sector, prioritises them according to their importance and addresses them adequately. The Sector analysis presented in Chapter 1 reflects the environmental status in Romania, the description is based on reliable statistical data and clearly leads to problem identification. The Summary of the current state of the environment follows the same structure as in the analysis itself. The summary clearly prioritises problems identified, analyses needs and potentials. It also leads to sufficient forecast of trends and future challenges, which all together provides the sufficient basis for proper SWOT analysis.

Overall, the proposed strategy, the set strategic objectives, which are based on proper SWOT analysis, does not cause any doubts about its relevance in relation to the identified problems, needs and potentials arising from the analysis contained in Section 1.

Strategic objectives are consistent and fully correspond to the priorities identified in the socio-economic description and do not differ from priorities set in the national policy documents. Complementarity and synergy between the priority axes is also ensured. The shares and weights of the proposed priority axes are more or less balanced, maybe just allocation for the Priority axis 2 is underestimated.

The ENV SOP generally is in compliance with the EU strategic documents. As both the NDP and the NSRF contain little linkages to the environment sector in Romania, it limits the evaluator's capacity to assess their compliance. The Romanian SDS and ES are far outdated and have no role in relation to evaluation of this ENV SOP and, thus, no assessment is made in this respect.

The proposed ENV SOP, 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. More emphasis needs to be put on job creation issue in the ENV SOP, possibly, through inclusion of relevant indicators.

Justification provided in the rationale for strategy development is based on the priorities stated in the EU policy documents and sectoral needs analyses. In the priority axes, such as water and waste water, waste and air, economic assessment could be supplemented with financial data to provide better justification for distribution of costs. There remain certain difficulties in justifying environmental effectiveness of the chosen measures in the air quality Priority Axis.

The main weakness in the programme design is attributable to the lack or even absence of objectively verifiable indicators.

supporting each of the identified strategic objectives. This area still needs considerable attention but in terms in selecting relevant indicators and quantifying them.

And finally, in addition to the above stated general conclusions and recommendations, the following general issued need to be addressed:

- Land use planning is eliminated from the SWOT analysis of the draft ENV SOP version issued in January 2007, while it was identified as a weakness in the previous versions of the SOP. It is recommended to include it in the current version of the draft SOP and address it accordingly under the TA Priority Axis as creating favourable prerequisites for large scale infrastructure foreseen in the ENV SOP;
- Lists of eligible applicants need to be supplemented with *NGOs and public entities* at least under priority axes 2, 3 and 4 to ensure compliance with partnership principle and better contribution to civil society development;
- Environmental education is not made part of the environmental SOP, but references need to be added under individual priority axes how this is addressed in other programming documents on a sector by sector basis.

Specific recommendations are dealt with under each of the relevant section.

Indicators for ENV SOP ANNEX 1

Level	Objectives	Proposed indicators
Programme		
General	To protect and improve the environment and living standards in Romania	No of population benefited from environmental improvements Increase in DGP per capita rate
Specific	To improve the quality and access to water and wastewater infrastructure	Quantification of rehabilitated and extended drinking water and sewerage network in km. Quantification of reduced pollutants in drinking water. Increased quantity of treated waste water. Increased connection rate to the central water and waste water network (No of households or persons)
	To develop sustainable waste management system by improving waste management and reduction in the number of historical contaminated sites in minimum 30 counties by 2015	Quantities of processed waste. Quantities of reduced landfilled waste. Decrease in polluted territory in ha or square kilometers.
	To reduce negative environmental impact caused by thermal plants in most polluted localities by 2015	Reduction of SO2 and Nox in the air in kt/year.
	To protect and improve biodiversity and natural heritage by supporting the protected areas management, including NATURA 2000 implementation	Area of nature protection measures implemented
	To reduce the incidence of natural disasters affecting the population by implementing preventive measures in most vulnerable areas by 2015	Population covered by projects contributing to protection against natural disasters No of areas or percentage of the territory at risk covered.
Priority axes		
Water and waste water	Provide adequate water and sewerage services at accessible tariffs	Increase of connection rate to the central network. Increase in quantities of treated waste water Constructed capacities of WWTPs Upgraded capacities of WWTPs
	Provide adequate drinking water quality in all urban agglomerations	Quantified reduction of pollutants in drinking water
	Improvement in purity in water resources	Quantified reduction of pollutants in water resources
	Improvement of the level of WWTP sludge management	Quantities of sludge treated
	Create innovative and efficient water management structures	Increase in tariffs for water and waste water management (separately). Reduced costs for water and wastewater operations
Waste	Increase the population covered by municipal waste collection and management services of adequate quality and at affordable tariffs	Numbers to be provided
	Reduction in the quantity of landfilled waste	Quantification of numbers
	Increase in the quantity of recycled and reused waste	Quantification of recycled materials
	Reduction of the number of historical contaminated sites	Quantification of areas

	Setting up efficient management structures	The level of tariffs set (increased)
Air quality	Reduction of pollutants from district heating plants	No of localities targeted No of population benefiting Decrease of pollutant emissions from the LCPs (Nox, SO2, VOC, NHx etc)
	Amelioration of ground level concentrations of pollutants in the localities concerned	Number of localities targeted Specificity of pollutants, quantities recovered
	Improvement in the health condition of the population in the localities concerned	Decrease of incidence rate of certain diseases (lung cancer, respiratory diseases) in numbers/year
Nature protection	Conservation of biological diversity of natural habitats, wild species of fauna and flora	Number of protected areas Surface of protected areas, surface proposed for protection
	Ensuring efficient management of protected areas	Number of management plans in force People reached by projects dealing with environmental behaviour
Natural risk prevention	Contribution to a sustainable flood management in most vulnerable areas	Implementation of strategy for risk management
	Black Sea shore protection and rehabilitation	No of kilometers protected and rehabilitated (respectively) No of population benefiting
Technical assistance	Consolidation of the system for management, monitoring, control and evaluation of SOP ENV implementation	
Outputs		
Water and waste water	Construction/modernization of water sources intended for drinking water abstraction	No of sources installed or upgraded
	Construction/rehabilitation of water treatment plants	No of newly built waste water treatment plants No of rehabilitated waste water treatment plants
	Extension/rehabilitation of water and sewerage networks	Length of rehabilitated water and waste water networks (separately). Length of newly constructed water and waste water networks (separately).
	Construction/rehabilitation of sludge treatment plants	No of facilities installed.
	Metering, laboratory equipment, leakage detection equipment	No of units installed.
	Technical assistance for project preparation	No of projects prepared with technical assistance.
Waste	Acquisition and installation of selective collection systems	No of units
	Construction of sorting, recycling and composting facilities	No of units
	Acquisition of waste transport vehicles	No of units
	Construction of municipal waste disposal facilities and transfer stations	No of units
	Recovery of gas from landfills	Quantities of gas recovered
	Construction of facilities for municipal hazardous waste	Specification of waste No of units
	Rehabilitation of contaminated sites	Territory covered in square km or ha
	Technical assistance	No of projects to be prepared
Air quality	Rehabilitation of boilers and turbines	No of units, nature of rehabilitation
	Introduction of BAT for SO2, NOx and dust reduction	Specificity of techniques (air filters, new types of raw material, renewable sources)
	Introduction of improved metering	No of units (?)
	Rehabilitation of non-compliant slag and ash landfills	No of units
	Rehabilitation of heat distribution networks	No of kilometers
	Technical assistance	No of projects prepared with TA

Nature protection	Restoration projects for habitats and species	
	Infrastructure investment needed for designated areas	Length of drainage system; No of irrigation systems, No of waste facilities; Length and number of power lines
	Infrastructure needed for site rehabilitation and improvement	No of specific planting areas No and are of landscape protection measures applied
	Risk management	Installation of fire protection systems, No of units installed
	Assistance in the preparation of management plans and studies needed for accompanying the previous management projects	No of studies
	Infrastructure needed for access in protected areas, observatories, visitor centres, trails and information centres, building, vehicles, specialized equipment	Numbers of observatories, visitor centres, trails and information centres, buildings, vehicles and specialized equipment should be given
	Preparation of information and publicity materials, awareness raising for the projects and NATURA 2000	No of campaigns prepared and implemented, their scope
Natural risk prevention	Infrastructure for flood prevention and reduction of the destructive consequences of floods	Specificity of infrastructure and number of locations to be affected
	Development of hazard and flood risk prevention maps, plans and measures, including public information and training in reducing risks	Strategy prepared and adopted
	Rehabilitation of Black Sea shore affected by erosion	No of kilometres rehabilitated
	Technical assistance	No of projects prepared
Technical assistance	Management and evaluation	No of training courses for MA, IBs and Beneficiaries respectively, No of persons trained under each category; No of information campaigns implemented; No of calls of proposals announced; No of projects evaluated; No of projects administered; No of on spot checks organized; No of Monitoring Committee meetings organized; No of progress reports prepared No of evaluation reports prepared No of ad hoc reports and studies prepared SMIS functioning efficiently, timely entrance of data

Strategic Environment Assessment Report ANNEX 2

Environmental Report

(SEA report)

Sectoral Operational Programme

Environment

Romania

EuropeAid / 121373 / D / SV / RO

Final

Bucharest, January 2007

Contents

List of tables

List of abbreviations and acronyms

Abbreviation or acronym	Explanation
CF	Cohesion Fund
DG1076/2004 on SEA	Government Decision no.1076/8.07.2004 for setting up the environmental assessment procedure of certain plans and programmes (Of.J.no.707/5.08.2004)
EIA	Environmental impact assessment (project level assessment of environmental effects)
Env.	Abbreviation for "environmental" or "environment"
ERDF	European Regional Development Fund
EUSDS	EU Sustainable Development Strategy (Gothenburg strategy, 2001)
GRDP Handbook	Handbook on SEA for Cohesion Policy 2007-2013"
KAI	Key area of intervention
MA	Managing Authority
NDP	National Development Plan
NGO	Non-governmental organization
PA	Priority Axes
REC	Regional Environmental Center for Central and Eastern Europe
SEA	Strategic environmental assessment
SEA Directive	The European Council Directive no. 2001/42/EC on assessment of the effects of certain plans and programmes on the environment
SOPE	Sectoral operation programme - Environment 2007-2013
NRSF	National Strategic Reference Framework

Non-technical Summary

The Sectoral Operational Programme - Environment for the years 2007-2013 (hereinafter SOPE) is a document prepared to enable access and distribution of EU financial sources in the area of the environment in Romania. This SOP is being elaborated by the Ministry of Environment and Water Management (hereinafter MoEWM), which is the Managing Authority (MA) for the SOPE. It adheres to thematic priority identified in the National Strategic Reference Framework (hereinafter NRSF) aimed at development of basic infrastructure to European standards. The SOPE determines objectives, priority axes and key areas of intervention within which the project applications will be received for co-financing from the EU Structural Funds.

The SOPE was identified as one of four sectoral operational programmes screened for the strategic environmental assessment (hereinafter SEA), as provided for in the Government Decision no.1076/8.07.2004 for setting up the environmental assessment procedure of certain plans and programmes (Of.J.no.707/5.08.2004) (hereinafter GD1076/2004 on SEA). The content and scope of the assessment was determined during the scoping meeting of the Working Group established by the Managing Authority for the purpose of SEA (please see the list of institutions invited to the WG in the Annex 1). The scoping meeting took place on the 6th of September 2006. The minutes of the meeting are attached to this report (Annex 2, in Romanian only).

The assessment process began immediately after the decision of the scoping meeting. From the time of the start of the project, a working version of SOPE draft from April 2006 was made available to the SEA team and the process then continued simultaneously with the amendments introduced to the SOPE by the PA due to consultations with stakeholders and ex-ante evaluation recommendations.

All parts of the SOPE were assessed within SEA. Expert conclusions and recommendations were based on a number of national and international documents relevant to the SOPE including the draft programme complement elaborated by the Managing Authority. The basic reference framework for conducting SEA was the set of relevant environmental objectives endorsed during the September Scoping meeting referred above. The objectives were formulated on the basis of 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 SOPE. 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).

Using the set of relevant environmental objectives the SEA team assessed the SOPE sections and proposed the following changes to the SOPE:

- to reorganize the "analysis of the current situation" for the purpose of the SOPE by merging sub-chapter 1.6 with 1.1 in order to give a very good overview of overall situation in environmental sector in Romania as well as background for the issues discussed in the chapter;

- to supplement the SWOT analysis with environmental issues (provided);
- to complement and modify the global and specific objectives of the SOPE;
- to modify formulation of some of the key areas of intervention in order to strengthen the environmental effects of the actions envisioned under them and complement with the conditions of the implementation.

The SOPE contains priority axes that are worked out in detailed key areas of intervention, which are the most important part of the SOPE in terms of assessment of its possible negative impacts and potential environment benefits. Assessment was carried out for each separate key area of intervention (except for the Priority Axis on Technical Assistance) and was based on the analysis of its consistency with the relevant environmental objectives - i.e. whether and how the intervention areas may positively or negatively affect future attainment of the relevant environmental objectives in Romania.

The draft environmental report was completed on 15th of November and was prepared for the version SOP dated April and included modifications of November versions of 2006. The SOP and the draft environmental report were made available for public consultations at the end of November 2006. Based on the request of the Ministry of Finance, that wished to ensure that SEA considers alternatives options, another draft / version of the SOP was provided to the SEA team on 18th of January 2007. This version has been consequently still included in the final version of the environmental report.

On the basis of this assessment, the SEA team made proposals for implementing the key areas of intervention, identified and recommended reasonable alternative formulations of objectives, priority axes and key areas of intervention of the SOPE and also suggested conditions for their implementation.

Another important output of the assessment was the proposal for monitoring of environmental effects during the SOPE implementation and a proposal for environmental criteria that will help to evaluate environmental performance of projects proposed for funding within SOPE. Integration of environmental criteria and indicators into the overall implementation and monitoring system of the SOPE will enable to focus the support from the EU funds on those activities, which will bring positive effects to the environment and will minimize possible adverse impacts.

Major findings of the analysis

It is important to stress that SOPE is largely oriented towards improvement of environmental situation in Romania and therefore assessment and recommendations were aimed at strengthening the positive environmental effects and analyzing additional opportunities and possible negative impacts in relation to the actions.

Analysis demonstrated that measures foreseen under the key areas of intervention in the SOPE will likely have significant positive effects, with exception for construction phase of some of the activities and in the circumstances if some mitigation measures of possible negative effects are not employed. Such situations may occur due to relaxation of environmental impact assessment requirements for project level activities or improper execution of the EIA if all possible options are not analyzed and procedural requirements are not observed (i.e. consultation with key stakeholders and the public).

Results of the assessments covered both versions of the OP. The latest version of the OP (April and November, 2006) differs from the previous version of the OP (2005) in the grouping of priorities on the level of Priority axes by combining activities in two separate areas "Setting up of adequate management systems for nature protection and flood risk prevention in selected priority areas".

The second version separated nature protection and flood risk prevention into separate priority axes 4 and 5.

Assessment of the Priority Axis "Setting up of adequate management systems for nature protection and flood risk prevention in selected priority area" indicates that this intervention are likely to have significant positive environmental effects regardless their implementation separately or under two different priority axis, however, separation of two distinct environmental objectives would contribute to the transparency and accountability of the projects carried out and in inclusion it improves an overall balance of positive and adverse environmental impacts of the SOPE.

Comparison of both versions of the SOPE thus leads to a conclusion that the latest version provided in the SOPE of November 2006 will have more positive environmental effect as well as regards the transparency and sustainability, since

- it clear separation of the two distinct environmental objectives would contribute to the transparency and accountability of the projects carried out
- it will improves an overall balance of positive and adverse environmental impacts of the SOPE
- this set up better corresponds to the priorities provided in the guidelines for SF.

Suggestions for alternative formulation and possible modifications of the specific objectives of the SOPE we made.

SEA team recommends an alternative formulation of the general objective, in the following form: to improve the living standards and the environment in Romania, focusing in particular on meeting the EU environmental acquis requirements.

Additional recommendations for alternatives were proposed for the Objectives, which were not accepted by the Managing Authority. Explanations were provided.

Several suggestions for possible alternatives and modifications of Priority Axes (PA) were provided, with the major one being to include the industrial disasters into the PA 5. The MA did not accept the recommendation, though comments and clarifications were provided. There were no alternatives developed for Key Area of Interventions since SEA found them reasonably addressing environmental and sustainability issues.

In the analysis of the PAs, recommendations were provided for each KAIs.
KAI 1.1: The importance to observe the environmental norms when designing and constructing water and wastewater installations, as well as the necessity of screening for EIA for all activities planned was emphasized.
KAI 2.1: Emphasis was made on the waste sorting and selective collection systems
KAI 2.2: Recommendation was made to use the recovered old dumping sites for aforestation, where possible and for utilization of the reusable materials recovered during the rehabilitation of the old ecological burdens, such us in case of

construction materials or RES. The public and NGOs could be supported or at least invited to identify and contribute to the clean up and closure of illegal dumping sites.
KAI 3.1: Recommendations were made to introduce the metering of heat energy at the end of the pipe.
KAI 4.1: It was proposed to supplement the eligible activities with support to non-governmental organizations working on the nature protection, to include capacity development, which would help to limit the use of natural resources and to initiate the development of the national strategy for sustainable use of the natural resources. It was emphasized the need.
KAI 4.2: During the preparation of the management plans for protected areas it was recommended to carry the public debate with all of the stakeholders that develop activities such as owners in protected areas or stakeholders in the vicinity of protected areas. Additionally, training for stakeholders and public awareness campaign for each biodiversity projects were recommended
KAI 5.1: The main concern regarding the constructions and rehabilitation works is related to the possible construction of concrete barriers, which should not be supported. EIA has to be performed to ensure the best alternatives.

KAI 5.2: Insufficient analysis and weak coastal erosion management plans could lead to wrong decision and measures that would increase the coastal erosion, therefore impact assessment methods, expert support and assessment tools should be employed in every case. Connection and impacts on the designation and improvement of the Natura 2000 network in region should be assessed. The main concern for rehabilitation is big concrete barriers' construction.

The key conditions and mitigations measured proposed based on the assessment of the key areas of intervention are as follows:

- All facilities/projects that have a potential impact on Natura 2000 network need to undergo proper EIA;
- Proposed flood-protection strategies on national and regional level (KAI 5.1) must undergo the SEAs due to large areas to be affected in order to assess potential cumulative environmental effects of the actions proposed. Additionally individual projects under this KAI have to undergo EIA in order to mitigate their possible negative effects. Tiering during the EAs has to be applied in order to avoid duplication of the assessments.
- Under KIA 5.2 (Black Sea Shore protection and rehabilitation) SEA and/or EIAs need to be conducted for the programme and projects to be implemented under the KAI. Principles and actions must be correlated with the ICZM plan;
- BATs and co-generation have to be encouraged and promoted in the Priority Axis 3, which deals with the improvement of the municipal heating systems;

Involvement of the public and NGOs during the preparation of strategies and programmes as well as SEAs and EIAs has to be ensured.

During the assessment, as additional measure to prevent, reduce and as fully as possible offset any significant adverse effects on the environment, a system for environmental evaluation and selection of project applications was proposed. The system for environmental evaluation was designed in two stages with pre-project environmental evaluation during project preparation and formal environmental evaluation within official selection procedures. A draft recommended form for project proposal evaluation from environmental impact point of view was elaborated,

which is based on the relevant environmental objectives and will enable to assess proposed project impact on the relevant environmental objectives.

In order to implement the system it was recommended:

- To incorporate the proposed measures that should be taken to minimise, reduce or offset the likely significant environmental effects of each area of intervention provided (outlined in the sub-chapter 8.1) among the core selection criteria for project applications.
- To incorporate the proposed environmental evaluation of project applications into the overall system of evaluating and selecting projects
- To ensure sufficient personnel and professional capacities for environmental areas within the project evaluation
- To ensure that the applicants are informed sufficiently about environmental issues and about possible links of the draft projects to the environment.

To ensure monitoring of environmental effects of the programme a set of environmental indicators were proposed (coordinated with the national environmental monitoring indicators as well as EEA indicators sets). SEA aimed at establishment of indicators to monitor effects on each relevant environmental objective. In order to ensure monitoring, it was recommended:

- To incorporate the environmental indicators proposed into the overall system of monitoring the SOPE implementation impacts
- To connect the monitoring system to the system of evaluating and selecting the projects i.e. use the same environmental objectives/indicators for the project evaluation and selection and also for further project monitoring;
- To link monitoring of the SOPE to monitoring of the single projects i.e. summarize results of the monitoring from the project level in order to estimate overall effects of the SOPE to the relevant environmental objectives.
- To publish the results of monitoring regularly;
- To ensure sufficient personnel and professional capacities for environmental areas within the SOPE monitoring;
- To involve the key departments of the MoEWM in the discussion about the overall system of monitoring and especially the way of incorporating environmental issues into the overall system before it is launched;
- To ensure that the applicants are informed sufficiently about environmental issues and about possible links of the draft projects to the environment;
- To include environmental NGOs into the monitoring committee (-s) to be established.

Consultations

The Environmental report was prepared in consultations with the Managing Authority and the technical departments within MoEWM. Consultation with other relevant authorities (relevant ministries and agencies) has been done through the Working Group (WG).

In order to provide a wider access to the SEA process and, the SEA team initiated the establishment of the webpage within the Managing Authority where the SEA working documents and other relevant information was posted (www.mmediu.ro/integrare/pos.htm). Visitors to the site were also be able to comment on the draft SEA documents in writing and register to take part in the public debate which took place at the end of the SEA process (announced for 17th

of January 2007). The minutes of the public debate and the list of participants are attached to the report in the Annex 6.

REC Romania created a web-page on its website (www.recromania.ro) dedicated to the "Ex-ante Evaluation" (EuropeAid/121373/D/SV/RO), which contains most of the interim papers produced during the SEA of 4 OPs. Comments on the draft environmental report for SOPE may be also sent to the following e-mail address: oana.boingeanu@recromania.ro.

Pursuant to the relevant national legislation, the public debate will be organized after the formal submission of the SOPE including this draft environmental report to the MoEWM and the open consultation phase of 45 days with other relevant stakeholders and the public as required by the national law. The comments and suggestions raised during this consultation phase and the public debate should be considered within the final version of the SOPE, which will be submitted for approval to the Government of Romania.

1. Introduction and methodology

1.1 **Objectives of the SEA**

Strategic Environmental Assessment (SEA) is a tool for minimizing the risk and to maximize positive effects of proposed plans and programmes on the environment. The European Council Directive no. 2001/42/EC on assessment of the effects of certain plans and programmes on the environment (hereinafter SEA Directive) requires SEA to be carried out during the elaboration of the plan or programme and requires preparation of an environmental report; carrying out of consultations and taking into account of the environmental report and the results of the consultations in decision-making. Romania transposed the SEA Directive by the Governmental Decision 1076 of 8th of July 2004.

The SEA Directive came into force in July 2004 and is applicable to Cohesion and Structural Fund's programming for 2007-2013.

The Cohesion Policy programming process analyses and proposes development interventions. The SEA process examines individual outputs of the planning process and it may propose any necessary amendments to maximize the environmental benefits of development proposal and to minimize their negative environmental impacts and risks. As such, the programming process and the SEA process follow a very similar logic, and this is the basis for the approach recommend by the project implementing Consortium.

Additionally, SEA is a key tool not only for "greening" plans and programmes and for improving their general logic, consistency and chances for success[1] within the overall Cohesion Policy objectives, by providing linkages with parallel planning process (such as ex-ante or national strategic planning) and contributing to sustainable development.

Moreover, the requirements of the SEA Directive must be interpreted in such a way that Romanian Environmental NGOs and Civil Society have an effective involvement in the consultation process and are able to be informed about and to contribute to the Strategic Environmental Assessment.

[1] Handbook on SEA for Cohesion Policy 2007-2013, Greening the Regional Development Programmes project, 2006

1.2 **Methodology**

This SEA follows a specific SEA approach outlined in the "Handbook on SEA for Cohesion Policy 2007-2013" (hereinafter GRDP Handbook) which was elaborated within the Interreg IIIC project "Greening Regional Development Programmes". This Handbook was welcomed by the DG Regio and EG Environment in 2006 as a recommended approach for conducting SEA for the Operational Programmes for EU Cohesion Policy in 2007-2013.

The SEA methodology used this assessment fully incorporates the requirements of the SEA Directive, methodological recommendations contained in the GRDP Handbook and the national SEA requirements in Romania set up by GD no.1076/2004. Based on these requirements, this SEA aimed to:

- determine the key issues that are to be considered during elaboration of the programming document;
- analyse the context of the programming document and likely future trends if the programming document is not implemented;
- identify an optimal set of specific development objectives and priorities;
- identify optimal measures which will best enable achievement of the objectives;
- propose an optimal monitoring and management system;
- provide for early and effective consultations with the relevant authorities and the concerned public, including citizens and organized stakeholder groups;
- inform decision makes about the programming document and its likely impacts;
- notify relevant authorities and the public about the final programming document and the reasons for its adoption.

