

Ex-ante Evaluation
Operational Programme
**Increase of Economic
Competitiveness**

Romania
(Final)
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The views expressed are those of Panteia and do not necessarily reflect those of the European Commission

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Abbreviations and Acronyms

Abbreviation / acronym	Explanation
CF	Cohesion Fund
CGC	Commission Guidelines on Cohesion
ECB	European Central Bank
EIB	European Investment Bank
EAFRD	European Agricultural Fund for Rural Development
EFF	European Fisheries Fund
ERDF	European Regional Development Fund
EMU	European Monetary Union
ESF	European Social Fund
GDP	Gross Domestic Product
IB	Intermediate Body
ICT	Information and Communication Technology
LCP	Large combustion plant
MA	Managing Authority
NCCS	National Climate Change Strategy
NSRF	National Strategic Reference Framework
NGO	Non-governmental organization
PA	Priority Axes
R&D	Research and Development
RES	Renewable energy sources (such as wind or solar energy)
ROP	Regional Operational Programme
RTDI	Research/Technological development and Innovation
SEA	Strategic environmental assessment
SME	Small and medium enterprises
SOP IEC	Sectoral operation programme <i>Increase of Economic Competitiveness 2007-2013</i>
SWOT	Strength-Weaknesses-Opportunities-Threats

Executive Summary

The ex-ante evaluation of the SOP Economic Competitiveness has been carried out by the Panteia Consortium. Rolf Bergs (PRAC) has acted as the key expert and Professor Daniela Constantin as the Romanian short term expert. In the following, the major results of the evaluation are summarised.¹

The baseline analysis is already well focussed on aspects of competitiveness, i.e. not too broad and fuzzy as it is often the case in such programming documents. However, the structure and presentation of the single sectors is not yet optimal and there are some obvious contradictions and some minor and few major inconsistencies. Therefore the writer has proposed a specific structure of contents. So far the revised version of the baseline analysis is not available. Therefore, the evaluation remarks of the first draft version remain.

The strategic rationale of the programme is fully justified by the analysis of the economic situation in Romania. Innovation and more knowledge-based economic activities are the overarching policy approaches to integrate the Romanian economy into the EU markets and to make it internationally more competitive.

While the rationale is fully justified the intervention logic shows still some weaknesses. So far, the consistency of the strategy is not more than implicit. There is no explicit link to the SWOT synopsis SWOT and strategy are not well geared towards each other. The position of this programme within the overall European policy framework is not described. Furthermore there is only little effort to define what is meant by competitiveness. The aspects of the policy strategy are formulated vague and do not really respond to the specific problem. Furthermore, the structure of contents of the strategy chapter could be improved as described above.

The description of the policy remedies (i.e. the concrete interventions) is more or less satisfactory. There is still some formal information missing. The major points at issue are related to coherence issues with other OPs. In most cases overlapping of intervention can be explained and can be managed by close co-ordination. Practical reasons (ministerial mandates) are often the simple reason. In one case, a consistency problem was caused by the special desire of the European Commission to have a pure environmental measure in the SOP Competitiveness. Apart from that, the internal consistence among the operations reveals a high level of synergy.

As regards the coherence with national policies (SME policy, tourism, R&D policy and also energy policy) the approach of the SOP IEC appears to be well co-ordinated. This can be confirmed in the evaluation report. In the programme

¹ This evaluation could only address preliminary versions of the programme. A concluding assessment of the final programme document is attached to this report in annex 2.

document a comprehensive analysis of coherence and policy synergies is given. There are also no coherence issues regarding Lisbon, the CGC and the environment (except that for the latter some corresponding reference should be added for the tourism priority which has a high relevance for the environment). Equal opportunities should be covered by all priority axes (not only 1 and 3). Major coherence issues only appear when viewing the interaction among the SOPs/ROP.

As regards indicators and quantification it can be said that the specific indicators at the programme level are sufficiently defined and quantified. The indicators and their quantification at operational level (priorities and related operations) are now sufficient. The transmission from the output to the result indicators is implicitly visible for all priority axes. In some cases the definition of indicators should be more comprehensive. Empirical research suggests considerable programme-induced impacts on increasing employment and income. The pursued policy mix and the repartition of the budget (both internally as well as related to the overall NSRF allocations) can be regarded as justified. As regards categorisation and earmarking (the latter is not obligatory to Romania as an acceding country) more than 80% Lisbon-earmarked operations are foreseen. This is twenty percentage points more than the threshold for Convergence programmes. However, a big share of those 80% is related to direct subsidies to enterprises.

The institutional system is already well described. In the programme text there are only some minor (editorial) improvements necessary (monitoring committee, definition of the paying units, the description of the independent audit authority). The evaluation plan should be re-considered as it appears too strict.

In terms of the feasibility of implementation a special ad-hoc study was carried out. The results reveal that there are major risks in the inter-institutional co-ordination, the staff qualification and recruitment and the preparation of project pipelines. The following recommendations are to be given:

- Establishing and observing clear, objective rules for communication and co-operation between MA and IBs.
- Defining precise, effective working procedures for the Monitoring Committee to be established and getting in force soon.
- A flexible employment (personnel) policy, focusing on the staff quality rather than strict quantity levels (including the provision of adequate working conditions, in terms of logistics and salaries).
- Changes in training orientation, with much more emphasis on specialized knowledge, new work procedures, new guide for C-B analysis, etc.
- Clear, effective support for project pipeline envisaging the funding of IBs information campaigns and communication in order to foster project ideas, qualified consulting for project elaboration and primary, formal appraisal of applications.

The annex of this report includes the documentation of text contributions from the writer and the draft Strategic Environmental Assessment.

1 Introduction

1.1 Objectives of the evaluation

The purpose of the ex-ante evaluation is to provide quality assurance to the programming process and the final programme document. Quality means in this connection also a cost-efficient budgeting. The ex-ante evaluation is not only a programme evaluation in a strict sense, it goes far beyond that as the evaluators are part of an interactive and iterative consultation process. Their role is not restricted on assessment and evaluation but much more on coaching and guidance.

1.2 Methodology

The methodological approach comprises the following aspects. These are both, based on the methodological guidelines from the DG Regio (Working paper on the ex-ante evaluation) as well as on specific ad-hoc requirements:

- Assessment of the economic baseline analysis (plausibility, focus, analytic depth of focus)
- Active advise and support for improvement (including text parts for the programme)
- Assessment of the logic and consistency of the SWOT synopsis (including methodological support)
- Assessment of the strategy relevance and coherence (intervention logic) including coaching
- Assessment of the policy coherence including coaching
- Assessment of the reliability, feasibility and applicability of the indicator system (advisory liaison with the client)
- Assessment of the quantification of objectives (advisory liaison with the client)
- Assessment of the viability and feasibility of the administrative implementation system (in co-operation with a local short term expert)
- Training on specific aspects (demand driven)

The evaluation of the SOP IEC could be carried out according to the a.m. aspects. The indicator system and the quantification of the objectives have been done centrally for all OPs.

The following inputs were provided in terms of coaching:

- Detailed advise to review and recast the Economic Baseline Analysis including submission of data and instruction how to obtain Eurostat data from the internet (see annex)
- Detailed advise to review the SWOT synopsis (see annex)
- Analysis of the consistency and intervention logic (see annex)
- Detailed advise to re-formulate the strategy chapter (see annex)
- Advice to improve the specification of priority axes and measures including the treatment of overlapping and co-ordination issues

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- Analysis of the consistency between strategy and the priority axes Support to interpret and deal with comments from other stakeholders (e.g. the Commission)
- Analysis of the implementation provisions (including a feasibility analysis)
- Further on-the-spot advice

In fact, the evaluation of the Operational Programme 'Increase of Economic Competitiveness' started only on 12 September 2006. Due to the early withdrawal of the original key evaluator, the evaluation work had to be done within two and a half months. For the core evaluation and coaching process this time frame was sufficient. However, a more in-depth evaluation (allowing to view project levels and to undertake rigorous empirical research among SMEs, research organisations, municipalities, energy suppliers and the tourism sector etc.) for a programme of that size (i.e. five billion Euro), would require minimum around twelve months of full field and desk work.

Apart from intensive desk work, missions to Romania of the ex-ante evaluator between September 2006 and January 2007 took place as follows:

- 12-15 September 2006: Inception meeting with the MPF and the Managing Authority Meeting with the Managing Authorities of the SOPs IEC and Human Resources (policy coherence between both programmes)
- 25-28 September 2006: Inception workshop, Coaching meeting with the MA (statistics, structure of contents etc.)
- 10-13 October 2006: Second meeting with the MA; briefing of the short-term expert for the institutional analysis; first de-briefing presentation
- 9-11 November 2006: Second de-briefing meeting, meeting with the short-term expert
- 5-7 December 2006: Presentation and discussion of the draft evaluation report
- 16-19 January 2007: Discussion of the indicators (together with the expert for the overall indicator system) and meeting with the MA and a local expert for the revision of the baseline analysis.