Assessment of the draft SOPE was based on the following steps:

- Analysis of the main environmental issues and trends in Romania.
- Analysis of relevant environmental plans and programmes and related strategies on international, EU and national levels.
- Determination of the relevant environmental objectives for the SOPE.
- Assessment of the descriptive part of SOPE – whether it properly reflects the main relevant environmental issues for the SOPE.
- Environmental assessment of the SOPE strategy (objectives and priority axis).
- Environmental assessment of the priority axes and areas of intervention.
- Proposals for changes in the SOPE text, based on the evaluations carried out.
- Proposal for environmental indicators to monitor environmental impacts of the SOPE implementation
- Proposal for environmental criteria for selection of projects.
- Compilation of the draft environmental report.

2 Sectoral Operational Programme – Environment content and context

2.1 **Introduction**

The Sectoral Operational Programme – Environment is a document concerning the use of the EU financial and national co-financing sources to support the development of public utilities and environmental infrastructure in order to contribute to the sustainable development of the country. The programme is being developed by the MoEWM. The SOPE is being elaborated upon the objectives of the National Strategic Reference Framework (hereinafter NRSF), in particular on its development objective as set "Develop basic infrastructure to European standards", where environmental issues are treated as sub sector of infrastructure development.

The SOP as well adheres to the priority of the National Development Plan (NDP) "Protecting and improving the quality of the environment", the objective of which is even more directed towards the overall environmental management and protection.

The SOPE sets the objectives, priority axes and key areas of interventions for support of the framework of which it will be possible to submit project proposal for co-financing from the EU Structural and Cohesion Funds. SOPE will be financed from European Regional Development Fund (ERDF) and Cohesion Fund (CF) as indicated in the April Draft of NRSF.

2.2 **Summary of main chapters**

The SOPE (draft of April 2006) contains the following main parts:

- Introduction

1. Analysis of the current situation
   - o General issues related to Environment in Romania;
   - o Water sector. Flood prevention
   - o Waste Management;
   - o Air Quality Protection;
   - o Nature Protection and Biodiversity Conservation;
   - o Summary of the current state of the environment;
   - o Previous experience in Programmes and pre-accession instruments;
2. SWOT (strengths, weaknesses, opportunities and threats) Analysis
3. Strategy:
   - o Objectives;
   - o List of priority axes;
   - o Coherence and Compliance with the Community and National Policies;
   - o Complementarity with other Operational Programmes and the Operations Financed from EAFRD and EFF;

4. Financial plan.
5. Implementation
    - Management;
    - Monitoring and Evaluation.
    - Financial Management and Control,
    - Information and Publicity
    - Single Management Information System
6. Partnership

Annex 1: State Aid Table
Annex 2: SOPE Implementation Scheme

All chapters and sections were reviewed during the strategic environmental assessment focusing on those parts that could reveal the environmental effects of the projects to be funded under the priorities of the SOP.

2.3 SOPs general and specific objectives and priority axes and justification why certain issues are not dealt in this SOPE

The objective of the SOPE is "protect and improve the environment and living standards in Romania". Global objective is in accordance with the General Principles of the EU Cohesion Policy 2007-2013 (Community Strategic Guidelines, 2007-2013).

In order to achieve the global objective, financial means within the SOPE will be concentrated on defined priority axes which are aimed at implementing 5 specific objectives of the SOPE. Specific objectives of the programme are as follows:

- Improve the access to water infrastructure, by providing water supply and wastewater services in most urban areas by 2015
- Improvement of soil quality, by improving waste management and reduction in the number of old ecological burdens in min. 30 counties by 2015
- Reduction of negative environmental impact caused by old municipal thermal plants in most polluted localities by 2015
- Protection and improvement of biodiversity and natural heritage by supporting the protected areas management, including NATURA 2000 implementation
- Reduction of the incidence of natural disasters for the population, by implementing preventive measures in most vulnerable areas by 2015

The SOPE has the following Priority axes.

1. Extension and modernization of water and wastewater systems;
2. Development of integrated waste management systems and rehabilitation of old ecological burdens;
3. Improvement of municipal heating systems in selected priority areas;
4. Implementation of adequate management systems for nature protection;
5. Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas;
6. Technical Assistance.

Chapter 3.4 of the SOPE explains the Complementarity of the SOPE with other SOPs developed for the same programming period.

Under PA 1 projects related to water and waste water systems in urban agglomerations will be financed only. There is a possibility to support projects in small agglomerations, including rural areas, but at large those projects should be cov-

ered by the National Programme for Rural Development. Good cooperation and coordination of those actions has to be strengthened between the authorities responsible for the management of two programs.

PA 3 of the SOPE is covering only rehabilitation of municipal systems, while SOP on Economic Competitiveness is dealing with investments into rehabilitation of the LCPs of national importance.

Though PA 4 covers the management plans' support for protected and Natura 2000 areas, compensatory measures for land owners in the Natura 2000 areas will not be financed from the SOPE, but from the National Programme for Rural Development (supported from European Agricultural and rural development fund). No actions in relation to Fisheries will be supported from SOPE either.

2.4 **Links to relevant national plans and programmes and international (European) documents**

The SOPE specific objectives are in correspondence with the strategic part of the Romanian NRSF that is under finalization. Acknowledging the scope and focus of the SOPE, it is natural to anticipate that there will be links to national and international (mainly European) strategic programming and legal documents.

The SOPE is significantly linked and corresponds with the Romanian NRSF (2007-2013) as well as NDP. In the section "Coherence and compliance with Community and national policies" the SOPE references relevant provisions of EU and national development policies in relation to priority axis.

SEA analysis identified the following key national documents in terms of the environment linked with the SOPE:

- Water Law no.107/1996 as amended by Law no.310/2004 and Law no.112/2006
- Action Program for reducing the pollution of aquatic environment and groundwater caused by the discharge of some dangerous substances (Of.J.no.428/20.05.2005), as amended by GD no.783/2006 (Of. J no. 562/29.06.2006;
- National Strategy for Atmosphere Protection (Of.J.no.496/02.06.2004)
- National Action Plan for Atmosphere Protection (Of.J.no.476/27.05.2004)
- Law no. 271/2003 for ratification of the Gothenburg Protocol
- GD No349/2005 (Of.J.no.394/10.05.2005) on the landfill of waste
- National Strategy on Climate Change 2005-2007, approved by GD no.645/2005 (Of.J.no.670/27.07 2005
- National Action plan on Climate Change 2005-2007, approved by GD no.1877/2005 (Of.J.no.110/ 06.02.2006);
- Law no. 5/2000 regarding the national system of protected areas (Of.J.no.152/12.04.2000).
- Governmental Decision 2151/2004 regarding the establishment of new protected areas (Of.J.no.38/12.01.2005).
- Governmental Decision 1581/2005 regarding the establishment of new protected areas (Of.J.no.24/11.01.2006).
- Law no. 462/2001 (Of.J.no.433/2.08.2001) for the approval of the GO no. 236/2000 (Of.J.no.625/04.12.2000) on natural protected areas regime, conservation of natural habitats and of wild fauna and flora; updated with Law no. 345/19.07.2006 (Of.J.no.650/27.07.2006).

- National Strategy and Action Plan for Biodiversity Conservation and Sustainable Use of Its Components (1996)
- National strategy for flood risk management
- National Sustainable Development Strategy (1999)
- GD no. 918/2002 (Of.J.no.686/17.09.2002) establishing the framework procedure for the environmental impact assessment and approving the list of public and private projects which the procedure must be applied, as amended by GD no.1705/2004 (Of.J.no.970/2004)
- GD no. 1076/8.07.2004 for setting up the environmental assessment procedure of certain plans and programmes (Of.J.no.707/5.08.2004)

There is a link drawn to the international strategic framework in the SOPE, which references European strategies for growth, jobs (Lisbon Agenda, 2000), European Sustainable Strategy (Gothenburg 2001) and the 6th Environmental Action Programme (2001 – 2010). It was proposed to emphasize the objectives of environmental protection as drawn in the renewed EU Strategy for Sustainable Development (Brussels, 2006).

EU Strategy for Sustainable Development (Gothenburg 2001 and Brussels 2006)

The European Council in Gothenburg (2001) adopted the first EU Sustainable Development Strategy (hereinafter EU SDS), which was renewed in Brussels in 2006 with the view of the proposals of the World Summit on Sustainable Development in Johannesburg (2002). It made synergies with the Lisbon strategy therefore amending the SDS with the objectives aimed at social and economic dimension of the development.

The EUSDS points out to the unsustainable trends in relation to climate change and energy use, which threatens public health, poverty and social exclusion, management of natural resources, biodiversity loss, land use and transport. The EUSDS posed new targets to European countries. Key issues presented in the EUSDS are in the areas of:

- climate change and clean energy;
- sustainable transport;
- sustainable consumption and production;
- conservation and management of natural resources;
- human health;
- social inclusion, demography and migration;
- global poverty and sustainable development challenges;
- education and training;

The EUSDS emphasized the importance of addressing cross cutting issues such as education, training, research and development.

Complete list of relevant national and European strategic documents to SOPE is provided in the Annex 3 to this document. Relevant objectives and priorities proposed by the existing international and national conceptual documents have been used by the SEA team when compiling a set of reference objectives in the environment and health protection area (as provided in the Chapter 5 below).

3 An outline of the reasons for selecting the options to be examined and issues related to collection of data required

3.1 **Choosing the options to be examined**

Relevant legislation – both Directive (2001/42/EC) and Governmental Decision (1076/2004) – require the reasonable alternatives of the programme to be considered within the SEA.

In the case of the programming for SF the SOPs are a one option programmes and a no-programme (or no-SOP) alternative is a default alternative to the programming document. The no-programme has been examined in the chapter 4 on the Current state of the environment and the likely evolution thereof without implementation of the SOP, which revealed that the no-SOP alternative would mean further deterioration of environmental situation and as such, no action is likely to have significant negative effects on the environment. Therefore the analysis further concentrated not on the alternatives of the SOP, but on the alternatives and possible improvement of positive effects on the environment of components of the SOP, such as objectives, priority axes and key areas of intervention (KAIs).

SEA Directive guidance of the EC "Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment" provides the most clear explanation on the treatment of the alternatives in the plan or programme elaboration process.

Para 5.11 of the guidance refers to the fact that "the obligation to identify, describe and evaluate reasonable alternatives must be read in the context of the objective of the Directive which is to ensure that the effects of implementing plans and programmes are taken into account during their preparation and before their adoption". Since the SEA process takes place before the adaptation of the SOP and enables analysis, it complies with the requirement to have analysis performed before the adaptation process.

Additionally, the para 5.14 refers to the fact that the "alternatives chosen should be realistic". The assessment should not engage into a process of elaboration of unrealistic alternatives and focus on the work, which can bring the biggest benefits to the process and minimization of negative and increase of positive effects to the environment.

Further Para 5.14 refers to the process of the studying process: "Part of the reason for studying alternatives, is to find ways of reducing or avoiding the significant adverse environmental effects of the proposed plan or programme. Ideally, though the Directive does not require that, the final draft plan or programme would be the one which best contributes to the objectives set out in Article 1. A deliberate selection of alternatives for assessment, which had much more adverse effects, in order to promote the draft plan or programme would not be appropriate for the fulfillment of the purpose of this paragraph." This approach presented

in the Guidance enabled the SEA team, due to programming process and available time, to focus on the programme as the core alternative and worked on options for internal levels of the programming process.

In case of operational programmes, the alternatives were discussed during the elaboration of SOPE. The SEA team assessed the **alternative objectives, priority axes** (except the Priority Axis focused on the Technical Assistance) **and priority areas of interventions** contained in the draft working version of SOPE, and provided recommendations **for choosing their optimal formulation** (from the environmental point of view).

The analysis of objectives, priority axes and KAIs resulted in formulation of more environmentally sound alternatives to the options presented in the SOP. When SEA identified a possible significant negative effect on the level of KAI, proposed alternative formulations were suggested of the KAIs or in the form of the system for environmental evaluation and selection of project applications. All these options have been suggested to the relevant authorities through internal submissions (SEA working group) and internal meetings with MAs. They were also presented to the public as in the draft environmental report. Some options generated by the SEA experts have been deemed too extreme and therefore were not supported by the Managing Authority.

Final draft of SOPE is being submitted as a "one-option" document accompanied by ex-ante evaluation and environmental reports and the statement of the SEA Authority on how the environmental considerations have been integrated in the plan or programme, and how the environmental report have been prepared.

SEA team is well aware that many real alternatives for implementation of the programme will be when the specific projects will seek support from the SOPE. These projects will vary in size, type, location, etc and will inevitably have differing environmental impacts. In order to select those alternative projects with the best environmental performance, SEA team suggested environmental indicators and projects selection criteria that should be included into the implementation and monitoring system of SOPE.

3.2 **Alternative SOPE examined**

The draft environmental report was completed on 15th of November and was prepared for the version SOP dated April and included modifications of November versions of 2006. The SOP and the draft environmental report were made available for public consultations at the end of November 2006. Based on the request of the Ministry of Finance, that wished to ensure that SEA considers alternatives options, another draft / version of the SOP was provided to the SEA team on 18th of January 2007. This version has been consequently still included in the final version of the environmental report.

Results of the assessments covered both versions of the OP. The latest version of the OP (April and November, 2006) differs from the previous version of the OP (2005) in the grouping of priorities on the level of Priority axes by combining activities in two separate areas "Setting up of adequate management systems for nature protection and flood risk prevention in selected priority areas".

The second version separated nature protection and flood risk prevention into separate priority axes 4 and 5.

Assessment of the Priority Axis "Setting up of adequate management systems for nature protection and flood risk prevention in selected priority area" indicates that this intervention are likely to have significant positive environmental effects regardless their implementation separately or under two different priority axis, however, separation of two distinct environmental objectives would contribute to the transparency and accountability of the projects carried out and in inclusion it improves an overall balance of positive and adverse environmental impacts of the SOPE.

Comparison of both versions of the SOPE thus leads to a conclusion that the latest version provided in the SOPE of November 2006 will have more positive environmental effect as well as regards the transparency and sustainability, since

- it clear separation of the two distinct environmental objectives would contribute to the transparency and accountability of the projects carried out
- it will improves an overall balance of positive and adverse environmental impacts of the SOPE
- this set up better corresponds to the priorities provided in the guidelines for SF.

3.3 **Issues related to collecting of required data and other**

The Ministry of Public Finance and the Managing Authority (i.e. the MoEWM) have provided sufficient amount of relevant documents to the SEA team to conduct the work. To date the April (second) draft of SOPE assessed for significant environmental effects.

Considering that the SEA started in a moment when the complete already second draft of the SOPE was prepared, the benefits of the assessment would have been more efficient, if the process had started earlier together with the programming process (The first draft of the SOP was produced in December 2005). The SEA team understands that its rather difficult for the Managing Authority to introduce changes into the document, which has been in preparation for more than a 1 year. Parallel start of the SEA with the programming would have enabled gradual optimizing of the SOPE from the environmental point of view and would have facilitated a deeper mutual cooperation among the Programming Authority and SEA team.

The analysis, recommendations and observations of the environmental effects of the SOPE presented in this report were elaborated during the period between of September and October 2006. Nevertheless, the SEA team produced the Environmental Report adhering to the requirements of the SEA Directive (2001/42/EC) and Romanian DG no.1076/8.07.2004 in the best quality achievable within the available time limits.

The Environmental Report is a self-standing document which is also annexed to the ex-ante report.

4 The current state of the environment and the likely evolution thereof without implementation of the SOPE

4.1 **Environmental analysis and likely evolution thereof without implementation of the SOPE**

In this section, the key topics and problems of the environment and public health are identified, with attention being paid to the link towards issues caused by economic development sector in particular.

The environmental situation analysis was prepared for all environmental issues identified during the scoping phase of the SEA. The issues are as follow: water, air, soil, climate change, biodiversity, human health, environmental risk management, resource efficiency and conservation/ sustainable resource management, landscape and cultural heritage, energy efficiency and renewable energy sources, awareness raising on environmental issues and sustainable tourism.

Table 1. Current state of the environment and likely evolution of thereof without implementation of the SOPE

Env. issues	Current state of the environmental	Likely future trends
Water	Water quality improvement in the different water basins was observed during the last 2 decades in Romania due to reduction in big animal farms and closure different polluting industries. During 2005 the overall quality of surface water was assessed by 781 surveillance sections (measurement points): 12.9% identified Ist, 38.5% identified IInd, 26.1% identified IIIrd, 15% identified IVth and 7.4% identified Vth category of water quality. Saprobiological analyses along 24,553km of rivers showed, that 7,238 km (29%) belonged to Ist category-very good ecological status, 9,004km (37%) belonged to IInd category-good ecological status, 5,540 km(23%) belonged to IIIrd category-moderate ecological status, 1,668 km(7%) belonged to IVth category-poor ecological status, 1,103 km(4%) within the Vth class – bad ecological class, being not suitable even for agricultural purposes. Taking this into account, the most unfavour-	Surface water contamination will continue to increase if the collection and discharge of wastewater without pre-treatment and treatment (from municipal and industrial activities), as well as disposal practices of solid wastes and hazardous substances from industrial and mining activities will not be improved. Capacitating these wastewater treatment plants to respond to the current as well as future needs is essential; otherwise they will not help to secure treated water on a long term and meeting EU water quality standards connectivity to the water systems in the future (due to increased wellbeing and living standards all over the country), amounts of water discharged will grow. Current increase in localities connected to the sewerage network is 1.2% per year, which will continue to exist if no actions will be

Env. issues	Current state of the environmental	Likely future trends
	able situation was registered in Arges-Vedea (13%), Ialomita (12.1%), Someş (7.7%) river basins. The poor water quality is caused mostly by anthropogenic point and diffuse source pollution. The biggest ratio in water pollution from point sources belongs to the water operators of cities and communal wastewater services, the chemical industry, metallurgy, mining activities and animal breeding sector. There are 1,310 urban and industrial WWTP (wastewater treatment plants) and 77% of total water collected through the wastewater network is treated. Only 37.6% of WWTP operate in appropriate manner. Insufficiently treated water discharges contain mainly with organic substances, suspended solids, mineral salts and ammonia. Diffuse pollution sources are agriculture activities (nitrates and solid sediments), from the consumption of products/ raw materials from industrial activities and waste. The quality of potable water indented for abstraction is off the Ist and IInd categories, but analysis show that physical-chemical parameters (sediments, ammonia, phenols, metal ions) and microbiological parameters are frequently exceeded. ***Danube water*** Saprobiological analyses showed that in 2005 1,008km (94%) Danube River were within the IInd class- good ecological status and 67 km (6%) were within the IIIrd class- moderate ecological status. Based on the total nitrogen and total phosphorus Danube water was classified as class II. Danube water had significant amounts of organo-chloride pesticides type, toxic and carcinogenic substances, concentrations of which exceed sometimes the maximum admissible limits. Consequently the mean monthly and yearly concentration values were of quality	taken. Only 52% of all population benefits of the wastewater infrastructure and treatment (90% of urban population). Tail ponds from the mining industry will continue to be a dangerous source of pollution with heavy metals unless stronger enforcement of the monitoring activities and consolidation measures of the dams will take place, as a special measure in preventing trans-boundary water pollution. Floods and nutrient pollution will continue to cause severe problems in rural areas if the rural development measures will not take into account appropriate infrastructure that will keep rivers as close as possible to their natural beds and protect rivers from nutrients' run-off. The Black Sea ecosystem will continue to deteriorate from eutrophication and insufficiently treated sewage flowing into the Danube or the other tributary rivers. Given the international status of the Black Sea, most of the projects in the area will not be completely efficient if there will be no preliminary integration with the regional programs and development needs. If no integrated approach will be taken for communities areas in coastal zones, important ecosystems and specific resources (wetlands, lakes) will be used inappropriately neither maximizing the benefits nor the environment protection. Groundwater contamination will continue to increase if the drainage of wastewaters and discharge of wastewater without pre-treatment (from municipal and industrial activities), as well as improper disposal of solid wastes and hazardous substances from industrial and mining activities will not be im-

Env. issues	Current state of the environmental	Likely future trends
	class V for the lead and cadmium indicators in 2004. Surface water from „Danube Delta" Biosphere Reservation generally classified as class II, for lead fell into class IV and for cadmium into class V, though decrease from 2003 levels was been noticed. Concentrations of oil products, organic-chlorinated pesticides, COD were decreasing too, but where within class I and II levels. Danube collects the surface water of most tributaries in Romania and is affected by direct pollution (waterborne transport and waste disposal), underground water quality and run of from soil. ***The Romanian Black Sea shore*** is affected by pollution coming with the Danube water, by direct discharges of insufficient treated wastewaters and by intense activities from harbours. In 2005 in costal area used for bathing there were not significant exceeding of the standard values related to physical-chemical and microbiological parameters. In the last 10 years in the Black Sea on Romanian side there was noticed a constant decrease of pollution level, which came from reduction of pollution from agricultural activities, slow but stead increase due to new WWTP as well as reduction of water pollution upstream from Romania. An overall assessment of river basins shows a critical situation of the quality of aquifer from many areas of the country. In the last years the intensity of anthropogenic impact has decreased, due to the decrease of industrial activity and of animal breeding farms and putting into practice of measures for waste water treatment. But it still remains non-appropriate underground water quality because of the low process of auto-treatment of these waters. ***Ground water*** In 2005 organic substances, ammonia, total hardness and iron maximum ad-	proved. Since the drinking water quality relates both to the quality of water sources as well as the performance of the treatment facilities, the issues will continue to be of concern especially in the areas where population largely depend on untreated and privately abstracted water. Water born problems, such as the 'blue baby' symptom is likely to still be a problem in many rural areas, where wells polluted with nitrates -either from soil or agricultural pollution as long as no water infrastructure improvements will be done.

Env. issues	Current state of the environmental	Likely future trends
	missible concentrations (hereinafter MAC) were exceeded the most frequently. Most of the hydro-structures suffer the contamination by nitrates (NO3). There are areas where the aquifer is polluted with concentrations over the 50 mg/l (MAC for NO3). The causes of the groundwater contamination with nitrates are multiple. One of them is a continuous washing of soil, contaminated with various nitrogen oxides (NO2) by the atmospheric precipitations and the irrigation water. Second the most significant source is the surface water (rivers, lakes) where waste water loaded by nitrites is being discharged, which further leaks to the ground layers. As regards the contamination of the groundwater with phosphates areas, about 135 (8.7%) drillings have been located with concentrations over the MAC. For this indicator the pollution sources of the groundwater is similar like causes and sources with the nitrates, but not so intensive. In relation to CCO-Mn indicator, 613 drillings (39.6%) and referring to ammonium over 475 drillings (29.5%), in 2005 exceeded MAC. The strongest water quality depreciation were identified in the rural inner areas, where due to the lack of waste water collectors, sewerage reaches the underground (through the non-impermeable latrines or the street network' ditches), as well as indirectly (from the sewerage stabilization ponds, household improvised landfills etc). Industrial landfills and wastewater improper/ insufficient treatment have also affected the underground water sources and certain underground drinking water sources have been affected in the last 40 years. Nitrates intoxication disease on children is still occurring in several different areas of the country coming from historically polluted underground drinking water sources (from intensive agri-	

Env. issues	Current state of the environmental	Likely future trends
	cultural fertilization in the 70s and 80s). Also historical underground water pollution exist in the country, for example, in the Prahova valley industrialized region (around Ploiesti city) there are more than 50 years old oil historical pollutions of the underground water. Other major industries (i.e. steel, chemical, fertilizers industries, and different type of waste lagoons) are also major sources of new and historical underground water pollution all over the country. Diffuse pollution sources from agriculture, the point pollution sources from industry and also the historical underground water pollution exists in more than 700 places in Romania	
Air	A slight improvement in the air quality was noticed during 1995-2004 due to the cut of the economic activities (initially) and retooling programs (starting from late 90's) carried out in some economy sectors and major plants, as well as intensified monitoring by EPA and more stringent environmental requirements. Major pollution sources for ambient air are power and heat generation units, especially LCPs (large combustion plants). The biggest polluters in the country are energetic complex units in Turceni, Rovinari, Isanlnita and Paroseni, which are situated next to large mining activities areas Power and heat generation utilities (LCPs and municipal heating units) were the main **SO2** pollution sources (75.73%) in 2003. The SO2 emissions decreased during 1995 – 2001 because of the industry sector collapse and from 2003 they started rising again due to economy development. In 2004 in 3 locations 24h MAC of SO2 were exceeded, though annual MAC in Romania were not observed. **NOx** emissions are largely caused by electric and thermal power industry (39.24%), road traffic (31.58%) and manufacturing industries (11.39%). Since 1999, the NOx emissions de-	The energy demand is likely to grow in Romania, therefore if no action is taken the pollution from energy and heat generating units will slowly accelerate causing significant air pollution in "hot spot" locations as well as in the urban settlements in combination with growing air pollution from transport. With transport sector being on a rise, the problems with air quality and its consequences will rise, especially in the urban areas. Aging public transport system is an increasing source of urban air pollution, in additional is used less and less due to unsatisfactory maintenance level, limited number of cars and bad management of time (time schedule). If no action is taken, usage of public transport and its share will continue to drop sharply and private cars will grow further diminishing poor urban air quality. If no real measures and amendments will take place, the incidence of respiratory diseases will increase in big cities, given the increasing number of cars, at least for short term, until less polluting cars will be used.

Env. issues	Current state of the environmental	Likely future trends
	creased from about 407 kilotons in 1995 to about 326 kilotons in 2004, which slightly peeked in 2002. In 2004, annual average NOx concentrations were under the annual MAC (0.060 mg/m3). Agriculture generates 80.26% of ammonia emissions and its share as well as generation showed decrease in the last few years. In 2003 a reducing of N2O emissions compared to 1989 was recorded mainly due to the decrease of chemical fertilizers used for agricultural purposes Mercury emissions showed a decrease in 2003 against 2002 by 33.81%. Cadmium emissions showed a decrease in 2003 against 2002 by 50.17%. Lead emissions showed a decrease in 2003 against 2002 by 52.3%. Predictions for 2004 indicated an increase of heavy metal emissions: 32.03% for mercury, 5.61% for cadmium and 54.6% for lead. 3 locations are especially affected by pollution from lead and cadmium. The daily MAC are exceeded by 25.18 times for lead (frequencies - 55.76%), 24.80 times for cadmium, in Copşa Mică area, 10.55 times for lead and 23.75 times for cadmium in Mediaş area and Baia Mare with the annual maxim values of 0.023 mg/m3 with annual exceeding frequency of MAC of 71% in area with direct impact and 0.007 mg/m3 annual exceeding frequency of MAC of 25% in residential area. In Baia Mare, in 2004, an annual exceeding frequency for lead by 49%, annual average was 0.0016 mg/m3 was recorded. The pollution of the air in the cities is largely caused by transport (private and public), though there is not data in Romania on the share of pollution caused by private transport vs. other means of pollution. Usually the air pollution in the cities in the last years is very high. In Bucharest the transport related air pollution is almost 70%. The total phase-out of vehicles without	With regards to pollution due to PM (particulate matter), if there will be no improvement in large cities, and in particular in Bucharest, in the short and medium term, the already alarming situation in relation to human health will continue to deteriorate not only in the cities, but also in the surrounding areas. An indirect impact is likely in the future from the transfer of the impact on environment to the impact on the socio-economic system, as a result of life quality deterioration. Trains are seen as more ecological means of transportation but if the transportation costs and the quality as well as the accessibility to more communities in country will not improve, it is unlikely that a shift towards a more environmental friendly transportation will happen on short or medium term. Cumulative effects of global changes with historic heavy metals pollutions and acid rain may lead to a further loss of agricultural land and biodiversity, increased erosion and land abandonment. Air pollution is exacerbated by illegal burning of municipal and industrial waste, which will unlikely reduce due to a weak enforcement capacities. Quite common practices of the burning of waste result in CH4 emissions, given the lack of resources for safer alternatives and weak environmental enforcement. The incinerators used by hospitals are obsolete and overused, generating large amounts of pollutants.

Env. issues	Current state of the environmental	Likely future trends
	exhaust emission control was planned for 2005, but it was not achieved due to slow progress that has been made so far in introducing unleaded petrol. To date less than 40% of petrol sold is unleaded	
Soil	61.71% of the total area of Romania (238,391 km^2) is agricultural area, 28.44% is forests, 9.81% is covered by waters and other surfaces. A lot of useful agricultural and urban/rural areas are covered by illegal waste dumps or improperly managed landfills causing pollution of soil, which later on seeps into ground and surface waters. Currently, the waste collection coefficient is considered to be 100% for dense urban areas of 50k inhabitants and more. The collection coefficient for urban areas with >3k inhabitants is 90%. For the rural areas, the collection coefficient is around 10%. The total quantity of municipal waste increased from about 6,800 thousands tones in 1998 to over 9,500 thousands tones in 2002. Quantity of construction (no data was found) and demolition waste had a significant growth in the past years, doubling in 2002 compared with 1998, due to the increased rate of civil construction during the last years. The landfilling is the main option for the final disposal of the municipal waste. The majority of municipal waste landfills are mixed waste landfills (60%) accepting for disposal both domestic, construction and demolition waste (often containing asbestos and other harmful substances) and non-hazardous industrial waste. Sludge from WWTP is a major source of soil pollution. The total quantity of the sludge from urban WWTPs is estimated at 171ktons/year. Usually sludge is being discarded to landfills casing surface and underground water contamination threat. For 2004, the hazardous waste quantity generated by sanitary units (hospitals) was 17.5 tons. A decrease was	Insufficient waste collection systems will continue to impact soil and waters by accumulating amounts of new waste being generated and improperly disposed. This situation will require new areas of land. Illegal dumping will continue due to badly provided services (insufficient capacities) resulting in occasional fires and air emissions. The quantity of municipal waste will grow due to economic grow, increasing consumption and due to more areas being connected to the municipal waste collection systems. If no incentives for recovery of waste will be made available, the amount of wasted resources (e.g. glass, plastic, metal, etc.) will continue to grow and be wasted. Construction and demolition waste share in the municipal waste will continue to grow. Small illegal market of demolition and construction waste will continue to exist due to high prices of the construction materials and therefore will be a mean to reuse construction waste. Waste generation, though with predicted decrease in population, will continue to grow with 0.8%/year, an average increase of the connected population number will be 25% per year, proportionally increasing the produced sludge quantity. For the construction and demolishing waste quantity it was also established an average increase of 0.8%year. This situation will lead to further soil contamination which will have direct impact on ground and later

Env. issues	Current state of the environmental	Likely future trends
	observed in the following year (2005) by 2.3 tons (reduction by 11 %). No actions are available to handle household hazardous waste (batteries, electric equipment). Other existing sources of soil pollution are fertilizer and pesticides production plants, oil refinery and oil transportation infrastructure (pipelines), asbestos plants, mining activities and mining waste causing loss of agricultural and forestry land. The most harmful mining activities in Romania are: lignite, uranium and gold. Data on the old contaminated sites (locations and extent of contamination and soil pollution has not been found). Hydro-erosion is present in a significant area, with anti-erosion measures mostly degraded. Together with landslides, these cause significant soil losses though the data was not found. Wind erosion occurs on a much smaller scale, but this could be increasing, as some forests and protective curtains have been reduced in recent years. In tailing ponds and mine deposits, wind erosion causes dispersion of fine particles contained in these materials, constituting a potential health hazard for local inhabitants living nearby (e.g. a problem presently tackled in the city of Baia Mare).	surface water bodies. Hazardous waste will continue to accumulate increasing risk to human health and further causing and increasing soil contamination. Situation due to pollution of soil due to non-ferrous industries, oil and mining activities will continue to persist if no action is taken to regulate and support industrial activities in the reduction of waste and waste management practices. Old contaminated sites due to the unknown extent of the problem and the degree of contamination will further cause a threat to the human health and continue to leak pollution to other environmental media (water and air).
Climate change	According to the 3rd National Communication on Climate Change Convention (2003) 11% of GHGs came from transport sector in 2001 in Romania. In 1989, Romania's total aggregated GHG emissions were 261 million tons CO2 equivalent. The total net GHG emissions decreased by about 50% in 2002 compared to the reference year 1989. This large decrease is mainly due to industrial production decrease (decrease of power consumption and closure of some industrial branches/outputs) and the restructuring of the economy in the transition to a market economy rather than climate change reduction measures and poli-	As Romania is making efforts to accelerate economic growth, its GHG emissions are expected to further increase. This will be the case unless Romania will be able to preserve the reductions of emissions by implementing measures for energy efficiency in parallel with other GHG emissions reduction measures. National Climate Change Strategy (2005) argues that no additional activities are needed to meet this specific objective, though trends show that with GHG emissions are increasing already due to economy growth. Beyond 2012, emission may continue to increase

Env. issues	Current state of the environmental	Likely future trends
	cies. ***Adaptation to Climate Change*** The changes in the climatic conditions (temperatures, precipitation) have been observed in Romania over the last couple of decades. A spatial extension of the surfaces affected by various degrees of dryness was identified in Romania. Most of the droughts affected only some parts of the territory and often in the same time there were areas with floods. Droughts and floods have occurred in the same territory in the same year. In the past decade the Romanian climate was characterized by the occurrence of floods (short) within long dry periods, both of them resulting in crop loss, land slides, and other economic and social damages. Observation show that an annual frequency of very short wet events (1-2 days) exhibits and increasing trend for some regions with an upward shift since 1990.	and threaten the national commitments. GHG emissions in the base scenario grow at app. 2%/year, which is a lower growth rate than GDP growth. This is mainly the result of the assumed shift to less energy intensive economic sectors, and the fuel shift and energy efficiency improvements in the energy sector. Fossil fuel combustion in the energy sector will remain the largest source of GHG emissions, while the largest growth in emissions in relative terms can be witnessed in the transport sector. Without supplementary measures to close agricultural waste dumps the CH4 emissions will increase considerably. It is possible that GHG from animal farming will decrease, given the rules of EU, but larger farms will be encouraged. Adaptation to climate change will entail complex behavioural, technological, and institutional adjustments at all levels of society, and the capacity to undertake them will vary considerably. If no measures taken, due to climate change loss of land will take place and loss of urban and rural housing and industrial sides due to floods will be observed.
Biodiversity	Forest in Romania cover 6,362 thousand hectares (2004), of which 6,222 thousand ha was in full actual coverage comprising of 30% coniferous and 70% foliage trees. Remaining 160,000 ha are prepared for reforestation, culture, production or forest administration land, non-productive lands included in the forestry management facilities. From 2000, the national forest increased by about 16,000 hectares until 2004, as a result of the takeover and reforestation of land which could not be used for agriculture. Most of Romania's forests are in mountain areas (58.5%). Hill areas are cov-	Even if large forest areas will be preserved given the selective logging, the area of forests could reduce both in natural species quality and compositions, without a proper protection status. Lack of forest management (no integrated management plans, on river basins) will cause further erosion, water pollution, which will continue to precipitate. The reduction of the forested area or the decreasing of its protective functions in flood alleviation and nutrient reduction will be another likely increasing effect if good management practices will not be

Env. issues	Current state of the environmental	Likely future trends
	ered by 34.8% of the forests, and the plains only have 6.7% of the forests. (MAFRD 2004). National strategy mentioned the issue of excessive fragmentation of forestry funds by owners and reduced surface of forestry exploitations. There is an issues related to the loss of valuable forests and biodiversity due to extensive logging. The natural and semi-natural ecosystems cover 47% of the territory. Romania has identified 783 types of habitats. The total surface of the 844 natural protected areas established represents 5.18% of country's surface. The Danube Delta protected area stands out, for its surface – 50% of total surface and has a triple international status Biosphere Reserve, Ramsar Site and site of World Natural and cultural Heritage. The Steppe grassland ecosystems in Romania have greatly shrank and will continue to disappear given both draughts experienced in the last years as well and poor agricultural practices. Land restitution has lead to the ownership fragmentation which has contributed to habitat fragmentation. Developments in transport infrastructure in the last and during the last 2 decades further increased habitat fragmentation in larger scale when ever before due to speed and scale of developments. ***Natura 2000 network*** There are 5 of 11 bio-geographic region present in Romania, which is the highest number of bio-geographic regions found within a single EU Member State. Natura 2000 network is under development and should be finalized by the end of this year. 190 SPA (special avifauna protection areas) have been identified representing about 27 % of the Romanian territory and 370 SCI (sites of community importance) representing about 14 % of the Romanian territory have been identified. There are areas where anthropogenic activi-	applied. If the Natura 2000 sites list will not include all the sites that require attention and no management plans will be prepared, many important natural areas may continue to deteriorate and resources will be wasted or lost. Educational programs about nature protection are essential but if they will not be correlated with the development of the appropriate infrastructure that helps protect the nature in situ, it may not be very efficient. Land abandonment or intensification of use could represent severe threats to natural and semi natural eco-systems. Intensification of investments into the transport sector (development of this sector has a strong impact on biodiversity and protection areas) with no measures taken to reduce the impacts on biodiversity, forest and habitats will lead to further habitat fragmentation and biodiversity loss. The loss will be accelerated by intensification of economy development and especially linked with the forest product use and illegal or large scale uncontrolled forest cuttings. A large number of protected areas might bring 'tension' for the population living in the proximity of resources/buffer zones, economic development actors and tourist infrastructure, which they were used to freely exploit before, turned into protected resources.

Env. issues	Current state of the environmental	Likely future trends
	ties have had negative effects on the conservation of wild species.	
Human health	Different human health related issues are addressed under other env. issues. Under this particular section noise issues were analyzed. Noise is a particular issue for Romania due to forthcoming implementation of the Environmental Noise Directive 2002/49/EC. Romania does not request transition period for the implementation of this Directive. An issue of concern under this subheading is noise, since other issues are analyzed under subheadings of water and air pollution. Noise is a matter of environment and health, especially in the urban agglomerations. As a result of the intense traffic levels of noise beyond the standard admissible norms are registered. Major sources of noise pollution in Romania are caused by air traffic (due to use of noisy aircrafts), railway and road traffic (in and outside the cities). *Noise and vibration generated by the road traffic* is a clear problem, with a significant effect on the people which live or work in the proximity of intensive traffic zones. The noise and vibration caused by the road traffic in the urban areas comes mainly from the engines and exhaust gas devices and in the rural areas it is caused by the interaction of tires and wheels with rail and road surfaces. Public transport (PT) vehicles are also a major noise and vibration source, especially on the roads and streets, where PT lanes are not separated and prioritised.	Due to intensification of the traffic in the urban areas as well as outside the towns and cities, the road noise traffic is likely to grow. The noise arising from air traffic will grow as well due to increase in number of flights and passengers (localized impact). Further deterioration of public transport has will have a negative effect on the noise levels due to increased traffic and lack of support to public transport positive effects on noise, such as reduction in private traffic, congestion and noise. Noise due to development and construction will be on a rise with improving economy and more developments taking place in the country.
Environmental risk management	During the last 2 decades an increase in the frequency and intensity of precipitation periods was observed, which resulted in floods, bringing not only economic socio-economic damage to some parts of Romania, but also human life loss. The negative effects of floods have been intensified by unauthorized constructions in the areas	If no measures are taken the floods will continue to devastate the region and the properties brining losses of life. The records of weather phenomenon of floods show steady intensification in weather conditions and growing economic activity will continue putting pressure for more natural (for-

Env. issues	Current state of the environmental	Likely future trends
	prone to flooding, diminishing flood planes, and impact of deforestation. High risk spots in river basins relate mostly to mining activities, chemical industry, oil extraction and refining, wood harvesting and timber processing associated with cellulose and paper industries, energy production, metal processing and radioactive waste.	est) resources and more intensive agricultural activity which are affected directly by flooding. The risk of environmental disasters will stay high without improved monitoring and control measures, risk reduction measures on the hot spots, cyanide circuits closure or monitoring, effective operating measures of the existing waste water plants and other risk prevention and management measures.
Resource efficiency and conservation/ sustainable resource management	Romania is a country rich with natural energy (hydrocarbons) and other resources, but since the end the last century a rapid depletion of extensive reserves of fossil fuels, including oil, natural gas, anthracite, brown coal, bituminous shale, and peat is being witnessed. A significant change in the usage of natural resources have occurred during the last 2 decades due to reduction of resource intensive industries, shifting of production of certain goods aboard, expansion of certain (e.g. furniture) and occurrence of new industries. Natural resource that are being extracted and used locally or exported as raw materials for production aboard are metallic ores, including iron, manganese, chrome, nickel, molybdenum, aluminium, zinc, copper, tin, titanium, vanadium, lead, gold, and silver. New quarries are developed for rocks extraction for local use or export The efficient use of the resources due to the diminishing quantities is one of the key environmental issues in Romania. Waste is yet another resource the use of it is not explored in Romania. Waste contains a lot of valuable materials that can be separated, recycled and reused. The percentage of separate waste collection is low; in 2001 represented 2% and in 2002 – 7% of the total municipal waste collected, representing recyclable waste separately collected in pilot projects of separate collection or in industrial units, institu-	The situation related to natural resource depletion and deterioration will persist if no actions area taken to initiate and elaborate a strategy on the national level on the use of the natural resources and their conservation. Use of raw materials (other than energy sources, e.g. wood, stone, sand) will intensify due to production grow and intensification of reduction of non-renewable resources will continue if no actions are taken to preserve them or increase resource efficiency. With no action to initiate, support and facilitate waste reduction by minimization, sorting, reuse and recycling, waste (yet another valuable resource of materials) quantities will continue to grow and important resources will be lost. Lack of waste recovery, reuse and reduction will continue to increase the issue of soil, water and air pollution and landscape degradation.

Env. issues	Current state of the environmental	Likely future trends
	tions or even commerce.	
Landscape and cultural heritage	After economic and social changes of the 90'ties, Romania has accumulated abandoned industrial infrastructure areas, sites with unfinished constructions and dilapidating or abandoned housing units. Data on the area covered with brownfields is not available. Brownfields constitute environmental and health hazard as well as reduce the attractiveness of the country, having in mind rich natural and cultural resources. The motorway construction speed has increased in the last years in Romania, which is rapidly changing the landscape of the country. Brownfields/Old ecological burdens are the abandoned land plots or constructions that lost their original purpose due to change of political and economic structures (e.g. closed mines and factories). Brownfields are the locations with polluted soil and water (ground and underground) and are health hazards as well as areas which can be used for restoration of biological diversity and bio-resources. Number of brownfields has increased dramatically during the last 1.5 decades in Romania and due to tendencies to start economic developments in greenfields. Brownfields are very often converted into illegal waste dumping sides and therefore they are a major environmental issue. The area and the risk associated with the issues is not being monitored in Romania to-date. ***The Black Sea*** In the last decades the Black Sea basin was the "theatre" of many environmental changes with qualitative and quantitative modifications/ degradation which have had a great impact on the actual configuration of the coastal ecosystems and on water quality near the shoreline. One of the most influenced zones was the Romanian shore, both	If the actual tendencies related to the construction of new and major motorways will continue, they will cause more fragmentation of the natural landscape and deterioration of the human health and wild life due to the negative impacts of the traffic. Current situation and past trends with brownfield revitalization or the lack of thereof will further put pressures on green zones in and around urban areas threatening biodiversity, protection of natural and cultural landscape (by making more potential brownfields and increasing risks related to old ones) and elimination of green spaces in the cities which are already now suffer from congestion and pollution. In the long run deterioration of the cultural and natural landscapes is inevitable. The take over of green fields in opposite to brownfields come from construction of new housings, urban development, shopping and administrative centres as well as industrial/production centres and business areas. ***The Black Sea*** Further degradation of the coastal zone will take place causing natural degradation and degradation of cultural landscape. Growing incomes and improvement of life standards will develop a demand for new leisure possibilities and options for spending vacations, including possibilities to use outdoor vehicles such as boats, and cars. If no measures for a controlled use of leisure infrastructure as well as for respecting the specificities (in architecture, food, art) of the cultural landscapes, many possibilities of both preserving the

Env. issues	Current state of the environmental	Likely future trends
	on pelagic and its benthic communities. Furthermore, new invasive species in the Black sea waters produced great damages in the last 20 years, especially on pelagic fish species populations. The Romanian sea shore area has been suffering from serious beach erosion problems, 60-80% of the seashore length facing serious damages, whilst the width of the beaches is reducing each year. There is also a threat of beach erosion to people and to the properties as well as to industrial and service buildings, especially in the southern sector (Mamaia – Vama Veche) of the Romanian shore. In the area of the Danube Delta Biosphere Reserve, the beach 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. The coastal region of the Romanian Black Sea is very rich in lakes, banks and lagoons, with water of which salinity is fluctuating very much. The mixed waters from the Danube and also from The Razim - Sinoe Lagoon Complex represents special ecosystems, with a fauna and flora which can have a much diversified character, so qualitative and quantitative. Climate change is believed to lead to a further sea level rise endangering coastal areas. Many cultural, archaeological and religious ancient sites are spread in coastal zone; not all of them are adequate preserved and protected or put into a real value	natural and cultural heritage and obtaining alternative incomes from a sustainable tourism will be irreversibly decreasing. Considering the global climatic changes and the general rise in the sea level, as well as the regional geo-ecological conditions that characterize the Danube - Danube Delta - Black Sea geo-system, one can estimate that the medium-term erosion process will be at least as active as in the past two decades. The long-term predictions reveal an extension of beach erosion, especially because of the continuous decrease of sand material in the coastal area, because of the permanent rise in the sea level and an ever-higher energy level of the hydro-meteorological factors.
Energy efficiency and renewable energy sources	Industry, population and transport are the main consumers of the energy, which come mostly from non-renewable resources. Prior to 1989 the Romanian economy was characterized by highly energy-intensive industries. Industrial restruc-	With clear trend in increased energy consumption, the demand for energy will grow. With no measures facilitating energy efficiency and saving, the use of non-renewable energy and power resources will further increase due to economic

Env. issues	Current state of the environmental	Likely future trends
	turing has led to a 40% decrease in energy intensity during the period 1989– 2000. However, this is mainly due to the contraction of industrial activity rather than to energy reduction measures. Romania remains an inefficient user of energy. Starting from 2000 total use of gross domestic energy consumption was increasing. In 2005 the gross domestic energy consumption was increasing by 11.3 % as compared with 2000. Romania has a developed district heating systems, in 2002 approximately 32% of households receiving heating and hot water through centralized systems. For the urban areas the percentage is 58%, as compared to 0.5% in the rural areas. However, the systems are based on old technologies and require modernization and improvements to increase efficiency and avoid waste in distribution. Energy losses are recorded at 25-35%, that adding significantly to production costs. Housing and apartment blocks are poorly insulated and suffer significant thermal energy losses. In areas affected or threatened by social exclusion, this situation often hinders the local economic and social regeneration. The demand side management is not applied. The power plants are old and equipment is outdated. This increases production costs and energy loss. The majority of the thermal power units (approximately 82%) have been in use for more than 20 years. Most of these units surpassed their operating period, with negative impact on the environment. Also, 37% of the hydro electro plants have exceeded their operational life span. As regards the energy transport network, the depreciation level of the electricity power lines is 50% and 60% for electricity sub stations. The same situation is recorded for the distribution networks; 64% of the gas distribution network in the system is over 25	recovery and boost of energy consumption. Without energy efficiency measures, the energy demand and consumption of non-renewable resources will continue to grow and escalate depletion of natural energy sources. There are a very few examples of switching fuel to low carbon intensive one. This trend will increase the pressure on natural gas (mostly imported from Russia). Houses insulation is very poor and it will become much poorer, leading to big energy losses. New constructions do not use more expensive, but more energy efficient construction materials without incentives and this will continue the energy and heat loss from the housing sector. Situation with electricity may be a bit different since new equipment acquired from EU is developed based on the latest technologies and enable the energy conservation and efficiently. The efficiency measures for the equipment produced in Romania may be improved by the opening markets and wish to compete with produces in the rest of the world. There may be a natural tendency to energy efficiency of equipment. However energy use on the end of the pipe depends as well on the awareness of the use to conserve it not only because of the development trends, but also because of the energy impact on the environment. If no educational and awareness raising is applied on the subject, the impact will be small. ***Renewable energy*** Maps with the highest wind potential in Romania are overlapping with protected areas. The areas with environmental impact are not defined. Wind energy generation

Env. issues	Current state of the environmental	Likely future trends
	years old ***Renewable energy*** Biomass energy potential in the country is assessed at about 7,594 thousand toe/year (318 PJ/year), which accounted for almost 19% of the total consumption of primary resources in 2000. Geothermal energy offers further potential with 70 hot springs in different geographical areas, 45 of them being located in conservation areas. Biomass power plants become pretty familiar for local authorities after the implementation of the Sawdust 2000 program where 5 power plants in the towns Vatra Dornei, Gheorghieni, Intorsura Buzaului, Huedin and Vlahita where converted on biomass fuel. Wind energy seems to be an option for future development even that until now only few wind turbine are operating (Tihuta in Bistrita, Ploiesti, Baia in Tulcea and Corbu in Constanta). Solar energy is also becoming attractive for companies and private use. A good example is in Mangalia where a private company is producing 210MWh/year with solar pannels. Usage of geothermal energy for district heating in Oradea and Beius represent also a new technology for Romania.	needs support and help from environmental authorities and the public and if not support is given, the development of this energy will continue to be at no impact. Energy generation from water is not considered a sustainable energy source at large, therefore development of new dams should not be supported, but the old ones are already sanded and the hydro potential will decrease rapidly in the next years, making it's share even smaller. The government promoted already a strategy for using Biomass resources can not be developed with out the governmental support and if no support is given, the biomass power plants will be very few and with little impact on the energy production sector.
Awareness raising on environmental issues	NSRF 2007-2013 points out to low levels of environmental awareness, wasteful use of energy and an under managed natural environment. There are very few initiatives on public awareness and mostly coming from the NGO sector. There are limited funds available for NGOs and the government did not provide resources for such activities. Awareness raising is needed in the fields of waste generation and management, conservation of natural resources (water (risks associate with waste generation and management), air (through usage of public and other means of ecological transport and energy savings), biodiversity (protection	Unless public awareness efficiently moves to the level of interactive information and the framework for response and involvement of the public, environmental awareness will take more time to overcome other priorities existing currently in society.