Consultations and or meetings with the following stakeholders took place:

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1.3 Conceptual remarks

The writer's approach of that evaluation has been predominantly based on dialogue with the Managing Authority. Due to the time shortage a deductive approach with a broad consultation of opinion among any possible stakeholders (principally the future monitoring committee) could not be ensured. Rather, the approach has been inductive with the emphasis on the leading interest of the technical assessment of the quality and feasibility of the programme. This does not mean that there was no consultation of stakeholders apart from the Managing Authority. The institutional analysis has stipulated a close involvement of all Intermediary Bodies. Moreover exchange with the European Commission was realised.

It was not regarded necessary at this stage to have specific discussions with regional authorities and social partners. As the programme intervenes at national level the thrust has no deliberate regional dimension (although there will be regional impacts as in any such programmes). The consultation with social partners is always a political dialogue in which the evaluator has to restrict him/herself to neutrality. As long as there are no visible imbalances in the programme approach the consultations on the approach should be at ministerial levels.

It was seen as the paramount objective of the evaluation to coach the Managing Authority via the required iterative and interactive approach. Coaching has involved active support to the Managing Authority. This support consisted of active contribution to the elaboration of the programme (model chapters for the economic baseline analysis, a graphical contribution to illustrate the strategic system of interacting objectives, provision of Eurostat data), logistical support (a programmed Excel sheet to calculate the indicative financial tables) and support to interpretation of and response to conceptual comments on the programme draft from the part of the EU Commission.

The iterative approach has been embedded in three informal meetings with the Managing Authority and two de-briefing meetings in which the results of the evaluation and the respective recommendations were provided. Apart from that a comprehensive institutional and inter-institutional analysis of the implementation system and its programme-specific feasibility was carried out.

The inter-active approach was ensured by a permanent dialogue on analysis results and recommendations and the discussion on their acceptance (or rejection) or possible issues of clarity and comprehensiveness.

The evaluation was faced by the problem of assessing a changing output within a process instead of just assessing an output (i.e. the programme document). A particular problem was that the existent project pipelines could not be evaluated in detail. A closer look at the quality of the single projects would have helped to have a clear view on variations of quality and the general risk of success of the programme².

By and large it would have been unfair to just regard the programme versions of April and also that of November as the static objects of critical assessment. It was therefore much more a step-by-step advice within the process. Therefore, it also turned out to be difficult to keep an argumentative structure 'analysis – conclusions – recommendations' as usual in evaluations³. Instead, the major part of the evaluation consists of recommendations determined by the coaching activities (i.e. how to structure chapters, how to improve the programme). In order to fulfil the desire of the Ministry of Public Finance, the conclusions and recommendations for the actual status of the programme (January 2007) are summarised at the end of all major sections of the report.

Unfortunately it has not been possible to evaluate the final programme version, however, the writer is convinced that all important recommendations of that evaluation report will be carefully considered by the Managing Authority, so that the programme text will hopefully meet the requirements of the European Commission. A concluding assessment will be done after submission of the final programme (cf. annex 2).

In the report most of the comments and recommendations of stakeholders who so far reviewed this report are considered. The writer is responsible for any shortcomings in the evaluation text. He is furthermore aware that an evaluation of that relatively limited scope cannot be regarded as really sufficient in analytic depth of focus (particularly with respect to a programme budget of around 5 billion Euro). As this programme aims at generating strong leverage effects on the Romanian economy in terms of raising its international and intra-EU competitiveness, this relatively simple feasibility assessment of the SOP IEC can only be a minor factor in supporting the success of the programme. The information base needed for a more dependable evaluation could not be provided – at least not in that short time. It is therefore stressed that a permanent M&E and an accompanying scientific advisory service is needed in order to manage the programme successfully and with the results and impacts expected.

1.4 Lessons learned from former relevant evaluations

After reviewing the evaluations so far prepared for Romanian pre-accession programmes, the writer came to the conclusion that those are not sufficiently relevant for the purpose of the OP Competitiveness.

² An evaluation at project level is not within the mandate of the ex-ante evaluation although it would have been useful to do, just for that programme.

³ as it was a steady process of analysis, conclusions, recommendations, their acceptance or rejection, revised recommendations and so forth.

Really relevant are only thematic evaluations carried out on behalf of the European Commission. These are the evaluations on RTDI and SME:

ADE und ZENIT 1999, *Thematic Evaluation RTDI in Objective 2 – Synthesis Report*,
Brüssel, Mülheim a.d.R.
Ernst & Young 1999, *Thematic Evaluation of Structural Fund Impacts on SMEs*,
London

Although both evaluations are already older, their content is still actual, also for Romania. In the following, only a brief summary of the recommendations are given.

Major conclusions for RTDI:

- Highly demanding programme type, therefore the projects are demanding as well
- The socio-economic and SWOT analyses are of particular importance as these should also determine the transmission mechanisms of innovation policy
- An inter-regional and international co-ordination of RTDI and the actors involved should be pursued in order to avoid expensive parallel structures
- The EC Research Framework Programmes should be considered in ERDF programmes supporting innovation and competitiveness
- Intensive and pro-active implementation strategy: here the integrative and far-reaching project approaches are superior. Only those may capture the 'philosophy' of competitiveness
- Assessment of project applications are much more demanding than in other types of Cohesion programmes: Highly qualified assessors from various fields are needed for the project screening
- 'No highjacking of RTDI priorities by seemingly attractive high profile large or scientific infrastructure type projects that do not connect to the industrial fabric and cannot demonstrate multiplier effects on economic development.

Major conclusions for SME policy:

- More selectivity according to potential impact on competitiveness
- The pure grant approach is questionable. More innovative funding instruments like risk capital funds contribute to lower the deadweight rate.
- Not all SMEs are important for national and regional competitiveness. Medium 'Fast Growth Firms' are an important segment for enhancing competitiveness.
- Regional/national comparative advantages should be reaped by initiating clusters of growing firms.
- Guidance and publicity is needed to generate valuable project applications
- This again requires a pro-active approach from the part of the Programme management
- Equal opportunity is an important criterion of national competitiveness in connection with the participation rate. This is also relevant for the SMEs.

These findings are all worth to be considered for the implementation of the SOP IEC.

2 Appraisal of the economic baseline analysis and the relevance of the strategy related to the needs identified

2.1 Economic baseline analysis

2.1.1 General

The present feature of the Romanian economy is a double challenge: global competition and EU integration. This was well described by Joaquin Almunia, Commissioner for Economic and Monetary Affairs, in his speech delivered at the National Bank of Romania in February 2006:

'... No longer a low-cost economy, strictly speaking, but not yet an economy driven by specialisation, high skill industries and innovation either, Romania faces double-edged competition in the global market place. Low-cost countries, competing on their best terms, stand 5 / 9 ready to snatch market shares from low value added industries in Romania. The global market opening of textile trade in 2005 took a toll on one of your main export industries, and is a clear example of the challenge of globalisation. Cost efficiency and adaptation of production structures is crucial in a time of global competition and is a challenge, for example, for those parts of Romania's industry which suffer from low energy efficiency [...] For Romania, full integration into the EU's internal market is another major challenge, but the fact that it offers a home market of 450 million people also presents a great opportunity in the light of globalisation. Vigorously implementing its structural reform programme should allow Romania to cope with the competitive pressure and market forces within the EU. But Romania should aim to do more than just cope! EU accession provides Romania with an unprecedented opportunity. For the ten most recent Member States we have estimated that membership of the EU will raise their GDP growth by up to two percentage points per year over this decade. That is only natural since enlargement of the internal market acts as a catalyst for economic growth by opening business and investment opportunities to all European enterprises. Enlargement is therefore a win-win situation provided that accession is well prepared.

' (cf. Joaquín Almunia 2006, *Unleashing Romania's Growth Potential and Meeting the Challenge of Globalisation*, Bucharest: National Bank of Romania, February 2006, pp.4-5)

In principle this real challenge is analytically captured in the economic baseline analysis of the programme document. The analysis is well focussed on aspects of competitiveness, i.e. not too broad and fuzzy as it is often the case in such programming documents. However, the structure and presentation of the single sectors is not yet optimal and there are some obvious contradictions (or at least facts not being properly defined and separated). The data base of that analysis is largely from national sources. Much more use of Eurostat data is recommended. The Eurostat general and regional data base includes Romania and can be easily

used for time series, cross-section and comparative analyses. As these tables can be downloaded in spreadsheet format it is also easy to produce figures/graphs.

The consultant has already submitted Eurostat time series 2000-2004 covering most of the topics looked at in the baseline analysis. It is advisable to also use comparison data as for instance EU25 averages. For that purpose, on 26 September, the consultant has advised the counterpart how to obtain the Eurostat data in spreadsheet format from the internet.

In addition to the particular economic aspects viewed, the general economic situation in terms of production and employment should be added at the beginning of the economic baseline analysis. This seems necessary due to two facts: (1) the SOP Economic Competitiveness is a programme at national level and will have substantial impact on employment and GDP and (2) income level and aspects like the participation/employment rate are indicators of economic integration and the growth potential of the Romanian economy.