Env. issues	Current state of the environmental	Likely future trends
	of forest and habitats), climate change (responsible construction and soil management), etc.	
Sustainable tourism	Currently, because of the poor management, protected areas are confronted with high pressure from illegal exploitation, uncontrolled tourism and construction development, illegal hunting, leading to irreversible losses of biodiversity in Romania. Highly sensitive mountain ecosystems are threatened by inappropriate forms of tourism and infrastructure development. In the last decade tourist sector suffered a decline, even though the potential for Romania in this sector is very high. Romania has a Strategy of Tourism Development (of Ministry of Transport, Constructions and Tourism), which mostly deals with privatization of tourist industry, and less with promotion and marketing or developing of human resources and products, or with safety and protection of tourist trips and environmental protection.	Tourism can have very negative effect on valuable and protected areas of natural and cultural heritage in Romania and if uncontrolled or wrongly advertised will lead to further loss of the heritage and biodiversity. Further intensification of tourism to national parks and areas of natural important if allowed, will hinder the attempts to protect the areas from human activity or disturbance and will undermine the future tourism development in the country. Unless some specific measures to reduce the pressure from uncontrolled tourism will be taken, valuable natural areas and, the cultural landscape they are integrant part of, will irreversibly loose their unique value.

4.2 Proposed amendments of the SOPE SWOT analysis with environmental issues

Based on the environmental analysis the SEA team proposed amendment of the SWOT table (Table 2)

Table 2. Proposed additional issues to be included under the SWOT of SOPE

Strengths	**Weaknesses**
- Inflow of foreign investment into better technologies (not always the BATs) in the waste and waste water management sectors; - SEA and EIA as the basic legislative tools to support environmental protection and sustainable development;	n/a
Opportunities	**Threats**
- The establishment of Natura 2000 network; - Adopting global environmental standards (ISO); - Introduction of environmental management systems (EMS, EMAS); - Establishment of PRTR register.	- New regulations, overcomplicated procedures and unsuitably transposed EU legislation (treating EC recommendations as a law, which may put unnecessary burden on stakeholders) applied in purely bureaucratic way may complicate and delay the implementation of specific projects; - Economic development which wouldn't consider environmental issues and so causing destruction of the ecosystems and losses of biodiversity.

5 The environmental characteristics of areas likely to be significantly affected by SOPE

The SOPE is prepared for the whole territory of the Romania. Since its not possible to identify the territorial locations of the projects and activities planned within the SOPE (the strategic level of the Sectoral Operation Programme is on the scale of the country) the environmental analysis of the characteristics and issues provided in the chapter 4 is applicable and responds to the needs of this particular Environmental report content item, as required by the national law and the EC Directive.

Environmental characteristics of the areas, where the certain projects to be supported under the SOPE will be carried out shall be assessed by EIA procedure, where applicable.

6 Any existing environmental problems which are relevant to the SOPE including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the GDO 236/2000 on the regime of the natural protected area, conservation of natural habitats, of wild flora and fauna, approved by Law 462/2001

6.1 **Key environmental problems related to SOPE**

This chapter point out to the key environmental problems in the economy sector which have been identified from SOPE and environmental analysis conducted for the assessment. Findings are summarized below in the form of the table based on the findings of the environmental situation analysis done for the purpose of the SOPE.

Table 3. Key environmental problems related to SOPE

Env. issues	Key environmental problems related to the SOP
Air	Ambient air quality exceeding legal norms due to pollution from "hot spots" (short term and long term pollution) Air pollution and acute and chronic impact on human health especially due to urban air pollution and hot spots
Water	Serious water pollution problems due to untreated waste water from municipal and industrial sources as well as defuse pollution due to agricultural activities and lack of waste management
Soil	Soil pollution problems caused by under-capacity waste collection and environmentally harmful waste disposal practices
Climate change	Increasing emissions causing climate change Climate change affecting soil erosion and water supply as well as natural disasters (flooding)
Biodiversity	Continuing degradation of terrestrial and aquatic eco-systems due to anthropogenic impacts such as habitat fragmentation and deforestation Absence of proper management of protected areas and enforcement of rules in the protected areas and potential Natura 2000 sites

Env. issues	Key environmental problems related to the SOP
Human health	Deterioration of human health due to environmental (air, water and soil) pollution and old ecological burdens (e.g. pesticides, mining waste, etc.) Significant problem of noise in urban settlements
Environmental risk management	Increased risk due to natural disasters
Resource efficiency and conservation/ sustainable resource management	Increasing use and exploitation of depleting natural resources Increasing waste generation and lack of waste recovery, and recycling initiatives
Landscape and cultural heritage	Danger of further degradation of natural and cultural landscape (e.g. e.g. due to growing brownfield and increasing use of greenfields for development); Deterioration of the Romanian coastal zone of the Black Sea (its aquatic and terrestrial ecosystems) and danger to cultural heritage
Energy efficiency and renewable energy sources	Low energy efficiency as well as increasing use of energy resources; Poor initiatives to invest into renewable resources
Awareness raising on environmental issues	Low awareness of governmental, private and public sectors on environmental issues and how they take part in sustainable development
Sustainable tourism	Unsustainable tourism practices leading to further environment degradation and loss and natural diversity and heritage

6.2 **The network of protected areas (future Natura 2000 sites)**

The terrestrial protected areas national system represents about 8% of the Romania's territory with 26 old large biosphere reserves, national parks and natural parks and 8 new large protected areas established in 2004 and 2005. Outside the areas mentioned above there are 935 scientific reserve, nature monuments and natural reserves with a total area approximated at 18,000 km2. The locations of the major protected areas in Romania are presented in the map below.

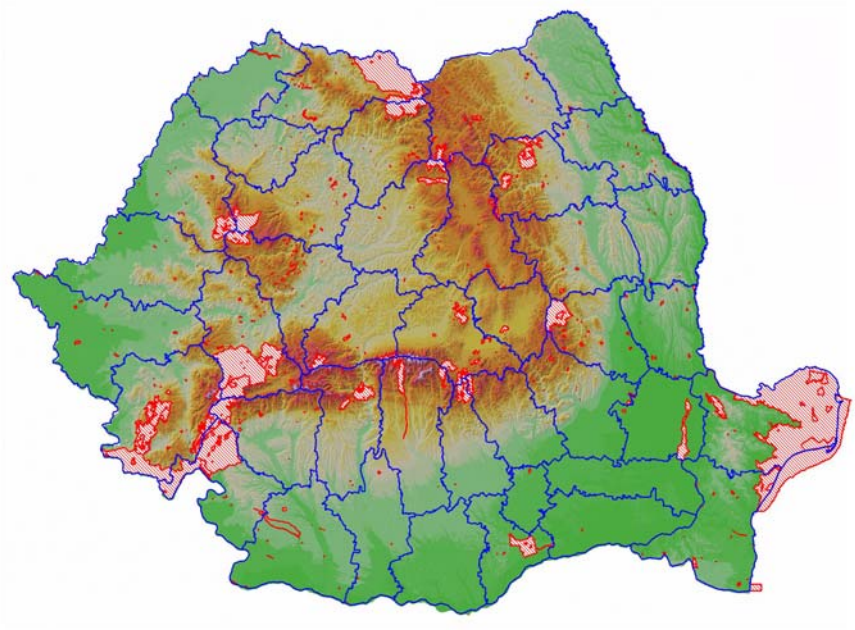

Figure 1: Network of protected areas in Romania

In order to meet the requirements of the EU Birds and Habitats Directives the Natura 2000 network is under construction in Romania.

Habitats, fauna and flora species from Birds and Habitats Directives were identified on the territory of Romania and presented in the annexes of the Law 462/2001 (updated with Law no. 345/19.07.2006) on the status of natural protected area, natural habitats and species of wild flora and fauna conservation.

MoEWM has developed a national strategy for harmonization of EU requirements in terms of natural conservation and developed action plans for the implementation of the national strategy. Furthermore, implementation plans have been elaborated with time schedules for the implementation of the EU Birds and Habitats Directives.

Identified and selected natural protected areas and other landscape components must be included into the European Network of protected areas Natura 2000. At this moment 28 Special Protected Areas have been identified that are in compliance with the requirements of Birds Directive to become a part of the Natura

2000 network, which constitutes only the beginning for the work (approved between 2004-2005).

The Natura 2000 network will cover all five bio-geographical regions (Alpine, Continental, Pannonic, Steppic, Pontic), therefore there is a potential interference of transport network development activities since all regions of Romania are important from Natura 2000 point of view.

The obligation to carry environmental assessments for all plans and projects with potential impact on environment was set up. EIA process has to assess potential impacts on Natura 2000 sites and since the network establishment is on a way, it will constitute a challenge to the transport and other projects planned within the SOP. A ”Methodological Guide for the biodiversity considerations insertion within the environmental impact assessment procedures” was elaborated as relates to the impact assessment on Natura 2000 network and based on the “Methodological Guide” elaborated by the European Commission. It should be a helpful tool in the assessment of process.

To enable smooth assessment and problem (if any) solving, impact assessment procedures have to have a strong consultation component with all key stakeholders of the process. The key stakeholders of Natura 2000 network are the authorities involved with the implementation and future management of Natura 2000, which are the MoEWM, other competent authorities involved in nature conservation (NEPA, REPAs, LEPAs and the National and Natural Parks Administrations including Romsilva), the Romanian Academy (which is responsible for the scientific approval of regulatory documents in relation to protected areas) and NGOs that work in the area of nature conservation.

Since the process of establishing Natura 2000 network as well as establishing the structures and framework for sound and effective management of the system is under early stages of development, it is strongly recommended not only to have consultations, but also to involve key stakeholders in the project assessment, i.e. invite environmental authorities, researchers and NGOs to provide inputs into the mitigation of possible negative impacts of the projects (please, see more in the Chapters 9 and 10 under SOPE implementation and monitoring arrangements).

7 The environmental protection objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation

7.1 **The list of environmental objectives with explanation of its preparation**

For the purpose of the assessment of environmental effects on the SOPE, a number of relevant environmental issues and objectives have been selected and formulated based on the national and international (European and Global) objectives and obligations that Romania has in the field of the Environment.

For the purpose of proposing a list of relevant environmental objectives, a reference list of key national and international environmental documents was collected and key strategic documents were consulted, the list of which is presented in the Annex 3. References to other relevant documents have been also collected and are presented in the same annex.

Proposed set of relevant environmental issues and objectives for the purpose of assessment of the SOPE have been presented to the working group established for the purpose of SEA by the Managing Authority (MoEWM) during the Scoping meeting which took place in September 2006. Comments received during and after the meeting were taken into account by the SEA team of experts. The table bellow presents the proposed final framework of the environmental issues and objectives for the purpose of SEA of SOPE.

Table 4. Relevant environmental objectives for the purpose of assessment of the SOPE

Environmental issues	Relevant Environmental Objectives
Air	Maintain and improve the quality of ambient air within the limits set by the legal norms
	Minimize the impacts on the air quality at rural and urban level
Water	Limit water pollution from point and diffuse pollution sources and improve the quality of water
Soil	Limit point and diffused pollution of soil
Climate change	Decrease emissions causing climate change
	Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion

Environmental issues	Relevant Environmental Objectives
Biodiversity	Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation
	Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites
Human health	Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)
	Protect and improve the condition of settlements with respect to noise
Environmental risk management	Increase population protection from risk associated with natural disasters
Resource efficiency and conservation/ sustainable resource management	Limit use of depleting natural resources
	Reduce waste generation, increase waste recovery, and facilitate recycling of all waste
Landscape and cultural heritage	Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)
	Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region
Energy efficiency and renewable energy sources	Improve energy efficiency and use of energy resources
	Facilitate energy generation from renewable resources
Awareness raising on environmental issues	Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues
Sustainable tourism	Promote tourism that would ensure high degree of environment protection and natural conservation

7.2 The evaluation of general and specific objectives and priority axes

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

Based on the analysis of the environmental status in Romania, focus on the most important environmental issues and problems, and based on the assessment of specific objectives, the SEA team proposes the following alternative reformulation of proposed global objective: to **improve the living standards and the environment in Romania, focusing in particular on meeting the EU environmental acquis requirements.**

The assessment of specific objectives was focused on the likely environmental effects of the OP specific objectives to the relevant environmental objectives. The evaluation was done in the form of comments, explaining what effects (both positive and negative effects) might be caused by the implementation of the OPs´ specific objective and resulted in a possible reformulation of specific objectives and priority axes.

Original specific objectives	**Proposed alternative reformulation of proposed specific objectives**
Improvement of access to water infrastructure, by providing water supply and wastewater services in line with EU practices and policies, in most urban areas by 2015	Improvement of access to water infrastructure, by providing water supply and wastewater services in line with EU practices and policies, in most urban **and rural** areas by 2015
Improvement of soil quality, by improving waste management services and reduction of old ecological burdens in minimum 30 counties, in line with EU practices and policies by 2015	Improvement of soil quality, by improving waste management services and reduction of old ecological burdens ~~**in minimum 30 counties**~~, in line with EU practices and policies by 2015.
Reduction of negative environmental impact caused by old municipal thermal plants in most polluted localities by 2015.	-
Protection and improvement of biodiversity and of the natural heritage by supporting the protected area management, including NATURA 2000 implementation	-
Reduction of the incidence of natural disasters affecting the population, by implementing preventive measures in most vulnerable areas by 2015	-

Suggested modifications of the specific objectives 1 and 2 were not accepted by the Managing Authority with the following justification:

- The necessary investments to comply with EU acquis for water sector are the most costly – 19 billions Euro until 2018. Thus, 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.
- Since SOP Environment is not enough to cover these needs, complementary sources will be used. Rural areas investment in water infrastructure are addressed by National Programme for Rural Development. (see strategy for Priority Axis 1, SOP Environment and Complementarity chapter). The demarcation line between the two programs is represented by the Master Plans developed by MEWM.

Suggestions for alternatives of priority axes (PA) were as follows (in red):

PA 1 "Extension and modernization of water and wastewater systems";
PA 2 "Development of integrated waste management systems and rehabilitation of old ecological burdens"
PA 3 "Improvement of municipal heating systems in ~~selected~~ priority areas";
PA 4 "Implementation of ~~adequate~~ management systems for nature protection";

PA 5 "Implementation of ~~adequate~~ infrastructure **for** natural **and industrial disaster** risk prevention in most vulnerable areas";

The suggestion to incorporate the industrial disasters into the PA5 was rejected by the MA, which emphasized that having in view the limited financial resources under SOP Environment comparatively with the accession commitments and environmental problems in Romania, MA decided to address only those environmental risks mentioned as priority in the Community Strategic Guidelines – floods. Regarding industrial disasters, prevention and polluter pays principles shall apply. SEVESO Directive has been transposed in national legislation through the GD 95 / 2003, as amended. In line with EU provisions emergency plans to prevent possible industrial accidents involving dangerous substances must be developed and implemented by operators.

Full assessment is available in the Annex 4 to the report.

8 The likely significant effects[1] on the environment

8.1 Evaluation of key areas of intervention and suggestion of specific measures to minimise, reduce or offset their likely significant environmental effects

After assessment focusing on whether the SOPE can have substantial effects on the environment (see Chapter 7 and Annex 4), further assessment was carried out on the proposed key areas of intervention in relation to the relevant environmental objectives, in other words, whether and how the key areas of support contribute (or do not contribute) to fulfilment of the relevant environmental objectives.

At the beginning of the assessment, the single areas of support were evaluated according to the following scale:

+ 2: substantial positive effects of the area of support on the given reference goal

+ 1: positive effects of the area of support on the given reference goal

0: no impact (neutral effect)

- 1: negative impact of the area of support on the given reference goal

- 2: substantial negative impact of the area of support on the given reference goal

?: the impact cannot be identified

Comments on an important part of the evaluation, especially if a negative impact was identified were specified.

The evaluation was carried out independently by the SEA team experts (altogether 5 assessments). The outputs from the assessments were summarised in tables (MS Excel) and examined statistically (median and the standard deviation were calculated). In case standard deviation was more than 1 (substantial evaluation differences among the team members) the evaluation was discussed within the team and modified accordingly.

The assessment aimed at identification of potentially important negative conflicts of the SOPE areas of support with the reference goals in environmental protection. Those negative conflicts were considered important for which the median was – 1 and lower. For those conflicts the mitigation measures were further proposed in order to minimize the adverse environmental effects of the OP IEC implementation.

The following tables present the joint evaluation of the SEA team, as it has been agreed during the discussion on the results from independent evaluations.

[1] secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors

Table 5. Assessment of the Key Areas of Intervention of the SOPE

Priority axis 1 - *"Extension and modernization of water and wastewater systems"*

Key area of intervention 1.1: Extension/modernization of water and wastewater systems		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Limit water pollution from point and diffuse pollution sources and improve the quality of water	2	Significant positive effect is expected due to water pollution reduction from point sources due to indicative operations such as extension/rehabilitation of sewerage networks and the construction and upgrading of wastewater treatment plants and sludge treatment facilities.
Limit point and diffused pollution of soil	1	Significant positive effect will take place due to measures aimed at reduction of water pollution. The construction and upgrading of wastewater treatment plants and sludge treatment facilities will also reduce leakage and thus will reduce soil pollution. Some negative impact may be expected if the treated but still toxic sludge (polluted by heavy metals, etc.) would be used for agricultural purposes.
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	1	Improvements in sludge treatment facilities will limit the CH4 (methane) emissions, therefore the GHG. By controlling the water bodies through different types of hydro-technical works, soil protection against water erosion will be partially achieved. Soil protection from water erosion must be especially facilitated. Significant long term positive effect is expected. Improvements in sludge treatment facilities that limits CH4 (methane) emissions may have a marginal positives effects on GHG emissions
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	0	Extending and modernizing wastewater networks and facilities, water and soil quality will improve conditions of aquatic eco-systems. Significant positive effect is expected. It is important to observe the environmental norms in design and construction therefore environmental assessments of all activities have to be conducted

Key area of intervention 1.1: Extension/modernization of water and wastewater systems		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	Given the reduction of water pollution anticipated from the activities under this KAI, there will be a significant long term positive environmental effect. Special attention in designing and constructing the utilities planned under KAI has to be given to locations close to protected areas and Natura 2000 sites.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	2	Better drinking water quality as well as wastewater collection and treatment systems will have a positive impact on the human health. Implementation of KAI will contribute as well to the reduction of the number of old ecological burdens in this case mitigation of sludge treatment.
Limit use of depleting natural resources	0	Better water management will limit water leakages
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	1	Implementing this KAI will lead to limiting the point pollution sources of the Romanian coastal zone in the Black Sea region and therefore significant positive long term effect will be achieved.
Facilitate energy generation from renewable resources	1	By improving water quality in the hydropower dams, the lifetime of the sources/reservoirs will increase and therefore there will be an indirect positive effect on the hydro-energy generation.
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	1	The improvement of waste water treatment and water supply services will lead directly to the improvement of the environmental responsible behaviour of inhabitants regarding water management. Controlling and developing the water and wastewater systems in a sustainable way will help offer to the stakeholders a new level of life quality.
Proposed reformulation of key area of intervention (if any): n/a		

Key area of intervention 1.1: Extension/modernization of water and wastewater systems		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): It is important to observe the environmental norms when designing and constructing water and wastewater installations, therefore EIA of all activities have to be conducted to ensure mitigation measures for installations in the vicinity of nature protection parks and Natura 2000 sites. In Romania, EIA is carried out for each environmental investment project and represents one of the most important requirements to be met for project selection and approval.		

Priority axis 2 - "Development of integrated waste management systems and rehabilitation of old ecological burdens"

Key area of intervention 2.1: Development of integrated waste management systems and extension of waste management infrastructure		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms	1	Better waste management will contribute to the reduction of air pollution. Installations connected to ecological landfills (ones that will enable gas collection and treatment) are recommended. There will be a long term significant positive effect if measures to control air emissions, from current and new landfills, will be ensured.
Minimize the impacts on the air quality at rural and urban level	1	Better waste management will contribute to the reduction of air pollution. General air pollution will be reduced and a significant long term positive effect is expected.
Limit water pollution from point and diffuse pollution sources and improve the quality of water	2	Waste management will contribute to the reduction of water pollution in the surroundings of the old and uncontrolled landfills and will ensure water protection in the locations of the new ones. The measures are very important with regards to underground water. Significant long term positive effect is expected.
Limit point and diffused pollution of soil	1	Rehabilitated and new landfills will have a direct and significant positive impact on the reduction of soil pollution. Enabling waste management systems aimed at waste collection, sorting and recycling will have a long term significant positive effect. By implementing this KAI, one of the most a significant soil pollution sources will be addressed. Support to activities aimed at reduction in the quantity of waste deposited in the landfills are recommended

Key area of intervention 2.1: Development of integrated waste management systems and extension of waste management infrastructure		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
Decrease emissions causing climate change	1	GHG emissions in the waste deposits are likely to be reduced by implementing gas-collection facilities landfills as proposed under this KAI.
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	0	There will be an indirect positive effect on soil protection against water and wind erosion due to the closure of old and illegal dumping sites. Activities aimed at reducing the waste generated and promoting waste recycling and reuse will increase the positive effect due to the long term reduction of pollution.
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	Indirect positive effect of terrestrial ecosystems is expected
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	Pollution by waste in protected areas is an issue of concern. Implementation of integrated waste management systems and reduction of uncontrolled landfills will have a significant positive effect on the existing protected areas and potential Natura 2000 site.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	2	Better waste management will have positive environmental (water, air, soil, landscape) impact and also on the human health. The KAI will have a significant positive effect due clean up measures aimed at reduction of old ecological burdens, closure and clean up of the illegal dumps.
Limit use of depleting natural resources	1	Recycling and reuse of waste will contribute to the reduction in the use of depleting natural resources. Significant positive effect is expected by setting up and enabling integrated waste management systems.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	2	The KAI will have a direct long term positive effect through the establishment of the waste management structures. It must be ensured that selective waste collection and waste recycling is enabled

Key area of intervention 2.1: Development of integrated waste management systems and extension of waste management infrastructure		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	1	Construction of adequate facilities will ensure protection of natural and cultural landscape. Significant positive effects will be obtained if industrial waste (e.g. from coal power plants) will be diminish and brownfields will be cleaned up
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	1	Pollution from waste will be better controlled by establishing waste management systems in the areas adjacent to the Black Sea. There will be a significant positive effect due to the rehabilitation of old wastelands as well as an indirect effect due to the reduction of waste inflow via open water (the Danube) and given the reduction of waste disposal into the sea
Improve energy efficiency and use of energy resources	1	Recycling of waste will ensure energy efficiency due to the implementation of integrated waste management systems. Less energy will be consumed in order to keep the waste management under control. Reusing the products and materials and using the recycled materials will reduce the natural resources consumption. The KAI has to enable separation of biomass and use of it for energy generation. Positive effect will be increased if waste sorting and selective collection is established and integrated landfills (with gas collection systems) are supported.
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	1	Establishing waste selective collection, sorting and recycling systems will contribute to environmental responsible behaviours. Established waste management systems must go hand in hand with a functional awareness and education system for different stakeholders, as a critical factor of success in implementing this KAI. Public participation actions in the waste management area could improve the environmentally friendly behaviour of public
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): Positive effect will be increased if waste sorting and selective collection is established and integrated landfills (with gas collection systems and energy generation) are supported. Established waste management systems will imply a functional awareness and education system for different stakeholders.		

Key area of intervention 2.2: Rehabilitation of old ecological burdens		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms	1	Indirect positive impact is expected.
Minimize the impacts on the air quality at rural and urban level	1	Indirect positive impact is expected.
Limit water pollution from point and diffuse pollution sources and improve the quality of water	1	Rehabilitation of old ecological burdens will ensure limitation in water pollution and improve quality of underground water. If old storages of different type of toxic wastes, chemicals etc. will be treated, the risk of polluting underground waters will be reduced. It is important to reduce the old burdens related to active pollution to enable improvement of the env. situation, nature and health protection.
Limit point and diffused pollution of soil	1	Rehabilitation of old ecological burdens will have a direct impact on limitation of soil pollution. A significant positive effect is expected.
Decrease emissions causing climate change	1	There will be some indirect positive effect on GHG emissions
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	1	Soil protection from leachate erosion from the closure and cleaning up of illegal dumping sites and old burdens will have a significant positive effect on soil protection against water and wind erosion, reducing the conditions for pollution spreading
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	Elimination and clean up of old burdens will have a direct significant impact on the terrestrial and aquatic eco-systems.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	Some indirect positive effect is expected

Key area of intervention 2.2: Rehabilitation of old ecological burdens		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	2	Better quality of the environment due to cleaning ups of old burdens will ensure an improvement in human health therefore also a significant positive effect for environment. The recovery of contaminated sites associated with business development should be a priority
Limit use of depleting natural resources	0	There may be some positive effect. In case of dismantling of old industrial sites and reuse or recycle of the extracted materials the objective will be partially achieved.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	In case reusable materials are located in places of old ecological burdens and their utilization is achieved, there will be some positive effect. Such reuse can be initiated in case of construction (for road construction) or organic waste (old farm buildings).
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	1	Rehabilitation of old ecological burdens will have a direct significant positive effect on cultural landscape and revitalisation of brownfields.
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	1	By rehabilitating the old ecological burdens situated in the vicinity of the Black Sea coastal zone waters and ecosystems, the objective will be achieved. There will be significant positive effect if the places are rehabilitated along the sea coast
Improve energy efficiency and use of energy resources	0	No direct effect unless rehabilitated locations are used for bio-fuel production
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	2	By identifying/recognising and managing the old ecological burdens there will be a significant long term positive effect. Public involvement will strengthen the positive effect as well as will provide a positive example of governmental, private and public environmentally-responsible behaviour.
Proposed reformulation of key area of intervention (if any): n/a		

Key area of intervention 2.2: Rehabilitation of old ecological burdens		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): By closure of old dumping sites a direct significant effect will be achieved. It is recommended to recovered sites for afforestation. In the case reusable materials are recovered, their reuse can be applied as construction materials in road construction, etc. Effect on energy generation and RES can be achieved if bio-fuel production is promoted in such locations. Identification of the illegal dumping sites can be strengthened is the public and NGOs will get support.		