The consultant has submitted a draft chapter for these topics. The Romanian counterpart can further refine or work on this draft.

In the introductory chapter of the economic baseline analysis ('Analysis of the Current Situation') the factor competitiveness should not only be highlighted from an international viewpoint by using the ranking study of the WEF (which is appreciated) but also from the viewpoint of European economic integration. Here it would be useful to use adequate indicators of intra-industry trade and/or revealed competitive advantage of the Romanian economy. Furthermore it is not useful to present data on particular issues like labour productivity, foreign trade, R&D etc. in this introductory chapter as these issues are dealt with in-depth in later sub-chapters. For the introductory chapter it would be advisable to define and justify the different economic topics which follow in chapters 1.2 ff.

The subsequent chapters 1.2 to 1.7 cover the description and analysis of the manufacturing industry, the SME sector, scientific research and innovation, ICT, energy and tourism. The presentation in its present form is clearly structured in its chapters but not always comprehensive in its analysis. Important conclusions are often not visible.

The writer considered it more useful for the Managing Authority to provide some guidance how to elaborate the economic baseline analysis instead of just commenting on its deficiencies.

Therefore for the baseline analysis it is proposed to follow the following structure:

1. Economic Baseline Analysis

1.1 Introduction

1.1.1 The Competitiveness of the Romanian Economy
(International ranking and analysis based on the WEF report)

1.1.2 The Level of Competitiveness of Romania within the EU 25+2
(Analysis of indexes revealing Intra-industry Trade and Revealed Comparative Advantage of the Romanian economy with a view of EU market integration: The programme has a strategic function for Romania's long-run integration into the EMU. As there is no opting-out, Romania needs to meet the nominal and real Maastricht criteria within the coming years. The programme has a specific relevance for real convergence. Therefore the relationship with the future EMU membership should also be pointed out)⁴

1.1.3 The economic situation with respect to the Integrated Employment and Economic Guidelines under the Lisbon process and the Community Strategic Guidelines

1.1.4 The fields covered in the economic baseline analysis
(A brief explanation which economic fields are covered in the analysis and why just these have a particular/critical relevance for competitiveness).

2. The General Situation of the Romanian Economy

2.1 Population, Demographic Development and Trends of Human Resources Development
(development of population, demographic trend and structure, trends of working population as a competitiveness factor⁵, risks of an ageing society)

2.2 Employment
(Participation rate as a major determinant of economic growth besides productivity, comparisons with the Lisbon target, female participation rate)⁶

2.3 Gross Domestic Product and Income

⁴ A corresponding draft chapter on economic competitiveness was submitted by the writer (see annex)

⁵ The participation rate is a very important indicator of national competitiveness across the EU. As the Commissioner for Economic and Monetary Affairs, Joaquín Almunia, points out in his speech at the Romanian National Bank in February 2006 (ibid.): "...For one thing, Europe's labour force is grossly underutilised. Employment rates in many Member States can significantly improve. In the EU, the employment rate is below 65%, compared to a rate of about 72% in the USA. Also, the average worker in the EU works 1,534 hours per year, compared with 1,782 in the US – a difference of 16%. In addition, after having peaked in the mid -1990's, labour productivity growth has been experiencing a gradual decline. And, thirdly, Europe must not fall behind in the ever-accelerating technology race.

⁶ A corresponding draft chapter on employment was submitted by the writer (see annex)

(to be briefly analysed as GDP/capita in PPP terms is the major indicator for the definition of 'Convergence' regions; here it should make sense to differentiate among the Romanian NUTS-2 regions in order to describe the regional disparities, although it is primarily a national programme)

3. Specific Issues of Economic Competitiveness

3.1 The Manufacturing Sector: Structure and Value added, Investment and Productivity

(sectoral shares, technology level shares, size shares, and trends of value added and investment, foreign trade; Output / labour volume)

3.2 The Service Sector: Structure and Value added, Investment and Productivity

(sectoral shares, technology level shares, size shares, and trends of value added and investment; value added / labour volume)

3.3 A further Glimpse at the SME Sector

(Horizontal multi-sectoral view: Trends of size structure, technology level, export orientation, employment and productivity, investment; accessibility to finance, entrepreneurship development, development of enterprise establishment and closure)

3.4 Scientific Research, technological Development and Innovation

(Romanian innovation policy, research potential, trends of R&D investment/GDP, R&D staff development, patents/million inhabitants, comparison figures with EU25)⁷

3.5 Information and Communication Technology

(Access to information infrastructure for large and SM enterprises in fields such as broadband coverage, PC penetration, Internet access, telephony, etc.; trend and comparison figures)

3.6 Energy and Energy Efficiency

(Energy production and consumption, low energy efficiency as a threat for competitiveness, trends of RES use, environmental impact)

3.7 Tourism in Romania

(Tourism as a competitiveness factor, attractions, the transformation of the tourism sector, structure of the tourism sector, trend/development of international tourists)

Statements in all chapters are to be compared with the findings in the NSRF. Any deviations should be sorted out and scrutinised. Deviation of data interpretation and mistakes are to be cleared.

All chapters should use figures/charts to visualise the strengths, weaknesses, opportunities and threats at a first glimpse. Tables are only recommended if a chart cannot capture the main message. Otherwise tables can be included in the

⁷ A corresponding draft chapter on R&D and innovation was submitted by the writer (see annex)

annex (as already done in the first draft version). All chapters should be as short as possible. It is important to stress the main message. Moreover, at the end of all chapters a short strategy relevant conclusion should be added. All these conclusions are to be transferred (in bullet point style) to the SWOT synopsis.

2.1.2 Further Questions/comments on the first draft economic analysis

The following issues are related to the contents of the first programme draft and were raised during several meetings with the Managing Authority and the debriefing meetings on 13 October and 10 November 2006. These comments are supposed to remain until a revised version of the economic baseline analysis is available. By 22 November 2006 (cut-off date for this evaluation draft) this could not be realised, so that a fresh review of a revised version is to be postponed.

- p.8/p.34 Is the labour force really a strength as later labelled in the SWOT? It seems the important group with higher education is underrepresented. Moreover, lifelong learning is under-average. Some more clarification will be added. Status of revision: Medium skilled persons are a strength, high-level skilled persons tend to be a weakness in Romania. According to the MA it's still true that labour force is a strength. The weakness lies in the mismatch between education and work force supply, i.e. the educational system does not respond to development changes.
- p.8: If Romania exhibits a relatively stable and balanced capacity of around 50 different scientific and technological fields, a selective funding approach (cf. Commission comments) would not be justified. Core criterion should be quality, justification, economic impact and sustainability of the project concepts. There are controversial views between the Commission and the MA (incl. the ex ante evaluator). Status of revision: The ex-ante evaluator supports the opinion of the MA in a way that an *a priori* selection of fields of research would discriminate non-selected fields. Furthermore, if there is a strong demand of funding and at the same time the applications are of high strategic quality, the importance and absorptive capacity would be underlined. The evaluator does not believe that a non-pre-selected approach would lead to disappointment among applicants who fail to get funding due to the high demand.
- p.10: The manufacturing production index fluctuates around 107 points since 2000 and the industrial exports (fob) increased by 69% since 2000. Does it mean that domestic absorption decreased correspondingly or are here nominal and real time series compared? Status: The data were checked. The numbers seem to be correct: the manufacturing production index fluctuates around 107 points (representing an average increase of 5,6%/year); the industrial exports (fob) increase is around 14%. The difference represents not necessarily domestic absorption decrease, but mainly imports increase. It should be noted that export figures include OPT (wages) which was quite high especially in textiles and clothing.
- p.11 The paragraph on industrial/manufacturing GVA could be related to table 1 on p. 10 (?!). Likewise, the paragraph on the average number of employees (p.11-12) should be related to or integrated with the respective on production p. 9 f.. With other words: more analysis is needed on production and employment shift/share development in the manufacturing

sector (cf. Eurostat tables). Status of revision: More clarification will be provided by the MA or IB respectively in a third programme draft.