Priority axis 3 - "Improvement of municipal heating systems in selected priority areas"

Key area of intervention 3.1: Rehabilitation of municipal heating systems in "hot spot" areas		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms	2	Rehabilitation of municipal heating systems by rehabilitating boilers and turbines and introducing BAT for SO2, NOx and dust reduction will contribute to the improvement of air quality and will have a significant long term positive effect
Minimize the impacts on the air quality at rural and urban level	2	Measures planned under the KAI will contribute to the improvement of air quality, especially in urban areas. Reduction of pollutant emissions from district heating plants will be the major contributor to the air quality after transport impact reduction.
Limit point and diffused pollution of soil	1	Rehabilitation of non-compliant slag and ash landfills will contribute to the reduction of point and diffused pollution of soil. In addition, reductions in air emissions proposed through the measures will have a significant positive effect on the diffuse soil pollution, via reduction of acidification and land contamination from heavy metals and other particles
Decrease emissions causing climate change	1	Rehabilitation of municipal heating "hot spots" will directly lead to the reduction of GHG emissions. Significant direct effect is expected.

Key area of intervention 3.1: Rehabilitation of municipal heating systems in "hot spot" areas		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	0	There will be a reduction in air pollution, which will lead to the improvement of conditions and functions of terrestrial and aquatic eco-systems. Significant long term direct and indirect positive effect is expected
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	2	Better air quality and reduction of energy losses, improved living conditions and hygienic conditions due to improved process of energy transfer will directly or indirectly facilitate the improvement of human health
Limit use of depleting natural resources	1	Rehabilitation of hot water and heating distribution networks and introduction of metering will improve energy efficiency. The KAI will contribute to a better control on the used fuels quantities, energy consumption at the end of pipe, opportunity in using alternative fuels (biomass), introducing cogeneration systems as well as reduction of water and heat losses in the process.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	0	Rehabilitation of non-compliant slag and ash landfills will contribute to protection of cultural landscape.
Improve energy efficiency and use of energy resources	2	Rehabilitation of hot water and heating distribution networks and metering introduction will improve energy efficiency and will directly have significant long term effect on the energy resources consumed and on the reduction of energy losses in the production and distribution systems. Co-generation has to be encouraged.
Facilitate energy generation from renewable resources	1	There will be indirect positive effect on the energy generation from renewable resources due to increased efficiency, however the measures under the KAI may be expended to include conversion of energy generation from conventional to renewable energy sources. Supporting adequate measures for energy, the introduction of renewable resources may be increased.

Key area of intervention 3.1: Rehabilitation of municipal heating systems in "hot spot" areas		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	1	Rehabilitation of hot water and heating distribution networks and, especially, the introduction of metering will improve governmental, private and public environmental responsibilities. There will be significant long term positive effect.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): In order to increase the positive effect of the measures planned in the KAI, it is proposed to introduce the metering not only for water circulation in the system, but also for heat generated and consumed at the end of pipe. The measures under the KAI may be expended to include conversion of energy generation from conventional to renewable energy sources. These selection criteria will be very helpful in the locations with available bio-energy resources or potential to produce them (such as wood dust and chips, bio-gas or bio-fuel). BATs and co-generation have to be encouraged and promoted;		

Priority axis 4 - "Implementation of adequate management systems for nature protection"

Key area of intervention 4.1: Development of infrastructure and management plans to protect biodiversity and Natura 2000		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
Protect and improve the conditions and functions of terrestrial, aquatic and marine eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	Infrastructure and capacity development of the protected areas and Natura 2000 management bodies, elaboration of scientific studies, inventories, monitoring, mapping will protect and improve the eco-systems. It is proposed to supplement the eligible activities by supporting non governmental organizations involved in nature protection activities.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	Activities planned under KAI will have a direct significant positive effect on the protection of natural diversity of protected areas and potential Natura 2000 sites. It is proposed to supplement the eligible activities with the support to non governmental organizations working on nature protection activities.
Limit use of depleting natural resources	1	Strengthening the management capacity will contribute to the limitation of the use of natural resources.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	1	Development of infrastructure and management plans to protect biodiversity and Natura 2000 will ensure protection of natural landscape.
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	0	KAI will positively affect the rehabilitation of the Romanian coastal zone of the Black Sea through the development of the infrastructure needed for site rehabilitation and improvement, if specific measures are financed to be implemented on the Black Sea side. Specific criteria of selection proposed in the SEA report are recommended to enable stronger positive effect.
Facilitate energy generation from renewable resources	1	There may be indirect positive effect
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	2	Better management of protected areas and potential Natura 2000 sites will improve the environmental behaviour of the public and businesses and will have significant positive effect on the objectives. If non governmental organizations will be supported under the assistance for institutional capacity building (for the elaboration of scientific studies, inventories, monitoring, mapping) the positive effect will be increased.

Key area of intervention 4.1: Development of infrastructure and management plans to protect biodiversity and Natura 2000		
Relevant Environmental Objectives	**Evaluation**	**Comments on likely environmental effects**
Promote tourism that would ensure high degree of environment protection and natural conservation	1	Better management structures and infrastructure in the protected areas and potential Natura 2000 sites may directly contribute to the sustainable tourism development due to measures which enable nature conservation and tourism movement in the protected area with least negative effect.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): It is proposed to supplement the eligible activities with support to non governmental organizations working on nature protection activities. Strengthened management capacity will help limit the use of natural resources. To strengthen the positive effect it is proposed to develop the national strategy for sustainable use of the natural resources. KAI will positively affect the rehabilitation of the Romanian coastal zone of the Black Sea by developing the infrastructure needed for site rehabilitation and improvement, if specific measures are financed to be implemented on the Black Sea side. Env. selection criteria proposed in the report are recommended for enabling stronger positive effect.		

Key area of intervention 4.2: Develop and implement management plans for protected areas		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	2	Direct positive effect is expected due to the KAI by ensuring future management of all ecosystems
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	2	Direct positive effect is expected due to the KAI by ensuring future management of protected areas and potential Natura 2000 sites
Limit use of depleting natural resources	1	There may be positive effect due to management plans and potential decrease of the pressure on the natural resources of the protected areas
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	2	Some positive indirect effect may be expected on the areas surrounding the protected areas and containing the brownfields

Key area of intervention 4.2: Develop and implement management plans for protected areas		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic, marine and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	2	Direct positive effect should be expected due to management plans to be creased in implemented on the Romanian coastal zone of the Black Sea
Facilitate energy generation from renewable resources	1	Indirect positive effect maybe expected if the management plans will contain measures on sustainable energy generation for protected areas and national parks
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	2	Direct positive effect should be expected due to management plans on the environmentally-responsible behaviour due to measures foreseen on env. conservation of the protected areas and their promotion and enforcement
Promote tourism that would ensure high degree of environment protection and natural conservation	2	Direct positive effect is expected since management plans for the protected areas have to have measure related to tourism. It is recommended to carry SEA for those plans to ensure a wide stakeholder consultation process in preparation and implementation of the measures in the plans.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): During the preparation of the management plans for protected areas, to maximize the benefits of the management plans, it is recommended to carry the public debate with all of the stakeholders that develop activities such as owners in protected areas or stakeholders in the vicinity of protected areas. Additionally, training for stakeholders and public awareness campaign for each biodiversity projects are recommended.		

Priority axis 5 - "Implementation of adequate infrastructure of natural risk prevention in most vulnerable areas"

Key area of intervention 5.1: Protection against floods		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	1	Infrastructure aimed at flood prevention, the reduction of the destructive consequences of floods as well as for information databases and maps of hazard and flood risk prevention, will significantly contribute to the adaptation to the climate change and facilitate soil protection against water and wind erosion
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	Impact of the constructions for flood prevention is likely to have significant negative impacts on the terrestrial and aquatic ecosystems. All proposed facilities need to undergo proper EIA in order to mitigate their potential negative impacts.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	Impact of the constructions for flood prevention is likely to have significant negative impacts on the terrestrial and aquatic ecosystems. All proposed facilities need to undergo proper EIA in order to mitigate their potential negative impacts.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	0	There will be a significant positive effect due to the implementation of flood prevention measures in some locations, saving human lives and informing and training the public about risk reducing management. The positive effects will be increased if NGOs are included as recipients of support and as active members for all actions
Increase population protection from risk associated with natural disasters	2	Construction works for flood prevention and development of hazard and flood risk maps will increase population protection from risk associated. SEA and/or EIA needs to be conducted for plans and/or projects that seek funding under this measure. It is recommended to involve NGOs among during implementation of supported projects.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	0	There will be negative effect on natural landscape due to measures implemented and there will be a positive effect if measures supporting reconstruction of flood plains will be supported.

Key area of intervention 5.1: Protection against floods		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	1	There could be no direct impact to the Romanian coastal zone of the Black Sea due to the implementation of measures. Better flood protection measures will reduce risks associated with Danube's pollution from floods, therefore possibly reducing Black Sea's risk of pollution.
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	1	There will be some positive effect due to measures aimed at the development of hazard and flood risk prevention maps, plans and measures, including public information and training in reducing risks
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): Protection measures against floods have been changed during the last flooding and initial wetland surfaces have been partially recovered by the Danube river. By implementing a sustainable management plan against flooding, a better selection areas sustained as wetlands and protected from flooding has to be performed. The main concern regarding the constructions and rehabilitation works is related to the possible construction of concrete barriers, which should not be supported. EIA has to be performed to ensure the best alternatives. There will be a negative effect to natural landscape due to some measures implemented and there will be a positive effect, e.g. due to measures supporting reconstruction of flood plains will be supported.		

Key area of intervention 5.2: Reduction of coastal erosion		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	1	Rehabilitation of Black Sea shore affected by erosion will facilitate soil protection. There will be direct significant positive effect for the objective.
Protect and improve the conditions and functions of terrestrial and aquatic marine eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	2	The right and sustainable protection methods against coastal erosion will help directly in improving and sustainable maintaining all the marine ecosystems of the Black Sea (direct relationship between the underwater protection barriers and forming and developing the existing marine ecosystems). There will be negative impact on terrestrial and aquatic marine eco-systems due to anthropogenic activity

Key area of intervention 5.2: Reduction of coastal erosion		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	2	Designation and improvement of the Natura 2000 network in region may be affected by the reduction of coastal erosion. Impact assessment techniques should be used to assess the impact and propose solutions in such cases.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	0	There will be an indirect positive effect on the human health due to KAI activities.
Increase population protection from risk associated with natural disasters	1	The reduction of costal erosion will increase population protection from risk associated. Insufficient design of coastal erosion management plans may lead to wrong "movement" of the sea currents. SEA and/or EIA needs to be conducted for plans and/or projects that seek funding under this measure. It is recommended to involve NGOs among during implementation of supported projects.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	0	Protection of natural and cultural landscape in such activities will be enabled if EIA is undertaken. Significant negative effect will take place in the opposite situation
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	2	Sustainable measures against coastal erosion would increase preservation, protection and rehabilitation of the Romanian coastal zone of the Black Sea if properly selected measures are implemented. Direct positive effect will take place
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	1	There will be some positive effect if proper measures are selected and implemented
Proposed reformulation of key area of intervention (if any): n/a		

Key area of intervention 5.2: Reduction of coastal erosion		
Relevant env. objectives	**Evaluation**	**Comments on likely environmental effects**
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): The right and sustainable protection methods against coastal erosion will help directly in improving and maintaining the marine ecosystems of the Black Sea (direct relationship between the underwater protection barriers and the development of existing marine ecosystems). Reduction of coastal erosion will increase population protection from associated risks. Insufficient analysis and weak coastal erosion management plans could lead to wrong decision and measures that would increase the coastal erosion, therefore impact assessment methods, expert support and assessment tools should be employed in every case. Connection and impacts on the designation and improvement of the Natura 2000 network in region should be assessed. The main concern for rehabilitation is big concrete barriers' construction.		

The key conditions and mitigations measured proposed based on the assessment of the key areas of intervention are as follows:

- all facilities/projects that have a potential impact on Natura 2000 network need to undergo proper EIA in order to mitigate their potential negative impacts;
- proposed flood-protection strategies on national and regional level (KAI 5.1) must undergo the SEAs due to large areas to be affected in order to assess potential cumulative environmental effects of the actions proposed. Additionally individual projects under this KAI have to undergo EIA in order to mitigate their possible negative effects. Tiering during the EAs has to be applied in order to avoid duplication of the assessments.
- Under KIA 5.2 (Black Sea Shore protection and rehabilitation) SEA and/or EIAs need to be conducted for the programme and projects to be implemented under the KAI. Principles and actions must be correlated with the ICZM plan.
- Involvement of the public and NGOs during the preparation of strategies and programmes as well as SEAs and EIAs have to be ensured.

8.2 **Evaluation of cumulative effects of the SOPE on the relevant environmental objectives**

Cumulative environmental effects arising from implementation of SOPE were analyzed using simplified approach proposed in the Methodology of the SEA Handbook. Cumulative effects are effects that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the proposal. Cumulative effects can result from individually, minor but collectively significant actions taking place over a period of time.

For this analysis information generated by the preceding assessments of individual measures in the programming document, presented in the sub-chapter 8.1 was used. For the purpose do this analysis, all effects of the proposed key areas of interventions on the relevant environmental objectives were collected. It enabled to considerate whether significant cumulative environmental effects are likely to occur for each KAI.

The assessment is presented for each relevant environmental objective summarizing positive and negative effects, as well as overall cumulative effects.

Table 6. Summary of likely cumulative environmental effects of the SOPE

Relevant env. objectives	Environmental effects	Overall cumulative effect
Maintain and improve the quality of ambient air within the limits set by the legal norms	Positive: - Rehabilitation of old ecological burdens will ensure a better air quality; - Rehabilitation of municipal heating systems by rehabilitation of boilers and turbines and introduction of BAT for SO2, NOx and dust reduction will contribute to improvement of air quality and will have a significant long term positive effect	The OP is likely to have a significant positive overall effect on improvement of air quality in the areas where the MACs are exceeded
Minimize the impacts on the air quality at rural and urban level	Positive: - Better waste management will contribute to the reduction of air pollution - Rehabilitation of municipal heating systems in "hot spot" areas will improve air quality, especially in urban areas. Reduction of pollutant emissions from district heating plants will be the major contributor to the air quality after transport impact reduction;	The OP is likely to have a significant positive overall effect on improvement of air quality at the urban or rural level.
Limit water pollution from point and diffuse pollution sources and improve the quality of water	Positive: - Significant positive effect is expected due to water pollution reduction from point sources due to indicative operations such as extension/rehabilitation of water and sewerage networks, construction and upgrading of wastewater treatment plants and sludge treatment facilities; - Waste management will contribute to the reduction of water pollution in the surroundings of the old and uncontrolled landfills and will ensure water protection in the locations of the new ones; - Rehabilitation of old ecological burdens will ensure reduction in water pollution and improvement of underground water quality.	The OP is likely to have a significant positive overall effect on improvement of water quality and in limiting water pollution from point and diffuse pollution sources and improve the quality of water

Relevant env. objectives	Environmental effects	Overall cumulative effect
Limit point and diffused pollution of soil	Positive: - Significant positive effect will take place due to measures aimed at reduction of water pollution; - Rehabilitated and new landfills will contribute to the reduction of soil pollution directly; - Rehabilitation of old ecological burdens will ensure limitation of soil pollution; - Rehabilitation of non-compliant slag and ash landfills will a significant positive effect.	The OP is likely to have an overall significant positive long-term effect on limiting point and defuse soil pollution
Decrease emissions causing climate change	Positive: - Enabling the control of waste disposal and management, GHG from waste will be reduced; - Rehabilitation of municipal heating "hot spots" will directly lead to the reduction of GHG emissions.	The OP is likely to have a significant positive overall effect on decreasing emission causing climate change
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	- Infrastructure aimed at flood prevention and reduction of the destructive consequences of floods as well as information databases and maps of hazard and flood risk prevention significantly contribute to the adaptation to the climate change and facilitate soil protection from water and wind erosion.; - Rehabilitation of Black Sea shore affected by erosion will facilitate soil protection.	The OP is likely to have a significant positive overall effect on adaptation to the climate change and facilitate soil protection from water and wind erosion

Relevant env. objectives	Environmental effects	Overall cumulative effect
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	Positive: - By extending and modernizing wastewater networks and facilities, water and soil quality will increase therefore the terrestrial and aquatic eco-systems will have improved conditions and a significant positive effect is expected. - Elimination and clean up of old burdens will have a direct significant impact on the terrestrial and aquatic eco-systems; - There will be a reduction in air pollution, which will lead to improvement of conditions and functions of terrestrial and aquatic eco-systems; - Infrastructure and capacity development of the protected areas' management bodies, elaboration of scientific studies, inventories, monitoring, mapping will protect and improve the eco-systems; - Impact of the constructions for flood prevention measures is likely to have significant negative impacts on the terrestrial and aquatic eco-systems; - The right and sustainable protection methods against coastal erosion will help directly in improving and sustainable maintaining all the marine ecosystems of the Black Sea (direct relationship between the underwater protection barriers and forming and developing the existing marine eco-systems).	The OP may have a either positive or neutral impact on protection and improvement of the conditions and functions of terrestrial and aquatic eco-systems. The nature of the impact depends on the degree of integration of environmental issues into flood protection measures.

Relevant env. objectives	Environmental effects	Overall cumulative effect
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	Positive: - Due to reduction of water pollution anticipated by the extension/modernization of water and wastewater systems, there will be a significant long term positive environmental effect; - With implementation of integrated waste management systems and rehabilitation of old ecological burdens there will be a positive effect on the existing protected areas and potential Natura 2000 sites; - Clean up of old burdens in protected areas and potential Natura 2000 sites if any should be a priority; - Development of infrastructure and management plans to protect biodiversity and Natura 2000 will have a direct significant positive effect on the protection of natural diversity of protected areas and potential Natura 2000 sites; - Designation and improvement the Natura 2000 network in region will be affected by the reduction of coastal erosion. Negative: - Impact of the constructions for flood prevention may affect terrestrial and aquatic eco-systems. Negative effects may be due to potential changes to the habitats in the areas close to protected areas and potential Natura 2000 sites.	The OP is likely to have a positive overall effect on protection and improvement of the conditions and functions of terrestrial and aquatic ecosystems. However, actions for flood prevention will have a positive effect if the solutions implemented will take into account protected areas and potential Natura 2000 sites.

Relevant env. objectives	Environmental effects	Overall cumulative effect
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	Positive: - Better drinking water quality as well as wastewater collection and treatment systems will contribute to the human health; - Better waste management will environmental (water, air, soil, landscape) quality and also the human health; - Better quality of the environment due to clean up do old burdens will ensure an improvement in human health therefore the significant positive effect on the env.; - Better air quality and reduction of energy losses in the process of energy transfer will directly or indirectly facilitate the improvement of human health; - There will be a significant positive due to implementation of measures aimed at flood prevention, saving of human lives and on public information and training in reducing risks management.	The OP is likely to have a significant positive overall effect on human health.
Increase population protection from risk associated with natural disasters	Positive: - There will be positive effect due to better water quality in hydro-technical/hydro-energetic type of objects; - Construction works for flood prevention and development of hazard and flood risk maps will increase population protection from risk associated; - Reduction of costal erosion will increase population protection from risk associated	The OP is likely to have a significant positive overall effect on the protection of the population from risk associated with natural disasters.

Relevant env. objectives	Environmental effects	Overall cumulative effect
Limit use of depleting natural resources	Positive: - A better water resource management will reduce water leakages. By adequately exploiting the water sources and in the same time returning correct treated wastewaters (respecting the legal limits) in the water bodies/nature, there will be a significant positive long term effect; - Recycling and reuse of waste will contribute to reduction of the use of depleting natural resources; - Recycling and reuse of waste will contribute to reduction of the use of depleting natural resources; - Rehabilitation of hot water and heating distribution networks and introduction of metering will improve energy efficiency and limit energy natural resources. The KAI will contribute to a better control on the used fuels quantities, energy consumption at the end of pipe, opportunity in using alternative fuels (biomass), introducing cogeneration systems as well as reduction of water and heat losses in the process; - Strengthen the management capacity will contribute to limit use of natural resources	The OP is likely to have a significant positive overall effect on the limiting of the use of depleting natural resources. It is proposed to support preparation of the national strategy for sustainable use of the natural resources of Romania
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	Positive: - Development of waste management systems and extension of waste management infrastructure will have a direct long term positive effect through establishment of the waste management structures. It must be ensured that selective waste collection and waste recycling is enabled.	The OP is likely to have a significant positive overall effect the reduction of waste generation and increase of waste recovery and recycling

Relevant env. objectives	Environmental effects	Overall cumulative effect
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	Positive: - Construction of adequate waste management facilities and rehabilitation of old ecological burdens will ensure protection of cultural landscape and will have a direct significant positive effect on cultural landscape and revitalisation of brownfields; - Rehabilitation of non-compliant slag and ash landfills will have a significant positive effect. Indirect effect will be due to the reduction of pollution from non-compliant municipal heating systems; - Development of infrastructure and management plans to protect biodiversity and Natura 2000 will have an indirect positive effect.	The OP is likely to lead to the protection of natural landscape will have a direct significant positive effect on cultural landscape and revitalisation of brownfields. The positive impacts will be strengthened if the EIAs are carried for supported projects.
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	Positive: - Extension/modernization of water and wastewater systems will lead to limiting the point pollution sources of the Romanian coastal zone of the Black Sea region and therefore significant positive long term effect; - Pollution from waste will put under control by establishing waste management systems in the areas adjacent to the Black Sea; - By rehabilitating the old ecological burdens situated in the vicinity of the Black Sea coastal zone waters and ecosystems the objective will be achieved; - Development of infrastructure and management plans to protect biodiversity and Natura 2000 will positively affect the rehabilitation of the Romanian coastal zone of the Black Sea by development of the infrastructure needed for site rehabilitation and improvement, if specific measures are finances to be implemented on the Black Sea side; - Sustainable measures against coastal erosion would increase preservation, protection and rehabilitation of the Romanian coastal zone of the Black Sea if properly selected measures are implemented.	The OP is likely to lead to the preservation, protection and rehabilitation of the Romanian coastal zone of the Black Sea and national cultural heritage

Relevant env. objectives	Environmental effects	Overall cumulative effect
Improve energy efficiency and use of energy resources	Positive: - Recycling of waste will ensure energy efficiency due to implementation of integrated waste management systems; less energy will be consumed in order to keep the waste management under control. Reusing the recycled materials will reduce the natural resources consumption. - Rehabilitation of hot water and heating distribution networks and introduction metering will improve energy efficiency and will directly have significant long term effect on the energy resources consumed and on the reduction of energy losses in the production and distribution systems.	The OP is likely to have a significant positive effect on the improvement energy efficient and use of energy resources
Facilitate energy generation from renewable resources	Positive: - By improving water quality in the hydro-power dams, the lifetime of the sources/reservoirs will increase and therefore the indirect positive effect on the hydro-energy generation; - There will be indirect positive effect on the energy generation from renewable resources due to increased efficiency. If the "Rehabilitation of municipal heating systems in "hot spot" areas" is expended to include conversion of energy generation from conventional to renewable energy sources, the effect will be strengthened.	The OP is likely to have an overall positive effect on the energy generation from renewable resources.

Relevant env. objectives	Environmental effects	Overall cumulative effect
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	Positive: - Improving waste treatment and water supply services lead directly to improvement of environmental responsible behaviour of inhabitants regarding water management - Establishing waste selective collection, sorting and recycling systems will contribute to environmental responsibilities behaviours. Established waste management system will presume a functional awareness and education system for different stakeholders that being a critical factor of success in implementing this KAI; - By identifying/recognising and managing the old ecological burdens there will be a significant long term positive effect; - Rehabilitation of hot water and heating distribution networks and especially introduction of metering will improve environmental responsibilities of governmental, private and public; - A better management of protected areas and potential Natura 2000 sites will improve environmental behaviours of the public and businesses and will have significant positive effect on the objectives; - There will be some positive effect due to measures aimed at development of hazard and flood risk prevention maps, plans and measures, including public information and training in reducing risks	The OP is likely to have an overall positive effect on improving environmentally-responsible behaviour of government, private and public sectors.
Promote tourism that would ensure high degree of environment protection and natural conservation	Positive: - Better management structures and infrastructure in the protected areas and potential Natura 2000 sites may directly contribute to the sustainable tourism development due to measures which enable nature conservation and tourism movement in the protected area with least negative effect.	The OP is likely to have an overall positive effect on promoting tourism that would ensure high degree of environment protection and natural conservation

9 The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the SOPE

9.1 **Measures to minimise, reduce or offset the likely significant environmental effects of each area of intervention**

Assessment tables of each key area of intervention provided in the sub-chapter 8.1 suggest the key measures that should be taken to minimise, reduce or offset their likely significant environmental effects or increase the positive effects.

It is recommended that the implementation system for the SOP fully integrates these recommendations among **selection criteria** for projects that will seek funding under the SOPE.