- p.12-13: 1st Table on p. 14 says that 56.6% is employed in SME; on p. 12 the text says that alone 54% of the workforce is employed by large manufacturers (i.e. the sum alone is more than 100%). Status of revision: More clarification was already provided. The 56.6% represents the percentage of SME's employees in total economy, while 54 % stands for workforce employed in large enterprises, only in manufacturing industry. The evaluator has checked the availability of Eurostat data on that issue. There exists a special data-set on SMEs in candidate countries from 2001⁸. These data are however too old.
- p.12: A more analytic differentiation should be made between small and medium enterprises (also table on p.13) . The last sentence of the paragraph on labour productivity in industry is central and should be more highlighted here. The next sentence suggests that environmental standards are crucial for industrial competitiveness. The priorities/interventions do not explicitly include such a measure. The next sentence is again very important and needs more elaboration: 'Research driven innovation ... is sustained ... by 44 R&D specialised institutes, the capacity of which to generate applicable results is poor. Status of revision: The issue of medium enterprises will be considered. The evaluator has provided some more insight through specific documents (e.g. a research paper on medium enterprises in the UK⁹). The issue of the 44 R&D institutes will be further elaborated.
- P. 13: SMEs in the service sector should be differentiated (high VA business-related services and tourism which are tradable vs. low VA services which are mostly non-tradable. Status of revision: The evaluator has already delivered extracted Eurostat data, making a distinction between low VA and high VA services. The MA has received corresponding support by the evaluator.
- p.15 Medium enterprises appear less productive (also p.17). This is peculiar and needs more elaboration. Status: In the programme text (third draft) this issue will be further commented on (see footnotes below).
- p.17 'Innovative activities' should be defined. Status: Innovative activities are related to the footnote on p. 17. The paragraph will be further clarified in a third draft. The references in the footnote will not contain sectors anymore.
- p.18 What are certified researchers? Status: No revision needed. Certified researchers is a *terminus technicus* in Romania
- p.20: Innovation expenditure is only 3.6% for the innovative enterprises. Can they then be labelled as innovative? The patent intensity appears extremely low Romania 0.3 vs. average EU25 107.7 per one million inhabitants. This gap is hard to believe. Status: The data were checked and appear to be correct.
- p.23 Can it be that still 10% of the large Romanian enterprises do not have internet? According to Eurostat, 2004 already 66.5% of enterprises have internet. The low broadband penetration rate 1.7% as compared to 6.5%

⁸ Eurostat 2003, *SMEs in Europe – Candidate Countries: Data 2001*, Luxembourg

⁹ M-Institute 2006, *Empowering Medium Enterprise: A Guide for Policy Makers*, Sunbury on Thames, Surrey; Bill Snaith and Jane Walker 2002, *The Theory of Medium Enterprise*, University of Durham

(EU25) is striking. Status: The data were checked and appear to be correct.

- p.24 It is not clear why e-government users belong to the section of population with a reduced frequency. Perhaps the formulation is misleading (the whole chapter appears a bit unclear). The chapters on e-learning e-health and e-business are more comprehensive, but more visualisation (notably comparative graphs) are needed in order to facilitate reading and better grasp the problem situation. Status of revision: The section will be more clarified in the third version of the programme document.

It is to be stressed that the above evaluation of the economic baseline analysis refers to the first programme draft (April 2006). Due to the tight time schedule of the evaluation process the assessment of the improved third version (to be expected end of November 2006) could not yet be done. However, due to the far reaching agreement between the evaluator and the Managing Authority on weaknesses of the chapter and the very good working relations one can already expect that the chapter will be revised in a satisfactory manner.

2.1.3 Conclusion

The economic baseline analysis is already well focussed on aspects of competitiveness, i.e. not too broad and fuzzy as it is often the case in such programming documents. However, the structure and presentation of the single sectors is not yet optimal and there are some obvious contradictions and some minor and few major inconsistencies. Therefore the writer has proposed a specific structure of contents. So far the revised version of the baseline analysis is not available. Therefore, the evaluation remarks of the first draft version remain.

2.2 SWOT

The SWOT table appears already focussed and comprehensive. However, the connection to conclusions of the economic baseline analysis are to be made more explicit. Moreover, some variables are not well defined and sound a bit redundant. In some few cases strengths and potentials are mixed-up. Energy sector liberalisation and the liberalisation of the telecommunication market are potentials rather than strengths. A significant tourism potential is *eo ipso* a potential and not a strength.

Inconsistencies are visible in the assumed strength of 'highly skilled human resources in R&D sector' and the stated weakness of 'low productivity' and 'high concentration of low added value sectors'. This would raise the question whether either most highly skilled human resources in the R&D sector do not work demand-oriented (for the market) or the R&D sector is not endowed with sufficient capital. The problem in Romania seems to be a mismatch between education and market demand. But if there is no sufficient valorisation of R&D staff it cannot yet be assumed to be a strength. If at all it could be regarded as a potential to be reaped once R&D supply responds to the market demand.

On the part of the weaknesses causes and effects are structured at the same level. 'Competitiveness and technological gaps compared to the EU' is a

weakness which is implied by weaknesses at a lower level, such as 'low productivity' or 'export mainly based on low and medium value added products'. A 'reduced number of ISO certified enterprises' is a rather normative variable and should be re-considered as 'low quality assurance in production and organisation within SMEs'. 'Low use of public electronic services' is also normative and should be re-formulated as 'slow/ineffective public services'.

On the part of the opportunities 'second largest country of NMS' is not necessarily a potential. It can also be a threat. The opportunity 'Supply chain for foreign companies 3% ... ' is not clear in its meaning. On the part of the threats 'international economic slowdown' is more an assumption on which the programme cannot have an influence. 'Exposure to global markets' is not a threat, it is just the implication of the deliberate liberalisation of the Romanian economy. Only from a leftist viewpoint (criticising a neo-liberal world economic order) exposure to global markets could be regarded as a threat. Neo-liberals would label it as a potential. The writer recommends to keep the message of the SWOT table politically neutral.

It is recommended to completely review the SWOT synopsis after the revision of the economic baseline analysis. The selected variables should exactly reflect the conclusions of the sub-chapters of the economic baseline analysis. A sound revision of the SWOT synopsis is only possible after a sound revision of the baseline analysis.

The above evaluation of the SWOT synopsis refers to the first programme draft (April 2006). Due to the tight time schedule of the evaluation process the assessment of an improved version (to be expected end of November 2006) could not be done. However, due to the far reaching agreement between the evaluator and the Managing Authority on weaknesses of the chapter and the very good working relations one can expect that the chapter will be revised in a satisfactory manner.

2.3 Relevance

The relevance of the economic baseline analysis and the SWOT is fully ensured. Some revision work is necessary (see above). The provided draft text can be used to a large extent and needs to be recast and complemented by graphs and clear conclusions.

2.4 Overall conclusions

The baseline analysis is already well focussed on aspects of competitiveness, i.e. not too broad and fuzzy as it is often the case in such programming documents. However, the structure and presentation of the single sectors is not yet optimal and there are some obvious contradictions and some minor and few major inconsistencies. Therefore the writer has proposed a specific structure of contents. So far the revised version of the baseline analysis is not available. Therefore, the evaluation remarks of the first draft version remain.

Main recommendations are:

- In general the analysis chapter should be revised and recast with a view to better capture the purpose of the programme (see annex);
- Much more use of Eurostat data is recommended;
- It is advisable to also use comparison data as for instance EU25 averages;
- In the introductory chapter of the economic baseline analysis ('Analysis of the Current Situation') the factor competitiveness should not only be highlighted from an international viewpoint by using the ranking study of the WEF (which is appreciated) but also from the viewpoint of European economic integration;
- In addition to the particular economic aspects viewed, the general economic situation in terms of production and employment should be added at the beginning of the economic baseline analysis;
- All chapters should use figures/charts to visualise the strengths, weaknesses, opportunities and threats at a first glimpse. Tables are only recommended if a chart cannot capture the main message. Otherwise tables can be included in the annex (as already done in the first draft version). All chapters should be as short as possible. It is important to stress the main message. Moreover, at the end of all chapters a short strategy relevant conclusion should be added;
- The evaluator has prepared a structure of contents for the economic baseline analysis including model chapters on the level of integration of the Romanian economy, the participation rate of employment and Romanian R&D (cf. Annex)

As regards the SWOT synopsis is recommended to completely review it after the revision of the economic baseline analysis. The selected variables should exactly reflect the conclusions of the sub-chapters of the economic baseline analysis. A sound revision of the SWOT synopsis is only possible after a sound revision of the baseline analysis.

3 Evaluation of the rationale of the strategy and its consistency

3.1 Introduction

In this chapter the rationale and consistency of the strategy and the determination of the concrete policy interventions (i.e. the remedies) are viewed. On these aspects the writer has had a couple of formal and informal discussions. In the second draft of the programme (November 2006) some revision work was done, but there are still some individual weaknesses where the writer recommends to further revise the text.

3.2 Assessment of the rationale of the strategy

The strategic approach with the proposed intervention axes is fully justified. The major issues of Romanian competitiveness are identified in low productivity and low innovation potential of the private sector, particularly the SME sector. There are still numerous obstacles for a rapid structural change with a view to catch-up economically and to integrate in the EU markets. SMEs need more access to finance and need more networking with research bodies in order to develop new products for sustaining markets. Infrastructural bottlenecks are found in the 'information society'. Here Romania needs massive efforts in order to avoid missing the connection to the other EU countries. Energy inefficiency is a peculiar weakness of the Romanian economy, both in terms of cost and competitiveness as well as environment. Furthermore, tourism is a strategic service sector where Romania reveals a big potential comparative advantage. Since the transformation of this important sector has been slow it is important to further re-structure and mobilise forces in Romanian tourism. All these important intervention lines are covered in the strategy of the SOP IEC.