9.2 **Additional measures to minimise, reduce or offset the likely significant environmental effects of the implementation of the entire programming document**

Even if its likely that the SOPE will bring an overall significant positive effect to the status of the environment in Romania, some projects may cause also local adverse environmental effects (e.g. flood protection constructions can effect the stream biodiversity). The proposal of environmental evaluation of project applications outlined below offers a general system for identifying projects which will be the least harmful to the environment and those which will have the biggest environmental benefits. The aim of this system is to ensure that the SOPE will support primarily those projects which will bring a positive environmental effect.

The system of environmental evaluation of project applications does not substitute other tools of environmental protection under the respective legal regulations (e.g. EIA, IPPC, etc.) – they are designed to ensure the maximum positive environmental impacts of the SOPE.

Description of the proposed system for environmental evaluation and selection of project applications

Environmental evaluation of project applications should be carried out as an integral part of decision-making about granting support to a concrete project within the SOPE. The system proposed is based on the evaluation of how the specific project can influence the relevant environmental objectives. The evaluating questions regarding the respective environmental objectives (i.e. "How the project can contribute to minimizing the impacts on the air quality at rural and urban level") should be a part of the summarising evaluation of the project submitted.

The environmental criteria should be based on the environmental indicators proposed within SEA (chapter 10), i.e. indicators should be modified into the form of the evaluation questions "how the project can effect....?"

Environmental evaluation of project applications is proposed in two stages:
- Pre-project environmental evaluation during project preparation,
- Formal environmental evaluation within official selection procedures.

Environmental evaluation by project applicants
It is very important for the project applicant (submitting entity) to undertake environmental evaluation during elaboration of their project application. This should enable them to modify the project so as it gets the best possible evaluation as for its environmental impacts. Pre-project evaluation will be carried out by the submitting institution using the generic forms outlined in the Table below.

In-filled environmental evaluation forms (together with any other supplementary information) should be submitted by the project applicant as an **integral part of their project application**.

Table 7. Recommended form for project proposal evaluation from environmental impact point of view

Project name / number:	**Effects of the project on relevant environmental objectives for the SOPE**			
Relevant environmental objectives for the SOPE	**Positive**	**Neutral or not applicable**	**Negative**	**Short explanation of scale and nature of the impact**
Maintain and improve the quality of ambient air within the limits set by the legal norms				
Minimize the impacts on the air quality at rural and urban level				
Limit water pollution from point and diffuse pollution sources and improve the quality of water				
Limit point and diffused pollution of soil				
Decrease emissions causing climate change				
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion				
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation				
Preserve the natural diversity of fauna, flora, and habitats in pro-				

Project name / number:	Effects of the project on relevant environmental objectives for the SOPE			
Relevant environmental objectives for the SOPE	**Positive**	**Neutral or not applicable**	**Negative**	**Short explanation of scale and nature of the impact**
tected areas and potential Natura 2000 sites				
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)				
Protect and improve the condition of settlements with respect to noise				
Increase population protection from risk associated with natural disasters				
Limit use of depleting natural resources				
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste				
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)				
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region				
Improve energy efficiency and use of energy resources				
Facilitate energy generation from renewable resources				
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues				
Promote tourism that would ensure high degree of environment				

Project name / number:	Effects of the project on relevant environmental objectives for the SOPE			
Relevant environmental objectives for the SOPE	Positive	Neutral or not applicable	Negative	Short explanation of scale and nature of the impact
protection and natural conservation				

Formal review of environmental evaluations during project selection
The formal environmental evaluation of project applications should be carried out as an integral part of the selection procedures concerning support granting within the SOPE.

Filled-in environmental evaluation forms (and any other supplementary information) that were submitted by the project applicant within their project application will be reviewed - in the framework of the overall evaluation of the project - by environmental specialists at the evaluation committee (ideally representative of the environmental authority on the regional or national level as applicable).

This review will analyse the quality of submitted environmental evaluation and can propose changes in the project and/or conditions for the project implementation. Based on this review, the selection committee will determine, inter alia, obligatory conditions for granting funds from the SOPE.

9.3 Concluding commentary on the proposed measures to minimise, reduce or offset the likely significant environmental effects of the implementation of the operational programme

The system described in the above sub-chapter 9.2 aims to maximise the positive environmental impacts of the entire implementation of operational programme. It is proposed as an opportunity for enhancing the overall quality of projects and not as an administrative barrier.

In order to implement this system, it is especially necessary:

- To incorporate the proposed measures that should be taken to minimise, reduce or offset the likely significant environmental effects of each area of intervention provided (outlined in the sub-chapter 8.1) among the core selection criteria for project applications.
- To incorporate the proposed environmental evaluation of project applications into the overall system of evaluating and selecting projects
- To ensure sufficient personnel and professional capacities for environmental areas within the project evaluation
- To ensure that the applicants are informed sufficiently about environmental issues and about possible links of the draft projects to the environment.

Ensuring the above activities requires sufficient personnel and professional capacities for the area of environment, in the framework of the whole evaluation and selection system of the SOPE.

10 A description of the measures envisaged concerning monitoring

10.1 **Description of the proposed system of monitoring the environmental effects**

The system for environmental monitoring proposed by SEA takes into consideration the fact that, during monitoring of environmental indicators on national or regional level, it is impossible to distinguish the SOPE environmental impacts from impacts of other activities /interventions (e.g. projects financed from sources other than the SOPE).

The SEA team also presumes that the proposal below will possibly be modified to accommodate the way of implementing the SOPE and according to the characters of the single projects submitted. Fulfilment of this presumption, however, is connected with ensuring sufficient personnel and professional capacities within the whole system of monitoring the SOPE implementation impacts.

The proposed monitoring system is based on the relevant environmental objectives specified by the SEA team (see Chapter 7). These objectives represent environmental areas and topics that can be substantially influenced by the SOPE implementation, i.e. the environmental impacts of the SOPE implementation will be monitored through the extent to which these objectives would be influenced.

In order to monitor the extent of the effects that the SOPE has on the environment, the SEA team proposed environmental indicators for each of the relevant environmental objectives. The SEA team proposes to selectively use monitoring indicators to monitor environmental effects based on the characteristics of the projects selected for funding. Its expected that those environmental objectives which were used within the project evaluation and selection will be further used for the monitoring of the project. By monitoring and summarising the single projects´ monitoring results, it will then be possible to estimate the overall environmental effect on the relevant environmental objectives in other words, on the SOPE.

The proposed environmental indicators have to be incorporated into the overall system of monitoring the SOPE. This monitoring data on the performance of the projects should be carried out at the end of the projects and the results should be published regularly, ideally in electronic form (on the Internet).

Table of proposed monitoring indicators to assess effects of the programme on the environment is provided below.

Table 8. Proposed environmental monitoring indicators

Relevant env. objectives	Indicators	Description / applicability
Maintain and improve the quality of ambient air within the limits set by the legal norms	Atmospheric emissions of: - NOx; - SO2 - VOCs Volatile organic compounds; - PM10	Emissions of pollutants per a certain period and per unit area in thousands tons per year per km^2
Minimize the impacts on the air quality at rural and urban level	*The same indicators as for the objective "Maintain and improve the quality of ambient air within the limits set by the legal norms"*	The same as above
Limit water pollution from point and diffuse pollution sources and improve the quality of water	Increase in waste water treated (% change and m3);	Data from project implementation
Limit point and diffused pollution of soil	Area of land cleaned from waste;	Revitalized surface of eroded or polluted soil. Data from project implementation
Decrease emissions causing climate change	Reduction/increase in GHG emissions (CO2 equivalent)	Reduction of GHG emissions according CO2 equivalent during the period monitored
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	*The same indicators as for the objective "Decrease emissions causing climate change"*	The same as above
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	Surface of protected areas, including Natura 2000 sites benefiting from nature conservation measures	% of total surface of protected areas of Romania benefiting from nature conservation measures. Data from project implementation
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	Area of protected areas and potential Natura 2000 sites affected (ha)	Data from project implementation
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	- General and specific morbidity and mortality for the exposed population	Indicators can be supplemented by a preliminary health impact assessment, possible trends in mortality and morbidity, asking project beneficiary to describe the possible health effect. This indicator captures the risks or benefits to human health from project activities.

Relevant env. objectives	Indicators	Description / applicability
Protect and improve the condition of settlements with respect to noise	Level of exterior/interior noise	Reduction of the level of noise (change at the location of the project if such effect is expected at the start and the end of it). Applicability should be established by the MA with consultations with the Environmental authority
Increase population protection from risk associated with natural disasters	Number of projects contributing to protection against natural and industrial disasters	Applicability should be established by the MA with consultations with the Environmental authority
Limit use of depleting natural resources	Reduction in water consumption per person (from the population served)	Data from project implementation
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	Waste recycled (tons) Waste separated (tons) Waste recovered for further use (tons) Connection rate of population to sanitary services (urban and rural, %)	Data from project implementation
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	Area of old ecological burdens cleaned, revitalized or recovered for reuse (ha)	Data from project implementation
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural and cultural heritage in order to achieve the sustainable development of the region	Length of sea shore rehabilitated (km)	Applicable to the sustainable flood management, Black sea protection and rehabilitation projects Data from project implementation
Improve energy efficiency and use of energy resources	Increase in energy efficiency in supported heating systems (%)	Data from project implementation
Facilitate energy generation from renewable resources	Number of projects enabling conversion to RES	Data from project implementation

Relevant env. objectives	Indicators	Description / applicability
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	Number of projects dealing with environmentally responsible behaviour (e.g. awareness raising campaigns) Number of people reached (affected) by the project	The first indicators can be supplemented by a descriptive indicator asking project beneficiary to describe the effect, if any). Data from project implementation
Promote tourism that would ensure high degree of environment protection and natural conservation	Number of project dealing with promotion of sustainable tourism (e.g. in Natura 2000 areas)	Number of projects having actions that will promote sustainable tourism development. Actions may not be on sustainable tourism, but may lead to activities or enable sustainable tourism, e.g. through management plans in Natura 2000 areas). Data from project implementation

Monitoring data on the environmental effects of the SOPE should be provided by the project owners together with the final project reports at the end of the projects implementation. Managing Authority should request the data at the end of each project implemented as minimum. Environmental data should be summarized and interpreted in the interim and ex-post evaluation reports in a separate chapter, which will draw on the results of SEA, environmental section and monitoring systems.

A monitoring programme was developed and is provided in the Annex 5.

10.2 **General recommendations of the SEA team concerning monitoring**

A quality and effective system of monitoring and evaluating of the environmental impacts of the SOPE implementation will contribute not only to preventing the programme's possible negative environmental impacts, but it will also help to enhance its positive effects, not only in terms of the environment, but also in terms of a higher quality of the projects submitted.

In order to ensure monitoring, it is necessary:

- To incorporate the environmental indicators proposed into the overall system of monitoring the SOPE implementation impacts
- To connect the monitoring system to the system of evaluating and selecting the projects i.e. use the same environmental objectives/indicators for the project evaluation and selection and also for further project monitoring;
- To link monitoring of the SOPE to monitoring of the single projects i.e. summarize results of the monitoring from the project level in order to estimate overall effects of the SOPE to the relevant environmental objectives.
- To publish the results of monitoring regularly;
- To ensure sufficient personnel and professional capacities for environmental areas within the SOPE monitoring;

- To involve the key departments of the MoEWM in the discussion about the overall system of monitoring and especially the way of incorporating environmental issues into the overall system before it is launched;
- To ensure that the applicants are informed sufficiently about environmental issues and about possible links of the draft projects to the environment;
- To include environmental NGOs into the monitoring committee (-s) to be established.

The whole monitoring system includes the following activities:

- Monitoring of environmental indicators (especially on the basis of aggregation of data from the project level)
- Examination of the monitoring results, i.e. revision of changes in environmental indicators
- Initiation of respective steps in case the SOPE negative environmental impacts were found
- Publishing of the results of monitoring
- Selection and modifications of environmental indicators with respect to the character of the projects submitted
- Communication with the environmental protection authority and nature conservancy bodies as well as other authorities working in environmental protection
- Providing environmental consulting to people working in the SOPE implementation structure, i.e. especially to the members of evaluation and selection commissions
- Providing advisory services to entities submitting projects in the environmental field
- Providing information on environmental issues related to the SOPE to all parties interested

The SEA team's practical experience and knowledge show that, for a quality and effective system to monitor environmental effects of the operational programmes' implementation, several aspects are of key importance. These include exact focus, selection, review and possible modification of relevant environmental objectives for projects selection and evaluation and of related environmental indicators that were proposed within the SEA on the basis of contents of the single SOPE areas of intervention, and also in the context of the single projects submitted.

Annexes

Annex 1. The list of institutions invited to take part in the Working Group

Interested authorities	Representatives	Contacts
Ministry of Public Health *-Public Health Institute - Bucharest*	-Dr. Anca Tudor: *water* expert phone: 318.36.19/161 atudor@ispb.ro -Dr. Emilia Niciu: *air* expert phone: 318.36.20/183 emniciu@ispb.ro -Ing. Oana Curea: *medical waste* expert phone: 312.11.38/161 oana_georgescu@ispb.ro	Fax ISPB: 312.34.26
Ministry of Administration and Internal Affairs : *-General Department for Relations with County Halls*	Constanţa Bârjovanu: *Dept. chief*	Tel. / Fax: 316.22.72 Mobile ph.: 0726.752.227 constan-ta.barjovanu@gov.ro
Ministry of Economy and Commerce *-Infrastructure and Environment Quality Department (DirectiaInfrastructura Calităţii şi Mediu)*	Doina Constantinescu: *Dept. chief*	Tel. : 202.52.83 Fax : 202.52.84 dconstant@minind.ro
Ministry of Agriculture, Forests and Rural Development: *-Rural Development General Department (Direcţia Generale de Dezvoltare Rurală)*	Cornel Ştefan: *Superior counselor*	Tel. : 307.85.05 Mobile ph.:0722.680.982 Fax : 307.86.06 cornel.stefan@maa.ro
Ministry of Transport, Constructions and Tu-rism: *- General Department for External Financial Relations (Direcţia Generală Relaţii Financiare Externe);* *-General Department for Land Planning, Urbanization and Housing Policy (Direcţia Generală Amenajarea*	Mariana Nanu: *Superior counselor*; Alexandru Antal: *arhitect*	Tel. / Fax : 319.61.27 ispaf4@mt.ro Tel. : 319.62.19 Fax : 319.61.02 antal@mt.ro

Teritoriului, Urbanism şi Politica Locuirii)		
Ministry of Public Finances: - Management Authority for Community Support Framework (*Autoritatea de Management pentru Cadrul de Sprijin Comunitar*)	Miruna Albulescu – *analist* Analysis and Programming Department	Tel. :302.52.63 Fax :302.52.64 miruna.albulescu@mfinante.ro
Constantin PULBERE: *Counselor*	*General Department for Impact Evaluation and Pollution Control (Direcţia Generală Evaluare Impact şi Controlul Poluării)*	Tel.: 316.02.15 / 2104 & 316.77.35 Fax : 316.04.21 constantin.pulbere@mmediu.ro
Mihai PROCA: *Integration counselor*	*Nature Conservation, Biodiversity and Biosecurity Department (Direcţia Conservarea Naturii, Biodiversitate şi Biosecuritate)*	Tel.: 316.02.87 / 2256 Fax : 316.02.87 mihaiproca@mappm.ro
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Annex 2. Minutes of the scoping meeting for the SOPE from the 6th of September 2006

Meeting report

Prepared today, 6.09.2006, on the ocassion of the 2nd meeting of the working group responsible for the application of the SEA procedure for SOPTs

The meeting was attended by representatives of authorities with competences on environment and health, namely the Ministry of Environment and Water Management, Ministry of Health – Institute for Public Health, as well as other authorities interested on the effects of implementing the SOP, respectively the Ministry of Economy and Commerce, Ministry of Agriculture, Forests and Rural Development, Ministry of Administration and Internal Affairs, Ministry of Public Finance. Environmental NGOs' representatives were also invited. The meeting was part of the PHARE project "Ex-ante evaluation", project that allowed the contracting of independent consultants to perform the ex-ante evaluation and the SEA for the operational programmes. The experts in charge with the SEA evaluation were present at the meeting: Mrs. Ausra Jurkeviciute, Project Manager, REC and Mr. Martin Smutny, international expert.

The agenda of the meeting included the following subjects:
1. Introduction to the methodology of the SEA for the operational programmes;
2. Identifying the key aspects and the environmental objectives that will be used in the evaluation;
3. The analysis of the baseline data regarding the state of the environment (critical environmental problems that are addressed by the ESOP);
4. The role and the atributions of the working group, establishing the next meetings.

Mrs. Venera Vlad – Director of General Department for the Management of Structural Instruments (department with the role of Management Authority for the ESOP) opened the meeting, presenting the scope of the meeting and invited the participants to introduce themselves. She mentioned that there were no comments recieved regarding the report of the first meeeting, therefore it is considered accepted.

Mr. Martin Smutny followed with a short presentation of the SEA of the OPs, emphasisizing the goal and role of this assesment, as well as of the expected results.

Mrs. Ausra Jurkeviciute introduced the SEA handbook, prepared with the financial support of the European Comission, which will be utilized by the PHARE experts in the SEA process for the SOPs. The presentation referred to the stages reccomended to be passed during the evaluation – establishing the purpose of the evaluation, evaluation of the environmental context, evaluation of the objectives and priorty axes, evaluation of the activities that can be financed, evaluation of the cummulative impact of the whole programme, evaluation of the management and implementation system, evaluation of the monitoring system. Mrs. Jurkeviciute underlined the fact the handbook is a document with a consultative role and cannot serve as guidance document for the transposition and implementation of 2001/42 Directive. The handbook does not refer to the development of alternatives for the operational programmes, because the authors consider that the priority axes could be considered as such alternatives.

After the presentations, Mrs Venera Vlad asked the experts of the project what happens in case the comments recieved from the European Comissions are quite substantial and the SEA is

prepared on older drafts/ versions of the SOPs from april. The experts answered that there is a possibilty that the SEA procedure will be reopened, but mainly the modifications required by the EC can be analyzed and introduced in the annex of the environmental report.

Ms. Ileana Vasilescu, Counselor within the Water Department of MEOWM expressed the belief that the EC will not have substantial comments to modify the ESOP, as long as its objectives are in strong correlation with the EU joining comments. She also presented the observations and comments regarding the documents sent prior to the meeting - "Reference Objectives of Environmental Protection for SEA" and „Analysis of the environmental situation related to the SOP Environment". She noticed that the materials do not include the most recent legal norms that are transposing the European Legislation and it is reccomended to utilize all the documented resources to access the most recent data. For example, on the sent documents, most of the times references are made to the legislation from 2002, while almost 99% of the legislation is transposed and many new legal norms have been adopted since then. Another suggestion was to treat the communitary acquis in the field of water unitarily, mentioning all the Directives of the sector in a specific section and not fragmented within other sectors (such as the Directive regarding the quality of water for fish is considered under the biodiversity chapter). Regarding the problems of Black Sea, the infrastructure aspects should be included as well and not considered only from the point of view of Europen Convention for Landscape. România is part of the Black Sea Convention and the subsequnt legislation regarding the Black Sea pollution and erosion should be mentioned in the document. Also, the Water Framework Directive should be better represented and there should be references to the new Water Law 112/2006, which contains also references to the water environment.

Mrs. Venera Vlad thanked the experts for preparing the documents in such a short time and asked the support of Ms. Vasilescu, as well of the other participants, for providing the legal norms in the field of water and other useful documents, for the experts' team and the other participants, (ex. Annual report regarding the water quality prepared by the „Romanian Waters" National Administration). Also, she asked that all the members of the working group send comments/suggestions until the **15th of September, 2006.**

Mrs. Ausra Jurkeviciute reminded to the working group that the main scope of the meeting was the presentation of the environmental objectives that will be used for the SEA. She presented the first draft of these objectives and asked the working group to send comments until the latest the **11th of September**. After transmitting the comments, the working group will agree on the environmental objectives. Also, having in mind the limited period of time available for the SEA, the experts asked the working group to use the informal consultaion, by e-mail, so that a third reunion could take place at the end of October when the experts will present the first draft of the environmental report.

Conclusions:

1. The members of the group will analyze the draft of the environmental objectives that will be used for the SEA and will send comments/observations until 11th of september.
2. The members of the group will analyze the documents "Reference Objectives of Environmental Protection for SEA" and „Analysis of the environmental situation related to the SOP Environment" and will send comments/observations until 15th of september.
3. Members of the group will send to the SEA experts the relevant documents (in Romanian or English) that can be used during SEA.
4. Members of the group agreed on using the e-mail as working mean of communication.

Prepared on 6.09.2006.

Annex 3. Full list of national and international legal and policy framework

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
Water	• 91/271/EEC (Waste Water Treatment Plant) • 2000/60/EC (Water Policy) • 91/676/EEC (Nitrates) • 76/464/EEC (Dangerous Substances Discharged into the Aquatic Environment) • Stockholm Convention on POPs • 96/61/EC (IPPC)	• Water Law no. 107/1996 as amended by Law no.310/2004 and Law no.112/2006 • GD no. 351/2005 on the approval of the Action Program for reducing the pollution of aquatic environment and groundwater caused by the discharge of some dangerous substances (Of. J no. 428/20.05.2005), as amended by GD no.783/2006 (Of. J no. 562/29.06.2006; • EMO no. 1146/2002 (Of.J.no.197/27.03.2002) on the surface water quality objectives; • GD no. 188/2002 (Of.J.no.187/20.03.2002) on the approval of the norms regarding the wastewater discharge conditions in the aquatic environment, , as amended by GD no 352/2005 (Of.J.no.398/11.05.2005). • Studies by the National Institute of Research and Development for Environmental Protection – ICIM Bucharest regarding the characterization of the vulnerability to groundwater pollution at hydrographical basin level (2001-2002)
Air	• 2001/80/EC (LCP) • 2001/81/EC (Emission Ceilings) • 96/61/EC (IPPC) • 98/70/EC, 99/32/EC (Fuels) • 94/63/EC, 99/13/EC (VOC) • 97/68/EC (Non-Road Mobile Machinery) • 99/30/EC (limit values for sulphur dioxide (SO2), nitrogen dioxide (NO2), nitrogen oxides (NOx), powders (PM10) and lead (Pb)); • 2000/3/EC concerning the ozone air pollution (O3) • 2000/69/EC concerning the limit val-	• GD no. 731/2004 on the approval of the National Strategy for Atmosphere Protection (Of.J.no.496/02.06.2004) • GD no. 738/2004 on the approval of the National Action Plan for Atmosphere Protection (Of.J.no.476/27.05.2004) • Law no. 271/2003 for ratification of the Gothenburg Protocol • National Reducing Plan for sulphur dioxide and nitrogen oxides emissions and powders from large combustion plants and the measures take on account the conformation of the limit values for the emission, approved by Joint Ministerial Order MEWM 833/13.09.2005, MEC 545/26.09.2005 MAI 859/2005 (Of.J no.888/4.10.2005). • GD no. 568/2001 (Of.J.no.348/29.06.2001) on setting up the technical requirements for limiting the VOC emissions resulting from storing, loading, unloading and distribution of petrol from terminals to service stations, amended by GD no.893/2005

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
	ues for benzene (C6H6) and carbon dioxide (CO). • Stockholm Convention on POPs • Gothenburg Protocol 1999 • 96/61/EC (IPPC)	• Order of the Minister of EWM no. 781/2004 on the approval of Methodological Norms regarding the measurement and analyses of volatile organic compounds resulted from storage and loading/ unloading of petrol at terminals (Of.J.no.1243/23.12.2004); • Order of the Minister of Industry and Resources no. 337/2001 approving the Norms regarding the technical inspection of the installations, equipment and devices used for reducing VOC emissions resulted from storing, loading, unloading and distribution of petrol from terminals and service stations (Of.J.no.10/10.01.2002), as amended by Order of the Minister of Economy and Commerce no.122/2005 (Of.J.no.324/18.04.2005) • EGO no. 243/2000 on atmosphere protection (Of.J.no.63/06.12.2000) adopted by Law no. 655/2001 (Of. J. no.773/04.12.2001). • DG no. 541/2003 amended and supplemented by GD 322/2005 on establishment of certain measures for limitation of emissions of certain pollutants into the air from large combustion plants through are transposed the provisions of Directive 2001/80/EC; • Order of the Minister of Environment and Water Management no. 592/2002 on the approval of the Norms regarding the establishing of the limit values, of the threshold values and of criteria and methods of assessment for sulphur dioxide, nitrogen dioxide and nitrogen oxides, particulate matters, (PM10 and PM2.5) lead, benzene, carbon monoxide and ozone in ambient air - (Of.J.no.765/21.10.2002); • EGO no.152/2005 on prevention and integrated control of pollution approved by Law no.84/2006; • NEAP (1995, updated 1999). • National Sustainable Development Strategy (1999).
Soil	• 75/442/EEC (Framework Directive on Waste) • 99/31/EC (Landfill of waste) • 94/62/EC (on packaging and packaging waste), as amended by Directive 2004/12/EC • 91/689/EEC (Hazardous Waste) • 2000/76/EC on incineration of waste	• GD No349/2005 (Of.J.no.394/10.05.2005) on the landfill of waste • Order of the Minister of Environment and Water Management No 95/2005 on defining of the criteria which must be fulfilled by waste in order to be found on the specific list of a landfill and the National List of accepted waste for each class of landfill (Of.J.no.194/8.03.2005); • Order of the Minister of Environment and Water Management No 757/2004 on the approval of the Technical Norms regarding the landfill of waste (Of.J.no.no 86/26.01.2005).