The following conclusion on the rationale of the strategy can be made:

- The proposed strategy, including the strategic objectives is sufficiently relevant in relation to the identified problems, needs and potentials from the analysis. Virtually all important determinants of economic competitiveness of the Romanian economy are addressed.
- The proposed strategy, including the strategic objectives is sufficiently relevant in relation to the identified trends and future challenges
- The relevance of the strategy can be further improved by a higher depth of focus determined by the economic baseline analysis. The issue of insufficient market integration of the Romanian economy and the need to accelerate the preparation for the later EMU could be more explicit.
- The proposed priorities and operations in the SOP are logically derived from the economic baseline analysis. However, an explicit link between the analysis, the SWOT, the strategy and the description of interventions (see below) would help to make the intervention logic clearer. Brief strategy relevant conclusions would be needed.

The stakeholders from the relevant intermediate bodies were sufficiently involved in drawing the strategic orientation of the programme. It was clearly perceptible for the evaluator that there is a high level of strategic consensus among the institutions involved. Stakeholders at regional level are more relevant for programmes such as the ROP.

3.3 The consistence of the strategy

3.3.1 Theoretical foundation of cohesion policy

The rationale and purpose of regional policy has been controversially discussed for a long time. From the pure neoclassical viewpoint, any policy to strengthen lagging regions remains futile, as according to the assumption of decreasing returns to scale, there will be an automatic process of convergence, because the lagging regions grow faster than the more advanced (Solow). Of course this ideal model has proven realistic only under (modelled) perfect market conditions. In practice one finds major market imperfections and particularly a considerable inequality of opportunity. Inherent regional disadvantages and insufficient fiscal capacity have forestalled to turn the neoclassical model into the real world. Therefore, there has been a major justification to subsidise regional development of lagging or declining regions and thus to pursue active regional policy fostering convergence of the regions across the EU. This is the underlying rationale for the EU Structural Funds. The additional EU Cohesion Fund was introduced in 1993 to support the poorer member states in upgrading their transport infrastructure and the environment. This was considered as an indirect budgetary aid in order to facilitate process of integration into the EMU and to cope with the demanding fiscal and monetary criteria. However, the desired effects have varied considerably among the member countries since – apart from Structural and Cohesion Funds – there are many more exogenous variables determining a process of convergence and cohesion like e.g. institutional behaviour, macro- and microeconomic management, location issues and others.¹⁰

According to Budd and Hirmis¹¹ economic competitiveness (regional or national) equals the sum of the comparative advantages at firm level under consideration of the exchange rate. The improvement of economic competitiveness corresponds to the increase of export market shares in physical volume (ECB-Monthly Report July 2006¹²). Apart from that, the competitiveness of a region or a nation also contributes to the level of competitiveness of the higher-order economic space. Romania, as part of the EU Internal Market can contribute to the competitiveness of the EU as long as the Romanian private sector is able to boost competitiveness. Since there is no opting out for the adoption of the Euro, Romania is obliged to prepare for EMU. That means that Romania has not only to consider the nominal targets of convergence (notably budget deficit, inflation, public debt) but also to enhance real convergence through enhancing market

¹⁰ Cf. Rolf Bergs 2004, 'Towards Market Integration in an Enlarged EU: The Choice of Regional Policy in the Accession Countries', in *The ICFAI Journal of Applied Economics* III/3, p.14

¹¹ Budd, Leslie and Amer K Hirmis 2004, 'Conceptual Framework for Regional Competitiveness', in *Regional Studies* 38/9

¹² EZB 2006, 'Wettbewerbsfähigkeit und Exportentwicklung des Euro-Währungsgebiets', *EZB-Monatsbericht* 7/006

integration. Just the latter is an important issue to be addressed by the SOP IEC.¹³

Although nominal convergence criteria are the official ones, a currency union to which Romania will belong as soon as it will join the EMU stipulates a high level of market integration otherwise the countries being strongly exposed to adverse shocks harming the whole ensemble of participating countries. With respect to the new member countries, in 2004 the European Central Bank has conducted an important analytical review (led by Peter Backé and Christian Thimann) on the acceding countries' strategy towards ERM II and the adoption of the Euro. This study (particularly pp.28-59) has a central relevance for the SOP IEC and its role in contributing to Romania's successful participation in ERM II and later EMU. A central statement in it is the following:

... 'An obvious starting point for such a broader analysis is the optimum currency area (OCA) theory, which is the standard reference point in terms of economic theory for many current discussions about the acceding countries' prospective readiness to join the euro area. According to the OCA theory, countries can be considered as part of an optimum currency area if they fulfil certain criteria, which determine the symmetry of external shocks and the capacity of a country to absorb shocks. These criteria refer to the similarity of economic structures, business cycle synchronisation, the degree of trade and financial integration, the flexibility of goods prices and wages, as well as factor mobility. The OCA theory suggests that if these criteria are fulfilled, a country can abandon the exchange rate as an adjustment tool.¹⁴

The comparative advantages of the advanced EU economies are determined by knowledge-intensive products and services with a high value added. Successful market integration of Romania implies a catching-up in terms of a knowledge-based economy. These advantages in economic competitiveness are determined by a high R&D intensity, a strong share of high-level business-oriented services and a permanent readiness of the private sector to adapt to market processes (notable through development of new and better products or solutions). The latter ability ensures sustainable growth and employment based on structural change in accordance to the overall market process in Romania and the EU as such.

The writer finds that in the strategy chapter this spirit is perceptible, but not systematically and explicitly described. Consideration of the a.m. ECB Occasional Paper is strongly recommended.

¹³ The relevance of cohesion policy to strengthen EMU as an optimum currency area (in the sense of R. Mundell 1961, 'A Theory of Optimum Currency Areas', in *American Economic Review* 4/1961, pp. 657 ff.) is often underestimated and appears to be more or less untouched in many publications of the DG Regio. Because of an insufficient factor mobility (notably labour) and the instrument of a national exchange rate policy not any more available in the Euro member countries fiscal equalisation schemes or powerful structural policy instruments are needed in order to stabilise real convergence. Concerning this cf. the speech Tommaso Padoa-Schioppa delivered 21 March 2002 in Warsaw: '... I would like to take issue with both these views and stress that real and nominal convergence should be pursued in parallel. Let me explain what I mean. Real convergence is more than the catching up in income levels; it is the adjustment of the real economies towards structures that allow the countries to participate in a monetary union without contributing to, or suffering from, significant asymmetric shocks.'; see also (from the ex-ante-view of EMU): Padoa-Schioppa, Tommaso 1987, *Efficiency, stability and equity - A strategy for the evolution of the economic system of the European Community*, Oxford University Press, pp.5 ff.

¹⁴ Cf. P. Backé and Christian Thimann 2004, *The Acceding Countries' Strategies towards ERM II and the Adoption of the Euro: An Analytical Review*, ECB Occasional Paper 10, Frankfurt a.M., p.28

3.3.2 Intervention logic

So far, the consistency of the strategy is not more than implicit. Principally the strategy needs to be geared towards the NSRF and the Cohesion guidelines. This should be done in the introductory parts of the strategy chapter.¹⁵

Furthermore, the intervention logic needs to be based on the SWOT synopsis. Here the strategy should point out adequate solutions to relieve the weaknesses, to stabilise the strengths, to reap the opportunities and to forestall the threats, which can later be translated into a system of intervention priorities. In order to make the strategy also consistent with the following description of the priority axes, the alternative policy instruments should be mentioned already here. The reference to the SWOT synopsis needs to be explicit. It is important to directly refer to the SWOTs, just as they are formulated, and to say that something needs to be done about those in order to make Romania economically more competitive. As an example the following style of formulation would be useful:

'The SWOT synopsis reveals a very low level of R&D in SMEs, implying that they are not competitive on the European markets. An important remedy to overcome this bottleneck is the introduction of more knowledge and research ... This includes measures of enhancing the co-operation of research bodies and SMEs ...' etc.

Instead of referring to the SWOTs, in the draft programme document too much repetition from the economic baseline analysis is found without explicitly referring to it. This way the strategy chapter appears isolated and not consistently connected to the analysis. This sounds often redundant and strategic statements appear often a bit blurred. It would be important to closely link the strategy chapter to the SWOT synopsis and the single variables where policy should intervene.

Status of revision: The consistency relations should have been made more explicit and visible. For this purpose the evaluator has elaborated and submitted a graphical system of programme objectives, visualising the interaction of strategic objectives. Meanwhile a second programme draft was submitted.

Still there are a number of points where the strategy chapter needs more improvement. At the beginning of the strategy chapter the relationship with NSRF, Lisbon strategy, the Commission guidelines on cohesion (attractiveness of Europe for investment, knowledge and innovation for growth and more and better jobs) and the Romanian sector strategies (SME policy, tourism policy etc.) is to be explained in a bit more detail.

The introductory reference to real convergence and enhanced competitiveness for economic integration of Romania into the EU markets is very important, but the term 'economic competitiveness' as the central objective of the programme is not yet defined in a comprehensive manner. Moreover, the European context is to be highlighted; the present version stresses just international competition under globalisation. Furthermore, in the revised version the need of sectoral diversification of Romania is stressed. The writer thinks that it is not so much a lack of diversification but notably the low average technology level which makes

¹⁵ Although a table on p.75 ff. (in the second programme version) illustrates the consistency with CSG and NSRF, an analytic discussion should be included in the strategy chapter. Otherwise the message remains vague.

up the prevailing competitiveness problem for Romania. Here some phrases in the strategy chapter remain vague. What is for example the advantage of an “integrated control of production”? Basically the production needs to be raised on a sustainable and higher technology level (in the sense of the *Lisbon* strategy) by reaping the sources of knowledge generation in Romania and even worldwide.

There are also still some vague statements associated with business cycles and employment. The economic risk for Romania is a structural one, not so much a possible cyclical downturn as pointed out in the strategy chapter. Recessions will anyway happen from time to time and affect any country - whether highly developed or poor. At the same time even a very poor country can be stable in macro-economic terms, provided the factor costs are competitive and fiscal policies are prudent. But this alone would not help to integrate Romania into the EU markets. It should be made clear that structural change (towards higher technology levels and a competitive trade within the EU) is to be pursued. Here it is worth to refer to the speech of Commissioner for Science and Research, Janez Potočnik who has dared Romania to do more to boost R&D. Apart from better regulation, an improved use of public procurement and tax incentives the partnership between the private sector and the science sector is of vital importance to create conditions for ‘innovative lead markets’. Moreover, Potočnik has called for an integrated research policy where knowledge/innovation goes hand in hand with economic development. He suggests a ‘less is more’ approach to sort-out national priority areas where Romania can contribute to European excellence¹⁶. (cf. *Cordis-Focus Newsletter*, No. 271, October 2006, pp. 12-13)

3.3.3 A proposed structure of contents of the strategy chapter

The strategy chapter could be further improved by a more consistent structure of contents. The writer still recommends the following sequence of sub-chapters, which would also comply to the information required by the Commission *aide mémoire*.

1. The need of enhanced integration and innovation: Relationship of the strategy with overall strategies

(very brief on all following points: Romania’s major SWOTs and the goal of economic integration into the EU [including preparation for the Euro], Lisbon strategy and the National Romanian Reform Programme, Commission Guidelines on Cohesion Policy [here the three major goals attractiveness of Europe for investment, knowledge and innovation for growth, more and better jobs]), the Romanian NSRF, the Romanian sector strategies [SME, R&D, Tourism etc.].

2. Strategic objectives of the programme

(comprehensive elaboration of the following points: definition of competitiveness as the programme objective, concretisation of the programme objective, reference to the major SWOTs)

¹⁶ Concentration is certainly a right approach, but the writer likes to point out that this should not be sector policy. It should be much more a selectivity according to quality and strategic prospects. The application procedures for projects under the SOP Competitiveness have therefore to be rigorous and accompanied by high-level specialist assessors.

3. Specific Objectives

(comprehensive elaboration of the following points: description including a chart showing the system of interacting objectives, horizontal objectives equal opportunity and environment. A corresponding was elaborated by the writer and submitted to the Managing Authority)

4. Justification of the priority axes

(just briefly determining the priorities from the objectives; in other words: the remedies to solve the specific economic problems are to be determined)

For efficiency reasons it is recommended to first elaborate a reviewed version of the economic baseline analysis and the SWOT synopsis before reviewing and further editing the strategy chapter.

For the third version of the programme document the above formulated recommendations have been already accepted so that the writer is confident that the consistency of the programme will be substantially improved.

3.3.4 Complementarity of priorities and measures / quality of the description

The contents of the sub-chapters describing the priority axes so far only include the objectives, quantified indicators, measures and indicative operations. With respect to the *aide mémoire* some obligatory information is still missing or not sufficiently elaborated:

- obligatory descriptions on the impact on specific territorial needs (this could be particularly important for tourism and the support of broadband coverage in 'market failure' areas). Where there is no primary impact on 'territorial cohesion' or where no specific regions are addressed by the programme, the impact on territorial cohesion can be only estimated ex-post, but this should be clearly stated in the programme document; an evaluation according to the Methodological Working Paper 1 (Ex-ante Evaluation) Annex IV cannot be carried out at this stage of the programme elaboration.
- the definition of target groups or beneficiaries respectively: The description of key areas of intervention should explicitly mention the types of prospective beneficiaries.
- the use or non-use of JESSICA and JASPERS; The prospective use of JEREMIE was added in the 2nd version, The Managing Authority has announced further modification after recent discussions on this topic.
- the definition of demarcation regarding interventions of EAFRD, EFF as well as EIB/EIF. The discussion of prospective complementarities with EAFRD have been added in the 2nd programme version, It is recommended also to mention the EFF programme and the foreseen EIB activities in the same way as with the Operational Programmes under the NSRF.

Priority axes/key operations	Comments
<p>PA 1: An innovative productive system</p>	
<p>1.1 Productive investments and preparation for market competition, especially for SMEs</p>	<p>The operation includes subsidies for a broad variety of purposes (tangible, intangible investment, ISO certification etc.) all of them very important for competitiveness of the SME sector; The operation is highly relevant and well justified by the SWOTs</p>
<p>1.2 Access to credit and financing instruments for SME</p>	<p>This operation includes innovative funding instruments (financial engineering) for SME in order to enhance access to credit; the intervention is very important to boost competitiveness (just with a view to R&D based enterprises where innovative financial engineering tools are more adequate than for traditional industries) and well justified by the SWOT</p>
<p>1.3 Entrepreneurship development</p>	<p>This is a rather heterogeneous operation including business incubators, cluster promotion and business consultancy. Although all these sub-measures appear relevant and justified it was recommended by the writer to consider the support of clusters under PA 2 as here anyway R&D and innovation is a major determinant. The same could be said for business incubators. For a programme supporting competitiveness and innovation these could be better captured by R&D infrastructure under PA 2. Status: The recommendation was not considered, simply due to practical reasons (including programming) which is understandable¹⁷. However, the support of simple business incubators (even though they might contribute to 'entrepreneurship development' as a <i>Lisbon</i> goal¹⁸) is to be questioned. Criterion should be national competitiveness. Hence, incubators funded under the SOP-IEC should accommodate start-ups/firms with the potential of contribution to national competitiveness. This stipulates a sufficient technology level and an international orientation. This issue has now been solved in a way to focus business incubators on enterprises in medium and high tech sectors. This is clearly addressed in a footnote of the programme document. In the operation the flexibility clause according to Article 34, Regulation 1083/2006 (ERDF funded</p>

¹⁷ There are also technical explanations as this kind of Clusters are expected to be innovation-driven by industry rather than research, and envisage promotion of integrated productive systems, increasing the quality of products and services and sustaining SMEs to become long term providers. However, it is hard to identify a dividing line between both approaches.

¹⁸ The simple increase of the number of SMEs (in the sense of entrepreneurship) does not say anything about economic competitiveness, even though support to any SMEs would enhance Romania's position in the EU statistics on SME shares in the national economies.

	HRD measures) is foreseen. It should be however assessed whether this flexibility provision is really necessary and whether it can be properly managed. Experience of other programmes show that a well co-ordinated parallel operation of ESF and ERDF programmes is administratively easier and not necessarily less effective than mixed or pseudo-mixed programmes and/or operations. ¹⁹
PA 2: Research, Technological development and innovation for Competitiveness	
2.1 R&D partnerships between universities/research institutes and enterprises for generating results directly applicable in the economy	Under this operation, partnerships between SMEs and research bodies and networking with international research are supported. The operation is highly relevant and SWOT-justified, but very demanding in terms of quality of applications. Cluster support (1.3) could be better supported under 2.1. Due to practical reasons (different ministerial responsibilities) this recommendation was not accepted. (for technical explanations see footnote above)
2.2 Investments in R&D infrastructure	This operation includes different high-level technology transfer infrastructures (laboratories excellence centres etc.). There is strong evidence of need from the SWOT. The recommendation to shift business incubators from 1.3 to 2.2 was not accepted due to practical reasons (Explanation above).
2.3 RDI support for enterprises	This operation supports high-tech micro-enterprises and spin-offs, SME internal R&D infrastructure and promotion of innovation. The activities are supposed to be partly cross-financed by the flexibility facility (Article 34, General Regulation). By and large, the measure is justified by the SWOTs but needs to be better described in its instruments. It is recommended to include business plan competitions for spin-offs and highly innovative start-ups as this kind of measure has proved to generate a high level of commitment and sustainability ²⁰ . With respect to coherence it is to be stressed that there is some potential overlapping with the ROP. The dividing line between SME support in both programmes is size. Micro-enterprises (excluding high-tech start-ups) are supposed to be the target group of the ROP. Here, a consistency and coherence problem was obvious. <u>Status:</u> There have been consultations

¹⁹ The reference to the flexibility facility was recommended in the Commission comments and also by the *aide memoire*; if it is not mentioned it cannot be activated.