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
	• Prepared Mining Waste Directive • Stockholm Convention on POPs • EC is a party to the Basle Convention, Regulation No. 259/93 (EC) • the Council Decision 2003/33 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 99/31/EC • 96/61/EC (IPPC)	• GD no. 621/2005 (Of.J.no. 639/20.07.2005) on the management of packaging and packaging waste • GD no 128/2002 on the incineration of waste (Of.J.no. 160/07.03.2002), as amended by GD no 268/2005 (Of.J no.332/20.04.2005)
Climate change	• European Climate Change Programme • Decision No. 93/389/EEC for a Monitoring Mechanism of Community CO2 and Other Greenhouse Gas Emissions • Proposal of the Taxation of Energy Products Directive • Emission Trading Directive and Linking directive • UNFCCC and Kyoto Protocol	• EGO no.195/2005 on Environmental protection (Of.J.no.1196/30.12.2005) approved by Law no. 265/2006 (Of.J.no.586/06.07.2006) • Law no. 24/1994 (Of.J.no.119/ 12.05.1994) ratified the UN Framework Convention on Climate Change, (UNFCCC) • Law no.3/2001 (Of.J.no.81/ 16.02.2001) ratified the UNFCCC's Kyoto Protocol • National Strategy on Climate Change 2005-2007, approved by GD no.645/2005 (Of.J no.670/27.07 2005 • National Action plan on Climate Change 2005-2007, approved by GD no.1877/2005 (Of.J no.110/ 06.02.2006); • GD no. 731/2004 on the approval of the National Strategy for Atmosphere Protection (Of.J.no.496/02.06.2004) and • GD no. 738/2004 on the approval of the National Action Plan for Atmosphere Protection (Of.J.no.476/27.05.2004); • National GHG Inventory for the period 1992-2000 (2002); • National GHG Inventory for period 1992-2001 (2003); • National GHG Inventory for period 1989-2004 (2006)
Biodiversity	• 92/43/EEC (Habitats) • 79/409/EEC (Birds) • 78/659/EEC on the quality of fresh waters needing protection or improvement in order to support fish life • 79/923/EEC on the quality required	• Law no. 5/2000 regarding the national system of protected areas (Of.J.no.152/12.04.2000). • Law no. 462/2001 (Of.J.no.433/2.08.2001) for the approval of the GO no. 236/2000 (Of.J.no. 625/04.12.2000) on natural protected areas regime, conservation of natural habitats and of wild fauna and flora; updated with Law no. 345/19.07.2006 (Of.J.no. 650/27.07.2006). • National Strategy and Action Plan for Biodiversity Conservation and Sus-

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
	for shellfish waters • COM(2006) 302 (on an EU Forest Action Plan 2007-2011); • EU is a party to the Convention on Biological Diversity (CBD) (1993)	tainable Use of Its Components (1996) • National strategic plan for agriculture and rural development, 2006 • Law no. 58/1994 ratified the Convention on Biological Diversity (CBD) • The Order of Minister of Environment and Water Management no. 370/19.06.2003 for Regulation on authorization system of laboratory for environmental assessment and their activities (Of.J.no.756/29.10.2003). • GD no. 201/2002 on the approval of the technical Norms for the quality required for shellfish waters (Of.J.no.196/22.03.2002).GD no. 202/2002 on the approval of the technical norms related to the quality of fresh waters needing protection or improvement in order to support fish life (Of.J.no.196/22.03.2002). • GD no. 230/2003 (Of.J.no.190/26.03.2003) on the delimitation of the biosphere reserves, national parks and natural parks and the setting – up of their administrations; • The Order of the Minister of Agriculture, Forests, Waters and Environment no. 850/2003 (Of.J.no.793/11.11.2003) on the procedure of entrustment of administration or custody of the protected natural areas was issued, based on the GD no. 230/2003. • The Order of Minister of Agriculture, Forests, Waters and Environment no. 552/2003 (Of.J.no.648/11.09.2003) for the approval of the internal zoning of national and natural parks from the point of view of the conservation of the biological diversity necessity; • G.D. no. 2151/2004 regarding the establishment of new protected areas (Of.J.no.38/12.01.2005). • The Order of Minister of Environment and Water Management no. 246/22.07.2004 for the classification of caves as protected areas (Of.J.no.732/13.08.2004). • The Order of Minister of Environment and Water Management no. 1198/25.11.2005 for the modification of annexes of Law no. 462/2001 for the approval of the GO no. 236/2000 (Of.J.no.1097/6.12.2005). • G.D. no. 1581/2005 regarding the establishment of new protected areas (Of.J.no.24/11.01.2006). • The Order of Minister of Environment and Water Management no. 207/3.03.2006 for the approval of the Standard Data Form and the manual

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
		for Natura 2000 (Of.J.no.284/29.03.2006).
Human health	• 98/83/EC (Quality of water intended for human consumption) • 80/68/EEC (protection of ground water against pollution caused by certain dangerous substances) • Directive 99/31/EC (Landfill of waste) • 75/442/EEC (Waste regime) • 2000/14/EC (Noise) • the action plan of the EU Community Public Health Program for 2003-2008, which was adopted by Decision No. 1786/2002 of the European Parliament and Council • WHO (1998) The "Health for All in 21st Century" Strategy; • European Sustainable Cities • European Regional/Spatial Planning Charter ('Torremolinos Charter'), adopted in 1983 by the European Conference of Ministers responsible for Regional Planning (CEMAT) • The European Commission Green Book for the future policy on noise, (1996) • Aalborg Charter	• Law no. 458/2002 (Of.J.no.552/29.07.2002) on the quality of drinking water • GD no. 351/2005 on the approval of the Action Plan for reduction of the pollution of aquatic environment and groundwater, caused by the discharge of certain dangerous substances (Of.J.no.428/20.05.2005), as amended by GD no.783/2006(Of. J no. 562/29.06.2006). • National Waste Management Plan • Water Law no. 107/1996, as amended by Law no.310/2004 and Law no.112/2006 • GD no. 188/2002 (Of.J.no.187/20.03.2002) on the approval of the norms regarding the wastewater discharge conditions in the aquatic environment, as amended by GD no 352/2005 (Of.J.no.398/11.05.2005); • GD No 539/2004 (Of.J.no.398/05.05.2004) on the limitation of noise emission in the environment by equipment for use outdoors transposes Directive no. 2000/14/EC, as amended by GD no.1323/2005 (Of.J.no.1048/25.11.2005); • DG no 321/2005 for reassessment and management of the environmental noise • Annual report of the national synthesis of healthcare waste management 2005
Environmental risk management	• 2000/60/EC (Water framework directive); • COM/2000/547 (Integrated Coastal Zone Management: a Strategy for Europe; • COM/2004/472 (Flood risk management - Flood prevention, protec-	• GO no 47/1994 on defence against disasters, approved by the Law no 124/1995, with further amendments, • Law no 106/1996 on civil protection, with further amendments (Of.J.no.241/03.10.1996), • Law no.111/1996 with further amendments (Of.J.no. 267/29.10.1996), • MO no.242/1993 (Of.J.no.195/13.08.1993). • National strategy for flood risk management (2005)

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
	tion and mitigation); • COM/2002/481 (The EC response to the flooding in Austria, Germany and several applicant countries); • COM/2004/60 (Towards a thematic strategy on the urban environment); • COM/2002/179 (Towards a Thematic Strategy for Soil Protection); • 1999/847/EC (Community action programme in the field of civil protection)	• Draft master plan and the programme for Black Sea Coast protection (to be completed in 2006)
Resource efficiency and conservation/sustainable resource management	• 75/442/EEC (Framework directive on waste) • EC is a party to the Basle Convention, Regulation No. 259/93 (EC) • 91/689/EEC (Hazardous Waste) • 94/62/EC (Packaging Waste) • Thematic Strategy on the sustainable use of natural resources (COM(2005)670 final) • 96/61/EC (IPPC)	• GO no 78/2000 (Of.J.no.283 /22.07.2000)on regime of waste approved by the Law no 426/2001(Of.J.no.411 /25.07.2001), with further amendments • Law 6/1991 (Of.J.no.18 /26.01.1991), for adhering of Romania to Basel convention, amended by Law 256/2002 (Of.J.no.352 /27.05.2002) • GO no 200/2000 (Of.J.no.593/22.11.2000), modified through GD 490/2002 (Of.J.no.356/285.05.2002) • GD no 349/2002 regarding on packaging and packaging waste, modified through GD no 621/2005 (Of.J.no.621/20.07.2005) • GO no 34/2002 (Of.J.no.223/03.04.2002), modified through GO 152/2005 (Of.J.no.1078/30.11.2005) • National Waste Management Plan (2004)
Landscape and cultural heritage	• European Landscape Convention	National Spatial Plan (NSP): • Section I - Means of Transport and Communication, approved under Law 71/1996 (under revision); • Section II - Water, approved under Law 171/1997; • Section III - Protected areas, approved under Law 5/2000; • Section IV - Settlement network, approved under Law no. 351/2001; • Section V - Natural risk areas, approved under Law no.575/2001; • National Strategic Plan for Agriculture and Rural Development 2007-2013 (2006)
Energy efficiency and	• COM(2005)265 (Green Paper on energy efficiency)	• The Road Map for Energy in Romania - GD No. 890/2003 • National Strategy for Energy Efficiency - GD No. 163/2004 and Law

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
renewable energy sources	• Directive 92/42/EEC as amended by Directives 93/68/EEC and 2004/8/EC efficiency of boilers • Directive 93/76/EEC – SAVE • Directive 96/61/EC (IPPC) • Directive 2001/77/EC (Promotion of Electricity Produced from Renewable Energy Sources) • Directive 2002/91/EC – energy performances of the buildings • Directive 2003/66 – eco-labelling for refrigerators • Directive 2003/54/EC – internal market on electricity • Directive 2003/30/EC - on promoting the utilization of bio-fuels and other renewable fuels for transport • Directive 2006/32/EC (energy end-use efficiency and energy services) • COM(2002)415 –cogeneration directive; • Proposal of the Taxation of Energy Products Directive	No.199/2000, amended by the Law 56/2006; • GD no.174/2004 regarding the thermal rehabilitation of buildings • GD no. 574/2005 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels • GD no. 958/2005 amending GD no. 443/2003 on the promotion of electricity produced from renewable energy sources and amending and completing Government Decision no 1892/2004 establishing the promotion system for electricity produced from renewable energy sources • GD No. 1535/2003 The Strategy for the capitalization of renewable energy resources, approved by GD No. 1535/2003 • GD no. 1844/2005 on promoting the utilization of bio-fuels and other renewable fuels for transport • The commitments assumed by Romania in the process of negotiations with the EU –Chapter 14 Energy. • Draft GD for approval of the National Energy Policy Document 2005-2008 • The commitments assumed by Romania in the process of negotiations with the EU –Chapter 14 Energy.
Awareness raising on environmental issues	• 90/313/EEC (Access to Information) • Agenda 21 • EC is a signatory of the Aarhus Convention (UN EEC Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters)	• National strategy for climate change, 2005 • Law no. 86/2000 (Of.J.no.224/22.05.2000) for the ratification of the Convention on access to information, public participation indecision-making and access to justice in environmental matters; • Law no. 544/2001 (Of.J.no.663/23.10.2001) on free access to the public interest information; • GD no.123/2002 (Of.J.no.167/03.08.2002) on approving methodological norms for the implementation of Law no. 544/2001 on free access to information of public interest; • GD no.878/2005 (Of.J.no.760/22.08.2005) on the free access to environmental information;

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
		• GD no. 658/2006 on reorganization of National Commission for Climate Change (an inter-ministerial body coordinated by the MEWM in order to promote the necessary measures for unitary implementation in Romania of the UNFCCC and Kyoto Protocol objectives) Of.J.no.465/30.05.2006;
Sustainable tourism	• COM(2003/716) Basic orientations of the sustainability of European tourism; • EU sustainable development strategy; • The European Charter for Sustainable Tourism in Protected Areas, 2002 • UNESCO convention • Convention on the Protection of the Black Sea Against Pollution, 1992	• National Sustainable Development Strategy (1999)

Annex 4. Tables of the assessment of specific objectives of SOPE

The assessment was focused on the likely environmental effects of the OP specific objectives to the relevant environmental objectives. The evaluation was done in the form of comments, explaining what effects (both positive and negative effects) might be caused by the implementation of the OPs´ specific objective and resulted in a possible reformulation of specific objectives and priority axes.

Specific objective 1: Improvement of access to water infrastructure, by providing water supply and wastewater services in line with EU practices and policies, in most urban areas by 2015		
Relevant Environmental Objectives	**Relevant indicators/ guiding questions**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms		Sewerage networks and systems will help improve air quality in settlements that currently have no networks and wastewater treatment facilities. Some indirect effect
Minimize the impacts on the air quality at rural and urban level		Introduction of new sewerage networks and the rehabilitation of the existing ones will lead to a controlled and closed transport of sewage, therefore leading to an improvement of air quality in settlements, which has presently improper ditches for sewage transport towards the local rivulet. Some indirect positive effect.
Limit water pollution from point and diffuse pollution sources and improve the quality of water	-Percentage of population served by water distribution systems with quality control (versus water supply from uncontrolled fountains and springs)? -Percentage of population served by sewerage systems out of total existing? -Number of leakages on km of sewer? -Inventory of local industry and its main residuals for each processing plant (% of total existing local industry) -How many factories have pre-treatment facilities for their liquid waste before discharging it to sewer system? -What is it done for the reduction of the emissions of pollutants and eutrophication substances?	Construction/rehabilitation of water treatment plants will improve water quality of surface water in Romania. Rehabilitation of sewerage networks will decrease underground and surface water pollution. Significant positive effects are expected. Improvement of control over the residuals produced by industry is expected to have a major positive effect on the quality of water. Introduction of tertiary treatment in WWTP technology and better control of direct discharges of industry in water bodies will definitely improve the quality of water.

Specific objective 1: Improvement of access to water infrastructure, by providing water supply and wastewater services in line with EU practices and policies, in most urban areas by 2015		
Relevant Environmental Objectives	**Relevant indicators/ guiding questions**	**Comments on likely environmental effects**
Limit point and diffused pollution of soil	-Number of leakages on km of sewer?	Rehabilitation of old sewers will limit the soil pollution. Construction/rehabilitation of WWTPs will reduce soil pollution directly and indirectly (due to water pollution reduction). Measures regarding the treatment of sewerage sludge have to be implemented to prevent uncontrolled disposal of sludge into municipal landfills and, further, to decrease the pollution.
Decrease emissions causing climate change		Construction/rehabilitation of sludge treatment facilities will reduce methane emissions from the sludge deposits.
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	No direct link	No direct link
Protect and improve the conditions and functions of terrestrial, continental waters' and marine eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	-Quality of water in open water bodies	Construction of new water reservoirs intended for the drinking water abstraction could significantly influence the ecosystems on the rivers where the new water sources will be built. New and rehabilitated waste waster treatment facilities will improve the protection of terrestrial and aquatic ecosystems against anthropogenic degradation.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	Quality of water in open water bodies	New and rehabilitated waste waster treatment facilities are likely to improve the protected areas' quality through improved water sanitation.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	- How many projects will be awarded in the areas affected by old burdens?	Improved drinking water quality will reduce the number of people affected by illnesses related to water pollution. Increased access to centralized and controlled supply of quality potable water will increase health of people, especially for the ones living in or near by areas affected by old pollution (e.g. due to pollution with pesticides, mining wastes, etc.). Such projects have to be given priority
Protect and improve the condition of settlements with respect to noise	-Percentage of projects finished on time	There may be a temporary impact from construction works related to waste water and potable water facilities and networks. Noise impact mitigation measures should be proposed, e.g. working only during working hours with the noisy equipment and using heavy trucks
Increase population protection from risk associated with natural disasters	-Number of projects and people served with new and rehabilitated facilities in the areas associated with natural disasters	Natural disasters cause temporary or irreversible water pollution (used for drinking with or without treatment). Rehabilitation and construction of new centralized water supplies and treatment facilities will reduce such risks.

Specific objective 1: Improvement of access to water infrastructure, by providing water supply and wastewater services in line with EU practices and policies, in most urban areas by 2015		
Relevant Environmental Objectives	**Relevant indicators/ guiding questions**	**Comments on likely environmental effects**
Limit use of depleting natural resources	-% of households having water metering equipment; -Increase in the % of households having water metering equipment; -Number and water consumption capacity of industrial facilities using recycled water	Limiting the use of fresh water based on the reuse of treated water (e.g. for industrial purposes) as well as increasing the number of householders with water metering equipment will have a significant positive effect.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	Will it affect the waste generation?	Construction/rehabilitation of sludge treatment facilities will result reducing the amount of waste/sludge being discharged to municipal landfills
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	-Number of WWTP and water treatment facilities constructed on brownfields	If new wastewater treatment facilities will be constructed in brownfields, there will be a significant positive effect.
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	-Quality of water on the Romanian coast of the Black Sea	Improved quality of wastewater treatment and discharged water as well as improved disposal of sludge will have direct and significant positive effect on protecting the water quality of the Black Sea.
Improve energy efficiency and use of energy resources	-Rehabilitation of pumping stations, implementation of water pressure control devices and frequency converters in pumping stations -New water networks v. old ones (%) -% of households/individuals apartments in block of flats served by metering equipment; -% of rehabilitation of water pipes inside blocks of flats	Introduction of feedback systems in pressure control for water in municipal networks as well as frequency converters in pumping stations are likely to lead to decreased use of energy for providing the same quality of service. Pumping water through old water networks will increase the energy consumption per unit of water delivered to population, therefore the replacement of old water transport means will be necessary in this respect. Increased energy efficiency will be obtained based on the reduction of water leakages. Increased water metering of households and industrial facilities will improve energy efficiency in water treatment facilities in the long term. It is important that new facilities will take into account water consumption with increased monitoring and metering of use in households, (which usually causes reduction in use), so it must be ensured that new facilities are built properly estimated, with units constructed at optimal capacity

Specific objective 1: Improvement of access to water infrastructure, by providing water supply and wastewater services in line with EU practices and policies, in most urban areas by 2015		
Relevant Environmental Objectives	**Relevant indicators/ guiding questions**	**Comments on likely environmental effects**
Facilitate energy generation from renewable resources	No direct link	No direct link
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	-% of households served by metering equipment -Change in the consumption of water per inhabitant/household	Increase in % of households having water metering equipment is likely to have a significant positive effect on the environmentally-responsible behaviour of the inhabitants
Promote tourism that would ensure high degree of environment protection and natural conservation	-% of population served by drinking water supply facilities -% of population served by waste water treatment facilities	Improved water and wastewater services will increase attractiveness of the country thanks better services, improved water quality and contribution to preservation of biodiversity and, consequently it will contribute to tourism development and nature protection and appreciation
Proposed reformulation of proposed specific objectives: Improvement of access to water infrastructure, by providing water supply and wastewater services in line with EU practices and policies, in most urban **and rural** areas by 2015		

Specific objective 2: Improvement of soil quality, by improving waste management services and reduction of old ecological burdens in minimum 30 counties, in line with EU practices and policies by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms	Will it improve the quality of ambient air within the limits set by the legal norms?	There may be some indirect positive effect
Minimize the impacts on the air quality at rural and urban level	Will it minimize the impacts on the air quality at rural and urban level?	There may be some indirect positive effect
Limit water pollution from point and diffuse pollution sources and improve the quality of water	How many existing landfills have leachate treatment plants (%)?	Reducing water pollution from uncontrolled waste disposal or wastewater sludge disposal in municipal landfills not suitable for such waste is likely to bring a significant positive effect. Introduction of leachate treatment plants will help avoid pollution of underground and surface water bodies.

Specific objective 2: Improvement of soil quality, by improving waste management services and reduction of old ecological burdens in minimum 30 counties, in line with EU practices and policies by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Limit point and diffused pollution of soil	-Number of uncontrolled landfills closed -Number of new or completed integrated waste management systems at county/regional level -How many existing landfills have leachate treatment plants (%)?	Reducing soil pollution from uncontrolled waste disposal or illegal waste dumping will have a significant positive effect. Introduction of leachate treatment plants will help to reduce soil pollution.
Decrease emissions causing climate change	Number of landfill installations with gas collection	Construction of landfills suitable for gas collection may have a long term effect on GHG emission reduction. Additional positive effect may be expected due to reduction in the illegal waste burning, which is very harmful and has a direct effect on GHG emissions' increase.
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	No link	No link
Protect and improve the conditions and functions of terrestrial, aquatic and marine ecosystems against anthropogenic degradation, habitat fragmentation and deforestation	-Number of illegal dumping sites closed	Rehabilitation, improvement and establishment of controlled waste management systems will have significant positive effect on ecosystems and habitats' protection.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Number of illegal dumping sites closed -Increase in coverage of rural areas served by waste management systems	The locations of the disposal and transfer facilities have to be selected respecting protected and NATURA 2000 areas. Reduction of illegal dumping sites will demonstrate improvements in the management of protected areas.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	-Rehabilitation of old ecological burdens	Improved management of waste as well as the rehabilitation of old burdens such as illegal dumping sites or uncontrolled landfills will significantly help improve the human health of inhabitants from the surrounding locations.
Protect and improve the condition of settlements with respect to noise	-Will the activities increase noise pollution in the locations near by? -Type of vehicles used for waste collection	Waste collection may increase the movement of waste collection trucks in localities therefore movement schedules and the type of vehicles have to be carefully selected to ensure less physical impact on the settlements. Construction and rehabilitation works may cause temporary noise pollution.

Specific objective 2: Improvement of soil quality, by improving waste management services and reduction of old ecological burdens in minimum 30 counties, in line with EU practices and policies by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Increase population protection from risk associated with natural disasters	-Integrate waste management; -Increased services of waste collection in rural areas;	Waste collection systems may have a positive effect in preventing waste disposal (intentional and unintentional, e.g. during flooding) into water bodies. Location of new landfills has to be selected paying attention to the risks associated with natural disasters, e.g. flooding, especially in the rural area where it was demonstrated that illegal waste disposal in rivers raises the impact of floods.
Limit use of depleting natural resources	-% of waste materials reused as raw materials or recovered through energy	Reducing the use of raw materials due to recycling of waste materials as well as the recovery through energy produced in incinerators will have a significant positive effect on limiting the use of depleting natural resources.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	-Number of waste sorting and recycling projects	Selection at source will be the quantum leap needed in waste collection, as it will ensure the dramatic reduction of the waste flow into landfills. If municipal and industrial sorting and recycling projects are supported, they will contribute to waste recovery and reuse. By applying charges for waste disposal in landfills, waste generation may be reduced and waste recovery encouraged, but such projects and measures have to be introduced together with the closure of illegal dump sites and with strict monitoring of unmanaged and illegal waste disposal.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	-Number of sites closed and rehabilitated	Illegal dumping sites and unmanaged landfills constitute old burdens and their closure and rehabilitation will have a positive effect on the landscape.
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	-Increase in coverage of the Black Sea region with integrated waste management systems	Establishment of waste management systems in the Black sea region may improve the attractiveness of the coastal zone due to reduced pollution of the Black Sea coast. Improvement in the monitoring of illegal waste disposal on land and in the sea will contribute to the sustainable development and internalization of the env. Impacts.
Improve energy efficiency and use of energy resources	-Number of landfills which will be equipped with methane collection equipment	There may be a positive effect if installations that collect and use methane from landfills will be supported. It may contribute to the efficient use of energy resources.

Specific objective 2: Improvement of soil quality, by improving waste management services and reduction of old ecological burdens in minimum 30 counties, in line with EU practices and policies by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Facilitate energy generation from renewable resources	Will it enable energy generation from renewable resources?	Energy may be generated from waste incineration as well as from burning the methane gas collected from landfills
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	-Increased number of households served with waste collection systems; -Number of institutions having EMS; -Increase in sorted waste; -Number of sorting and recycling facilities	Establishment of integrated waste management systems as well as waste sorting and recycling facilities will have a significant positive effect on the environmentally-responsible behaviour of governmental, private and public sectors.
Promote tourism that would ensure high degree of environment protection and natural conservation	-Percentage of illegal dumping sites closed and rehabilitated out of total?	Establishment of waste management systems will reduce illegal waste disposal and will increase attractiveness of the rural and urban landscape contributing to the tourism development.
Proposed reformulation of proposed specific objectives: Improvement of soil quality, by improving waste management services and reduction of old ecological burdens ~~**in minimum 30 counties**~~, in line with EU practices and policies by 2015.		

Specific objective 3: Reduction of negative environmental impact caused by old municipal thermal plants in most polluted localities by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms	-How many of the plants are equipped with proper filters (%)? -Number of installations to reduce acidifying pollutants? -Reduction in emissions of fine particles (PM10) and their precursors? -Number of projects in locations, where air pollution limits are above the norms?	Projects implemented on the improvement of emission from old municipal plants, especially in the localities where air pollution situation exceeds the norms set and the standards will have a significant positive effect. Installations for heat metering in the municipal systems may reduce the need for heating providing incentives to preserve heat and reducing thus the unnecessary air pollution.