²⁰ Cf. for instance the Objective-2-funded competition scheme: www.promotion-nordhessen.de, which was assessed as highly relevant and successful in the mid-term-evaluation of the Objective-2-programme Hessen 2000-2006.

	<p>between the two Managing Authorities. In the second version of the SOP IEC the problem has been addressed. However, there needs also be clarification and revision on the part of the Ministry of European Integration as the responsible MA for the ROP.</p> <p>Like for entrepreneurship development also in this operation the flexibility clause (ERDF funded HRD measures) is foreseen. It should be assessed whether the factual use of the flexibility facility is really necessary and whether it can be properly managed. Experience of other programmes show that a well co-ordinated operation of ESF and ERDF programmes is easier and not necessarily less effective than mixed or pseudo-mixed programmes and/or operations. Furthermore the mentioned possibility for young researchers (up to 35 years) to apply under the SOP HRD is in fact not available as described here (SOP p. 47)²¹.</p>
<p>PA 3 ICT for private and public sectors</p>	
<p>3.1 Supporting the Information technology use</p>	<p>This operation supports accessibility of SME to ICT (Internet, broadband connections etc.) and public authorities to set-up access points. Target areas are the lagging 'market failure regions'. Principally this operation is well justified by the SWOT. Market failure regions are not identical with laggard regions. This needs to be made clear otherwise it would trigger confusion (mixing up with the term 'lagging regions'). To be consistent with the SWOT, this operation should fill gaps in accessibility in regions with a major growth and innovation potential of SMEs. Although there is a common agreement regarding the need to reduce the digital divide, it is less clear why private operators have not been investing in broadband connections in certain areas of the country. The reasons for such market failure should be exposed in the programme as they underpin the need for public intervention. E.g. it should be possible to measure internet benefits for different areas.</p> <p><u>Status:</u> In the second draft programme a sufficient explanation is given: ... 'In scarcely populated areas or where the distance from the exchanges to the final user is too long, the operators did not find it profitable to invest and upgrade or roll-out infrastructure in these areas on the grounds that expected demand is insufficient to ensure a positive return on investment...' (pp.61-62). It is however still recommended to further clarify that broadband coverage in 'market failure' areas is</p>

²¹ Only doctoral and post doctoral studies will be financed; according to the MA the text will be revised.

	necessary for enhancing national competitiveness. ²²
3.2 Developing and increasing the efficiency of modern electronic public services (E-Government, E-Education, E-Health)-	This operation supports public e-services. Principally such activities are justified, but as this measure addresses the public in general and not just the private sector, more analysis is to be elaborated on its impact on economic competitiveness in the economic baseline analysis. Standing alone, this chapter is not clearly defined and justified. The draft SWOT just says that there is a lack of public e-services. It is not clearly analysed why that is really needed in terms of competitiveness. If to be covered under the SOP Competitiveness just for practical or programming reasons, only secondary justifications could be put forward: E-government for a quicker communication and service delivery (also for the private sector), e-education for a more efficient qualification system and e-health for a more efficient health system reducing prevalence of sick-leave in the private sector. As indicated by the MA, this explanation will be included as a justification.
3.3 Sustaining the E-Economy	Here e-services of the private sector should be enhanced (electronic tender systems, electronic payments/transactions. Principally the operation is justified by the SWOT; from a logical point of view this operation would fit to information technology use under 3.1. For practical reasons an own operation has been created ²³ . This is acceptable.
PA 4 <i>Increased Energy efficiency and sustainable development of the energy system</i>	
4.1 Improvement of energy efficiency	This operation includes investment in the energy infrastructure (power capacities, networks etc.) in order to enhance efficiency. The operation is fully justified under competitiveness aspects and by the SWOTs. It is important to link new investment with increased efficiency. Oversupply is to be avoided, therefore energy demand should be focussed. The list of major projects is perhaps to be revised accordingly (<i>A Commission comment to be considered</i>). <u>Status</u> : The recommendation has been considered in the second programme draft in a way that reference to new capacities has been

²² The National Broadband Strategy (that will be put under public consultation) provides a diagnosis analysis, stating the digital gap between rural and urban areas and pointing out the market failure areas. Therefore, on the ground of demand-offer analysis, it will justify the clear need for public intervention, in order to increase the broadband coverage, boosting the economic competitiveness. In this respect, the third SOP version will include an annex with the broadband coverage and the need for public intervention in under-served rural and small urban areas.

²³ Under PA 3, Key area 1, hard infrastructure is supported, while under Key area 3 software is financed

	eliminated and a new operation for energy efficiency for consumers has been added.
4.2 Valorisation of renewable energy resources	New renewable energy systems are also very important to enhance efficiency and environmental protection. The operation is fully justified with respect to the SWOT.
4.3 Reducing the negative environmental impact of the energy system	As the existent inefficient energy capacities have a negative impact on the environment, measures of gas de-sulphurisation are necessary. It is however the question why this operation is adopted under the SOP-IEC and not under the SOP Environment. The reason for that has simply been the request of the Commission to cover this measure under the SOP-IEC. But despite that fact triggered by external decisions, still more clarity on justification of that operation under the SOP IEC is needed in the programme text.
PA 5: Romania, an attractive destination for tourism and business	
5.1 Promotion of the Romanian tourism potential	This operation comprises national promotion of tourism and its specific 'products' in Romania. The measure is justified by the SWOT and will be very important for enhancing competitiveness in a strategic sector of the Romanian economy.
5.2 Development of the national network of Tourism Information and Promotion centres	This operation is an auxiliary measure for 5.1. Here the necessary infrastructural investments for a national promotion of tourism are supported (networks, equipment, data base and tourism information system). The operation is likewise justified by the SWOT and will be important for enhancing competitiveness in a strategic sector of the Romanian economy.
PA 6 Technical Assistance	
6.1 Support to the SOP management, implementation, monitoring and control.	This operation facilitates project selection processes, programme management, monitoring and control. It is not a thematic field of intervention but justified and required by the regulation as such. The SMIS training and corresponding IT infrastructure are covered by priority 2 in the TA-OP. It needs to be checked with the Ministry of Public Finance, whether in the context of SMIS roll out to IB training will have to be covered by MA individually (A Commission comment to be considered). <u>Status:</u> In the second programme draft revision work was done. It now reads: '...The technical assistance priority axis of SOP IEC provides specific assistance for project preparation, monitoring, evaluation and control as well as communication activities, only with regard to the specificity of SOP IEC. The technical assistance of SOP IEC is complemented with the horizontal support of the OP TA, which provides assistance for the common needs of all the structures and actors involved in the management and implementation of the structural funds and ensures the general public awareness on

	<p>the role of the community support.’ However it would be better (for clarity) to more elaborate what is specific and what is more general. This brief paragraph still does not appear really sufficient to explain why there is TA in general and TA specifically for the SOP IEC. According to the MA, further discussions in the TA working group are expected to solve this issue.</p>
<p>6.2 Support for communication, evaluation and IT development</p>	<p>This operation facilitates the necessary communication process which is highly demanding for the SOP IEC with its large network of IBs. Moreover, evaluation and IT infrastructure is supported here. The measure is generally required.</p>

Apart from the consistence between the interventions and the SWOTs the evaluation should also view the internal consistence among the intended measures described above. The major question here is whether the programme with its priority axes and operations follows a synergetic approach. In terms of the internal consistence of the operations the following figure reveals a high level of synergy for the SOP IEC:

Ex-ante Evaluation
Operational Programme Increase of Economic Competitiveness

Analysis of the internal consistence of the interventions

	1.1 Productive investments esp. for SMEs	1.2 Access to credit	1.3 Entrepreneurship development	2.1 R&D partnerships	2.2 Investments in R&D infrastructure	2.3 RDI support for enterprises	3.1 Supporting the IT use	3.2 Modern electronic public services	3.3 Sustaining the E-Economy	4.1 Energy efficiency	4.2 Renewable energy resources	4.3 Reducing the negative environmental impact	5.1 Romanian tourism potential	5.2 National network of Tourism
1.1 Productive investments esp. for SMEs														
1.2 Access to credit	+													
1.3 Entrepreneurship development	+	+												
2.1 R&D partnerships	+	+	+											
2.2 Investments in R&D infrastructure	+	+	+	+										
2.3 RDI support for enterprises	+	+	+	+	+									
3.1 Supporting the IT use	+	+	+	+	+	+								
3.2 Modern electronic public services	+	+	+	+	+	+	+							
3.3 Sustaining the E-Economy	+	+	+	+	+	+	+	+						
4.1 Energy efficiency	~	~	o	o	o	o	+	+	o					
4.2 Renewable energy resources	o	o	o	o	o	o	o	o	o	+				
4.3 Reducing negative environmental impacts	~	~	o	o	o	o	+	+	+	+	+			
5.1 Romanian tourism potential	+	+	+	o	o	o	+	+	+	+	+	~		
5.2 National network of Tourism	o	o	+	o	o	o	+	+	+	o	o	o	+	

Explanation:

- +: synergy
- o: neutral
- ~: potential trade-off or displacement effect
- : trade-off or displacement effect

It is to be noted that the few potential trade-offs and displacement effects mean that those could only occur where projects are not selected with sufficient care.