Specific objective 3: Reduction of negative environmental impact caused by old municipal thermal plants in most polluted localities by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Minimize the impacts on the air quality at rural and urban level	-Will it reduce the emissions of fine particles (PM10) and their precursors? -Will it reduce concentrations of SO2, NO2 and will contribute to the target values for ozone?	Rehabilitation of the old municipal heating plants and heating systems may reduce the fuel consumption for heat and electricity plants and minimize the impacts on general air quality, with the highest effect in the urban areas.
Limit water pollution from point and diffuse pollution sources and improve the quality of water	-Reduction in acidifying emissions -Disposal of ashes	Reduced emissions from old municipal plants will have a positive effect on water quality improvement given the limitation of pollution coming from fumes and impact on acid precipitation and long distant pollution. Improvement in practices with respect to the disposal of ashes will decrease the pressure on water.
Limit point and diffused pollution of soil	-Reduction in the quantities of disposable ashes -Reduction of emissions	If the improvement of ashes disposal is supported, from power plants burning coal and oil, there will be a positive effect on soil. Reduction in emissions causing the acidification of precipitation and soil will have a significant positive effect.
Decrease emissions causing climate change	-Reduced emissions of GHGs	Reduction in fuel consumption in old municipal plants and district heating systems may significantly reduce the GHG emissions.
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	No direct link	No direct link
Protect and improve the conditions and functions of terrestrial, aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	Will conditions and functions of terrestrial and aquatic eco-systems be improved?	Reduction in emissions may have a positive long term direct effect on terrestrial and aquatic eco-systems and their vitality
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	Will it preserve the natural biodiversity in protected areas and potential Natura 2000 sites	Reduction of harmful emission in the locations close to protected areas and Natura 2000 sites may have a significant positive effect on the fauna and flora as well as habitats of those areas.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	Will the quality of soil affected by old power plants be improved?	Historical pollution from old municipal plant ashes disposal is an important issue and rehabilitation projects, if any, may significantly contribute to the improvement of the situation.
Protect and improve the condition of settlements with respect to noise	Use of BAT	There may be some reduction of long term noise due to closure or rehabilitation of old municipal plants and district heating facilities.
Increase population protection from risk associated with natural disasters	No direct link	No direct link

Specific objective 3: Reduction of negative environmental impact caused by old municipal thermal plants in most polluted localities by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Limit use of depleting natural resources	-Number of projects supported, which would enable the switch to renewable energy resources	There may be a positive effect due to reductions in using energy resources thanks to increased efficiency or switching to other types of fuel, e.g. wood waste, biogas, etc.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste		Some positive effect may appear from the reduction in waste generation based on reduced fuel consumption (ashes).
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	Number of old municipal plants or facilities closed and rehabilitated	It must be ensured that closed power plants do not become brownfields and no negative impact occurs. Negative effect may be expected
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	No direct link	No direct link
Improve energy efficiency and use of energy resources	-Metering -Rehabilitation of district heating system	Reduced supply and consumption of energy and also reduced fuel consumption maybe achieved if projects that promote energy efficiency will be supported, such as metering, energy saving from loss due to transportation, etc.
Facilitate energy generation from renewable resources	-Number of conversion projects supported -Increase in use of renewable resources	There may be a positive effect if measures to enable switching from using depleting energy resources (oil and coal) to gas or renewable resources (such as wood waste and bio-gas) will be supported
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	-Metering introduced	Metering and measures to save/reduce energy losses from heat and energy transportation are likely to have a positive effect.
Promote tourism that would ensure high degree of environment protection and natural conservation	No direct link	No direct link
Proposed reformulation of proposed specific objectives: n/a		

Specific objective 4: Protection and improvement of biodiversity and of the natural heritage by supporting the protected area management, including NATURA 2000 implementation.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms	-Increase in number of monitoring stations	Management systems established may help to monitor air quality in the respective locations
Minimize the impacts on the air quality at rural and urban level	-Increase in number of monitoring stations	Established management systems may enable monitoring of illegal burnings and other emissions in the air (e.g. due to illegal forest fires or waste burning) in the protected areas as well as in surroundings
Limit water pollution from point and diffuse pollution sources and improve the quality of water	-Increase in number of monitoring stations	The measures may enable the monitoring of illegal water pollution and may have a positive effect on water quality by establishing special management regimes in Natura 2000 areas.
Limit point and diffused pollution of soil	-Increase in number of monitoring stations	The measures may enable the monitoring of illegal soil pollution and have a positive effect on soil quality by establishing special management regimes in Natura 2000 areas
Decrease emissions causing climate change	-Increase in number of monitoring stations	Improved management of protected and Natura 2000 sites may help increase the areas with forest and undisturbed ecosystems that contribute to the absorption of GHG. Monitoring of illegal burnings of waste may have a positive effect too
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	-Number of management plans supported for Natura 2000 and other protected areas in Romania	This will improve the management of the locations and adaptation measures to CC and against soil and water erosion may be introduced
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	-Development and implementation of management plans for the protected areas and Natura 2000 sites -Establish the monitoring system regarding the conservation status for species and natural or semi-natural habitats	A significant positive effect is likely on the protection of ecosystems and habitats due to improved management and monitoring systems, after they are established

Specific objective 4: Protection and improvement of biodiversity and of the natural heritage by supporting the protected area management, including NATURA 2000 implementation.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Development and implementation of management plans for the protected areas and Natura 2000 sites -Establish the monitoring system of the conservation status for species and natural or semi-natural habitats included in Natura 2000 network	Designation of special areas of conservation and establishment of management plans for these areas will increase the biodiversity protection. Establishment of a detailed mechanism for public consultation regarding Natura 2000 and its protection regime, should have a positive effect in the implementation of Natura 2000 programme. Establishment of a monitoring system for incidental capture or killing of animal species listed in Annex IV of the Habitats Directive should have positive effect for the implementation of Natura 2000. Special attention should be paid to the neighbouring areas of the protected sites. Establishment of compensation system for owners of protected areas and Natura 2000 sites will decrease the danger of hyper exploitation of natural reserves. The establishment of the mechanism for promoting public education and information will have a significant positive in the long term.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	-Number of old burdens treated	Management systems for protected territories my influence the rehabilitation of some old burdens located in or near the sites. Attention should be given to the solutions applied to eliminate the burdens so they are not more harmful to the environment during the treatment phase
Protect and improve the condition of settlements with respect to noise		Management plans for Natura 2000 and other protected areas may contain some measures against noise pollution and may have positive effect, e.g. on the transport networks
Increase population protection from risk associated with natural disasters		Management plans for Natura 2000 and other protected areas may contain some measures that will be directed to natural disaster risk management, such as the restoration of flood plains, etc.
Limit use of depleting natural resources		Conditions set in the management plans for Natura 2000 and other protected areas may limit the use of the natural resources in those areas

Specific objective 4: Protection and improvement of biodiversity and of the natural heritage by supporting the protected area management, including NATURA 2000 implementation.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	-Development and implementation of management plans	Reduced waste pollution from uncontrolled waste disposal or illegal waste dumping will have a significant positive effect in protected areas and Natura 2000 sites
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	- number of Natura 2000 sites affected	Establishment of some Natura 2000 sites may lead to the revitalization of brownfields
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region	-Number of management plans supported in the vicinity of the Black Sea	Management plans for Natura 2000 and other protected areas on the Black Sea coast will have a significant positive effect on the protection of cultural heritage and the sustainable development of the area
Improve energy efficiency and use of energy resources		Projects must be accompanied by EIAs in order to ensure the minimization of the negative effects resulted from exploiting natural resources
Facilitate energy generation from renewable resources		Due to the fact that the biggest wind potential covers some protected areas there could be some pressure for installing wind turbines in those areas. It may have a long term negative impact on Natura 2000 areas.
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues		Education, information and public awareness components related to management plans in protected areas and Natura 2000 sites may bring a positive effect
Promote tourism that would ensure high degree of environment protection and natural conservation	-Number of tourists supported by the protected areas	Improved management of protected areas may facilitate better tourism and attractiveness of the locations. To avoid tourist supra-population in protected areas, measures of channelling the tourists to similar tourist destinations with a lesser degree of protection have to be taken. Information related to the restricted access of tourists in strictly protected areas (e.g. scientific reserves) should have a positive effect for biodiversity protection and conservation
Proposed reformulation of proposed specific objectives: Protection and improvement of biodiversity and of the natural heritage by supporting the protected area management, including NATURA 2000 implementation.		

Specific objective 5: Reduction of the incidence of natural disasters affecting the population, by implementing preventive measures in most vulnerable areas by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Maintain and improve the quality of ambient air within the limits set by the legal norms		If measures related to reforestation and recovery of flood plains are supported there may be a positive effect on the ambient air quality
Minimize the impacts on the air quality at rural and urban level	No direct link	No direct link
Limit water pollution from point and diffuse pollution sources and improve the quality of water	No direct link	No direct link
Limit point and diffused pollution of soil		By converting some arable land back to the flood plains and applying special regulations in the management practices, there may be a positive impact on soil quality. Measures that prevent soil erosion will have positive effect on soil protection against pollution too.
Decrease emissions causing climate change		If measures related to reforestation and recovery of flood plains are supported there may be a positive effect regarding the GHG emissions.
Facilitate adaptation to the climate change and facilitate soil protection from water and wind erosion	-Areas of restored flood plains -Reforested areas	Reestablishments of flood plains and afforestation measures supported through this objective may have significant positive effect on protection against erosion and in the adaptation to climate change
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	-Areas of restored flood plains -Reforested areas	If reestablishment of flood plains and afforestation measures are supported there will be a positive effect on the habitats and ecosystems' protection.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Areas of restored flood plains -Reforested areas	If reestablishments of flood plains and afforestation measures are supported there will be a positive effect on the habitats and ecosystems' protection. Projects have to be accompanied by EIAs to ensure the minimization of the negative effects from interventions in ecosystems functions.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	- Decreasing number of Population at risk -minimizing mortality and morbidity indicators in case of disasters -addressing hygienic conditions -addressing epidemics risk factor and prevention	Relocating the people from the flooding areas will contribute to better human health and will reduce the costs. Development of hazard and flood risk maps as well as warning systems for the population at risk will have a positive effect
Protect and improve the condition of settlements with respect to noise	No direct link	No direct link

Specific objective 5: Reduction of the incidence of natural disasters affecting the population, by implementing preventive measures in most vulnerable areas by 2015.		
Relevant Environmental Objectives	**Relevant indicators/guiding questions**	**Comments on likely environmental effects**
Increase population protection from risk associated with natural disasters	-Areas of restored flood plains; - minimising mortality and morbidity indicators in case of disasters - addressing epidemics risk factors and prevention - addressing hygienic conditions -Reduction in the number of people in the risk zones	Measures related to relocation of people as well as warning systems have direct positive long term effect.
Limit use of depleting natural resources	No direct link	No direct link
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	No direct link	No direct link
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)		Reestablishments of flood plains, reforestation as well as projects related to the reduction of natural disasters related to land slides, erosion and flooding may contribute to the revitalization of cultural and natural landscape
Preserve, protect and rehabilitate the Romanian coastal zone of the Black Sea ensuring protection of natural (including aquatic and terrestrial ecosystems) and cultural heritage in order to achieve the sustainable development of the region		Anti-erosion measures on the Black sea costs will contribute to the objective
Improve energy efficiency and use of energy resources	No direct link	No direct link
Facilitate energy generation from renewable resources		Restrictive measures in relation to the construction of small and medium dams on the rivers for energy generation may have a negative effect on this objective.
Improve environmentally-responsible behaviour of governmental, private and public sectors by promoting of environmental issues	No direct link	No direct link
Promote tourism that would ensure high degree of environment protection and natural conservation		Reestablishment of flood plains and the reforestation of areas to enable protection for erosion and land slides may attract tourists to such locations.
Proposed reformulation of proposed specific objectives: n/a		

Annex 5. The Monitoring Programme

TEMPLATE (general suggestions regarding set up and implementation)

Introduction and monitoring purpose

Environmental monitoring programme is a vital process of any strategic plan or programme. It helps in signaling the potential problems that resulting from the proposed projects, which have not been identified during the ex-ante assessment processes (both SEA and EIA) and will allow for prompt implementation of effective corrective measures.

The environmental monitoring should be required for the construction and operational phases of the projects carried out within the SOPs. The main objectives of environmental monitoring are:
- to assess the changes in environmental conditions resulting from the projects,
- to monitor the effective implementation of mitigation measures,
- to warn about the significant deteriorations in environmental quality (if any due to the carrying out the SOP) for further prevention action,
- to monitor the environmental effects of the entire programme.

Environmental monitoring team

Managing Authority appoints person to collect environmental monitoring data at the initial stage of the programme implementation.

The task of the environmental monitoring team would be to supervise and coordinate studies, monitoring and implementation of environmental mitigation measures, providing advise to the projects on the monitoring parameters and methods and providing information to the public on the monitoring data as well as reporting on the environmental issues to be submitted to the relevant environmental authority.

Specific modalities of the monitoring programme will fit into the overall SOP monitoring procedures.

Environmental monitoring reporting

Report on environmental monitoring will be produced regularly either by people responsible for collection of indicators within the MA or by experts appointed or hired to interpret the data at the end of the reporting period when information has been collected.

Reporting on environmental monitoring issues will be done in compliance with the existing monitoring procedures and tools set up for the structural instruments. Environmental data collection will use as much as possible the Single Management Information System allowing the bottom-up aggregation of output environment indicators at project level. In addition, relevant statistical information will be used whenever relevant.

Monitoring parameters and indicators

The parameters/issues which are monitored will be linked to the relevant environmental objectives of the programme, which are:

- Air;
- Water;
- Soil;
- Climate change;
- Biodiversity
- Human health;
- Environmental risk management;
- Resource efficiency and conservation/ sustainable resource management
- Landscape and cultural heritage
- Energy efficiency and renewable energy sources
- Awareness raising on environmental issues
- Sustainable tourism

The environmental monitoring reporting has to cover all issues. Indicators for each issue have been presented in the table 8 of the Strategic Environment Assessment.

Managing authority can request or relevant environmental authority may ask for more indicators to be analyzed within the environmental monitoring and in the implementation report for the internal national purposes. This may help to better understand the indirect impacts and uncertainties coming from outside of the implementation of the SOP.

Transparency

Each MA will build a webpage where monitoring information would be located, such as early parameters for each environmental issue identified, locations of the projects and basic environmental information on each of them in a from of either posted EIAs or database.

Annex 6. Minutes of the Public debate of the 17th of January 2007

The public debate on the Sectoral Operational Programme on Environment (SOP Environment) and on the Report on the Strategic Environment Assessment (SEA), drafted within the strategic environmental assessment process, developed in accordance with the *GD 1076/2004 for setting up the environmental assessment procedure of certain plans and programmes* was organized today, the 17th of January 2007.

The participants at this meeting were representatives of the General Directorate for Impact Assessment and Pollution Control within the MEWM, the Managing Authority for SOP Environment, the project team who supported the strategic environmental assessment (PHARE "Ex-ante evaluation") and drafted the Environmental Report, the Ministry of Economy and Commerce, the Ministry of Public Finance, the civil society, the professional associations in the field of water, district heating and sanitation, private companies, as well as other authorities/institutions that played a significant role in SOP Environment's implementation.

Mr. Silviu Stoica, Director General of the General Directorate for the Management of Structural Instruments opened the meeting and pointed out its purpose, namely the public debate on SOP Environment, an important phase of the SEA procedure. At the same time, he underlined the major input of the Phare project consulting team, contracted with the support of the Ministry of Public Finance, for the drafting of the Environmental Report, as well as the contribution of the socio-economic partners in the drafting of the SOP Environment. Mr. Silviu Stoica also highlighted the role of the specialized directorate within MEWM, namely the General Directorate for Impact Assessment and Pollution Control, which coordinated the SEA process.

The participants were invited to introduce themselves. The list of participants is attached to this document.

Thereafter, Mrs. Fulvia Cojocaru delivered a brief presentation of the main provisions within the SOP Environment, subject to public debate. The presentation included aspects related to the context where the SOP Environment was drafted, the priority axes, the key areas of intervention and the indicative operations, the implementation system and the preparation phase for the project portfolio to be submitted for funding within the SOP Environment.

During her presentation, Mrs. Fulvia Cojocaru discussed the relevance of the strategic documents drafted at EU level, as well as the commitments made by Romania within the negotiation process for Chapter 22 Environment, as main documents for drafting the SOP Environment. The focus was placed on the importance of observing the partnership principle in drafting the SOP Environment and the input of the consulted partners, namely the employers' associations and the professional associations, the NGOs etc. Other topics discussed here concerned the critical environmental issues faced by the Romanian population and the assessment of costs for investments in the environmental sector.

The meeting continued with the presentation delivered by Ms. Ausra Jurkeviciute, key expert on SEA within the PHARE project. She made a concise presentation regarding the conclusions of the Strategic Environmental Assessment Report, focusing on the methodology, the difficulties encountered during the assessment process, the effects of SOP Environment on the relevant environmental objectives, the system for the selection and evaluation of projects, as well as their monitoring from the environmental protection point of view.

The main phases of the strategic environmental assessment process were also presented – the analysis of the environmental issues, the analysis of the relevant strategic documents, the identification of the relevant environmental objectives for SOP Environment, the actual assessment of the strategy, the presentation of the proposals for the selection and evaluation system, the drafting of the Environmental Report. The importance of the consultation process on SOP Environment was also highlighted. All comments received with regard to this document shall be analyzed and included in the final version of the Environmental Report and of SOP Environment.

Mr. Silviu Stoica thanked the consulting team for their efforts in drafting the Environmental Report and invited the participants to start the debate.

Mr. Emilian Burdusel, from the Environmental Club UNESCO "Pro Natura" asserted the importance of promoting the strategy proposed by MEWM. Mr. Siviu Stoica brought into the discussion the existence of another Phare project with a component on promotion.

Mr. Flavius Negrea, representing the company Wieser Consult SRL Romania, proposed the inclusion in the SOP Environment of certain detailed aspects, such as eligible expenses. He also mentioned the existence of a grant scheme for preparing a portfolio of regional projects, making reference to complementarity issues among the various Operational Programmes, especially regarding Priority Axis 3 – complementarity between SOP Environment and SOP Competitiveness. The question was whether co-generation technologies could benefit from financial support provided by the SOP Environment.

Mr. Silviu Stoica mentioned that, regarding the eligible expenses, the Managing Authorities submitted proposals to the MPF, but they represent a topic to be included in the Financing Guidelines, to be drafted. Regarding the Phare CES projects, it was mentioned that MEWM intended to put together a portfolio of projects to be financed also by Phare CES. At the same time, it was said that the major projects within Priority Axes 1 and 2 from SOP Environment are under preparation, while for the other types of projects, the call for proposals shall be launched.

Regarding the complementarity between SOP Environment and SOP Competitiveness, it was underlined that there is a very clear distinction between the proposed interventions within the two Operational Programmes, given the distinction between the beneficiaries of the respective interventions.

Mr. Lucian Ionescu, representing REC Romania, requested details regarding the budgetary allocation from SOP Environment. Mrs. Fulvia Cojocaru mentioned that Romania shall request the maximum co-financing rate, in accordance with

the provisions of the EU Regulation, and the remaining amount shall be covered from state and local budgets (beneficiaries).

Mr. Vasile Ciomos, president of ARA, acknowledged the efforts of MEWM regarding the consultations with the relevant partners. He brought into the discussions the issue of complementarity among various interventions, especially in the water sector, and proposed a clarification of this aspect. The experience of the pre-accession programmes was also mentioned, while regarding the implementation system, there was a request for clarification concerning the role of REPAs as Intermediary Bodies. As for the implementation of projects, the importance of providing funding according to the level of their preparation was also mentioned.

Mr. Silviu Stoica mentioned that SOP Environment could not be officially sent to the EC before the accession, all meetings with the representatives of the European Commission were informal, but MEWM considers that there will not be any delays in the approval of the SOP.

Mrs. Delia Ionica, representing the Managing Authority for the Community Support Framework took the floor to make some clarifications regarding the negotiation process and the approval of the Operational Programmes, mentioning that SOP Environment could be among the first programmes to be approved, considering the advanced stage of its preparation.

Regarding the complementarity between the Operational Programmes, it was mentioned that the local authorities are the ones that should define the strategic priorities and that the proposed interventions within the various programmes do not overlap. The importance of raising the awareness of the local authorities was also mentioned, by this reminding the information campaigns organized by the Ministry of Public Finance, as well as other promotion events for the Operational Programmes, at local level.

The accent was placed on the decentralization principle regarding the SOP Environment, while mentioning the importance of the Intermediary Bodies in drafting and implementing the SOP Environment, which have clear responsibilities set in this respect.

Mr. Vasile Ciomos mentioned the fact that there are difficulties in making the local authorities responsible, underlining once again the importance of public consultations. The difficulty of collecting updated data on environment quality was also mentioned here, especially in the case of data from the water sector, because of a lack of response from the local authorities that have the respective data. In fact, at this moment, SOP contains data that were used in the negotiations, in the implementation plans, since there is no other updated data.

In this respect, Mrs. Emilia Niciu, representative of the Institute of Public Health from Bucharest, mentioned the involvement of this institution in collecting data on drinking water quality and the measures that were taken in order to set up the national reference laboratory in the field, with support from a Phare project, aimed particularly at improving the data collection and validation process.

Mrs. Claudia Jianu, representative of the "Terra Mileniul III" Foundation, requested clarifications concerning the complementarity between the operational programmes (OP). Regarding the evaluation activity, she requested information on the SOP Environment MA's intent to involve external evaluators or not. As for the involvement of the NGOs, some clarifications were requested in terms of their inclusion among the beneficiaries of the SOP Environment, as well as their support by ensuring the co-financing for the respective projects.

Regarding the complementarity of the OPs, Mr. Silviu Stoica reminded the meetings held with various managing authorities in order to avoid overlapping among the proposed interventions. As for the evaluation, it has been underlined that external evaluators shall be contracted, for project evaluation as well. The inclusion of NGOs among the beneficiaries of SOP Environment was underlined, for Priority Axis 4 – Appropriate management systems for nature protection, for which co-financing shall be provided in a percentage of 100% from the state budget.

The SEA key expert, Ms. Ausra Jurkeviciute, mentioned that the consulting team proposed monitoring indicators that shall be included in the Financing Guidelines, as well as in a specific document that shall be drafted by the consulting team. Regarding the NGOs' involvement, they shall have financing opportunities through projects from other operational programmes, for instance the Regional Operational Programme.

Mr. Mihai Proca, representative of the Directorate for Nature Preservation, Biodiversity, Biosafety within the MEWM underlined once again the importance of the NGOs' involvement as beneficiaries in axis 4.

Mrs. Mariana Ghineraru, independent consultant, acknowledged the work done for the drafting of the documents subject to debate and proposed to also consider, within priority axis 2, the historically contaminated sites that are not abandoned, have known owners, for which feasibility studies have been drafted, underlining the possibility of including the economic agents as potential beneficiaries .

Mr. Silviu Stoica mentioned that the available funds are limited, and the investments must be made in areas considered to be critical, and in this respect the World Bank has a project aimed at drafting a strategy for the identification of contaminated sites and priorities in this field.

Mr. Flavius Negrea intervened to highlight the opportunities of involving the private sector within priority axis 2.

Mrs. Ghineraru also underlined that in the case of historically contaminated sites (contamination from 50 or 100 years ago), such as sites contaminated with oil waste, it is only normal to have an involvement of the state, like it happened in other countries, for instance in Eastern Germany. Even more so, given that Romania undertook certain obligations under Chapter 22 Environment and it would be a mistake to close down economically viable activities because these problems are not solved and because the strategic financing documents (particularly SOP) totally shut down the financing possibility for economic agents faced

with major historical pollution problems, for which the current owners are not responsible.

Mr. Silviu Stoica and Mrs. Delia Ionica stated the limited amount of the funds from European sources that Romania can benefit from, as well as the importance of solving priority problems at national level, and the existence of complementary financing programs, in which local and state budgets are committed.

Mrs. Luminita Andrei, representative of the General Directorate for Impact Assessment and Pollution Control within the MEWM requested the viewpoint of the Ministry of Economy and Commerce.

Mrs. Doina Constantinescu, representative of MEC, mentioned the fact that SOP on Competitiveness contains a priority axis that can finance operations regarding the rehabilitation of heating plants of national interest. Mrs. Delia Ionica also reminded the possibility to finance operations related to contaminated sites within the Regional Operational Programme. An EU requirement was also restated here, namely that financing of contaminated sites should take place only in the case of market failure.

Mr. Alin Teiusanu, executive director of the OPP REMAT Association, requested clarifications on the Monitoring Committee, namely the existence of set up criteria and the structure envisaged for this Committee.

Mr. Silviu Stoica stated that the Committee has a certain structure envisaged already, where all relevant institutions with a role in the SOP Environment implementation are represented, including the professional associations. However, in order to facilitate the functioning of such a committee, the number of its members should not be very high. At present, it counts 25 members.

The viewpoint of the Ministry of Health was then requested.

Mrs. Emilia Niciu mentioned that the comments were sent, the only remark concerning the need to introduce additional protective measures in the construction phase of various projects, a phase that can have a negative impact on the population's health status.

The proposal made at the end was to send all comments on the SOP Environment and SEA Report by e-mail, to the address fulvia.cojocaru@mmediu.ro, by the 18th of January 2007.

The list of participants is hereby attached.

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