3.4 Overall conclusions on rationale and consistency

The strategic rationale of the programme is fully justified by the analysis of the economic situation in Romania. Innovation and more knowledge-based economic activities are the overarching policy approaches to integrate the Romanian economy into the EU markets and to make it internationally more competitive.

While the rationale is fully justified the intervention logic shows still some weaknesses. So far, the consistency of the strategy is not more than implicit. There is no explicit link to the SWOT synopsis SWOT and strategy are not well geared towards each other. The position of this programme within the overall European policy framework is not described. Furthermore there is only little effort to define what is meant by 'competitiveness'. The aspects of the policy strategy are formulated vague and do not really respond to the specific problem. Furthermore, the structure of contents of the strategy chapter could be improved as described above.

The description of the policy remedies (i.e. the concrete interventions) is more or less satisfactory. There is still some formal information missing. The major points at issue are related to coherence issues with other OPs. In most cases overlapping of intervention can be explained and can be managed by close co-ordination. Practical reasons (ministerial mandates) are often the simple reason. In one case, a consistency problem was caused by the special desire of the European Commission to have a pure environmental measure in the SOP Competitiveness. The internal consistence of the interventions does not suggest trade-offs or displacement effects. In most cases synergies are to be expected.

The writer generally questions the approach of mixed or pseudo-mixed programmes. The SOP IEC pursues – in accordance to Article 34 (General Regulation) a pseudo-mixed approach for two operations (ERDF funds for ESF type measures but with planning and implementation according to ESF rules). The integration of ESF and ERDF within one programme has very often complicated the programming and implementation process implying relatively high transaction costs. A well co-ordinated but independent intervention of both funds (the so-called 'mono-fund' approach) can be more efficient and at the same time equally effective. The Managing Authority wishes to keep this flexibility facility as an option. But then, at least the later use of this facility should be carefully assessed in the individual case.

Major concrete recommendations are:

For the chapter on the strategy the following recommendations should be considered:

- The strategy chapter could be further improved by a more consistent structure of contents. The writer recommends a sequence of sub-chapters, which would also comply to the information required by the Commission *aide memoire* (details on that see above).
- The role of that programme in Romania's process of catching up to the average level of development of the EU and thus market integration should be more explicitly considered. Indirectly this programme will contribute to strengthen real convergence and thus to facilitate Romania's ERM II process.
- For efficiency reasons it is recommended to first elaborate a reviewed version of the economic baseline analysis and the SWOT synopsis before reviewing and further editing the strategy chapter.
- It is recommended also to mention the EFF programme and the foreseen EIB activities in the same way as with the Operational Programmes under the NSRF.

As regards the description of the priority axes the following major recommendations are made:

- Measure 1.3 (entrepreneurship): The difference between entrepreneurship development under the Lisbon strategy and knowledge economy should be considered. The programme should strive for supporting higher technology levels, not simply entrepreneurship. This applies to;
- Measure 2.3 (RTD for enterprises): The administrative implication of the application of the flexibility clause (Article 34, Regulation 1083/2006) should be recognised; moreover, some more co-ordination between the MA of the ROP and the MA for the SOP IEC is needed in order to avoid un-coordinated overlapping and inconsistencies
- Measure 3.1 (Supporting IT) It is recommended to further clarify that broadband coverage in 'market failure' areas is necessary for enhancing national competitiveness.
- Measure 4.3 (Reducing the negative environmental impact of energy): more clarity on justification of that operation under the SOP IEC is needed in the programme text.
- Measure 6.1 (Support to the SOP management): In order to distinguish between TA within the programme and the SOP TA, more clarity is needed on the difference between general and specific TA.

4 Appraisal of the coherence of the strategy with EU, National and Regional policies and the Community Strategic Guidelines

4.1 Appraisal of the compatibility of the strategy with regional, national and EU policy objectives

4.1.1 Lisbon strategy

The re-launched Lisbon Strategy has become integral part of the Community Strategic Guidelines on Cohesion (see below). Therefore, here the analysis of coherence is not separately done.

4.1.2 SME Policy

As regards coherence of the SOP IEC with the national SME policy one can ascertain a high degree of compatibility. The five priorities of the Romanian Government in support of SME development in the period 2004-2008 are:

- Creating a business environment supportive of SME development and growth
- Developing SME competitiveness
- Improving SME access to financing
- Improving SME export performance
- Promoting an entrepreneurial culture and strengthening management performance

and pursue the same objectives as the priority axis 1 and 2 (productive investment, financial engineering, credit access, entrepreneurship development, R&D support to enterprises). The scope of the SOP goes beyond the focus of the Romanian SME policy, but between the other priority axes (3, 4 and 5) no incoherence is visible.

4.1.3 R&D Policy

The Romanian R&D policy explicitly addresses the relationship with the NDP and the SOP Economic Competitiveness. The elaboration of the SOP has been closely co-ordinated with the NASR:

‘... During 2005 the project of the Strategy for NDP 2007-2013 was finalized. The strategy establishes six national development priorities, out of which the first one is „the increase of economic competitiveness and the development of the knowledge based economy”.

The SOP for Increasing Economic Competitiveness (SOP IEC) is coordinated by the Ministry of Economy and Commerce as Management Authority. The Programme was developed on the basis of objectives

corresponding to the first priority of the NDP Strategy, by a specific thematic working group, where NASR – IBSR is permanently represented.

In the finishing off process of SOP IEC 2007-2013 and in the process of identification the R&D projects portfolio, NASR – IBSR has organized several consultative meetings of the relevant R&D field partners, public and private, existing at local, regional and national level. ...' (cf. NASR: Annual Report 2005 on Government Policies in the field of R&D and Innovation)

Worth mentioning is the focussed approach of the Romanian R&D policy on the close co-operation between R&D institutions and the private sector in order to reap research outputs for innovation on the markets. Targets are an increasing the degree of assimilation, application and development of advanced technologies in the economic environment (i.e. stimulation of research-industry cooperation through the national R&D and innovation programmes, encouraging the participation of the private sector in R&D activities (i.e. launching technology platforms at national level), development of mechanisms providing technology transfer to the economy, including S&T parks and linking R&D and innovation activities with the industrial policy of Romania. Just these objectives are also pursued by the priority axis 2 of the SOP IEC. Issues of incoherence are not visible.

4.1.4 Tourism Policy

The formulation of Romanian tourism policy is largely based on analysis and recommendation of the WTTC. According to WTTC travel and tourism should be factored into mainstream policies for employment, trade, investment, education, culture and environmental protection. The strategic importance of travel and tourism (as a national factor of competitiveness) should be communicated to all levels of government, industry and local communities. All government departments affected by, or engaged in, tourism development should be closely involved in drawing up tourism policies and in planning and co-ordinating individual programmes.

Furthermore, the Romanian government should initiate an image campaign to ensure that all public and private stakeholders recognize the important impact of tourism across the national economy. Even more importantly, stakeholders should be made aware of its untapped potential and of the spin-off benefits of tourism that trickle down through all levels of the community.

Proposed measures include:

- Highlight and communicate the strategic importance of tourism
- Plan for the future
- Ensure that quality statistics and information feed into policy and decision-making processes
- Empower national Travel & Tourism institutions to drive forward development of the industry
- Co-ordinate infrastructure development which supports Travel & Tourism
- Create a competitive business environment that encourages investment
- Balance the economy with environment, people and cultures
- Develop the human capital required for Travel & Tourism growth

- Promote product diversification that spreads demand
- Bring new funding and co-ordination into promotion and marketing
- Favour technological advancement

This recommended strategy pursues a national framework for tourism in a way to promote Romania as a Tourism destination. Due to the fact that in the last decades Romania has suffered from a declining image, the idea to focus tourism policy on the national image and to set-up national co-ordination structures is more than logical. Without a national promotion and co-ordination effort, the Romanian tourism regions (e.g. the Black Sea coast or the Carpat mountain area) would not receive sufficient international attention to reap the enormous comparative advantage (national competitiveness) of that sector. The SOP IEC has adopted this important strategic orientation through (i) the promotion of a national tourism brand and marketing of the national destination Romania and (ii) to equip the co-ordination and promotion bodies with the required technical infrastructure.

As regards policy coherence, the SOP IEC and the Romanian tourism policy are compatible and co-ordinated. The national target of balancing the economy with the environment should be stressed in the description of the priority axis and the discussion of the environmental dimension of the SOP IEC. A similar recommendation is included in the SEA report. According to the MA, this recommendation was accepted.

4.1.5 Energy Policy

Upon accession Romanian Energy policy has to comply to European legislation. The power sector of Romania is still in a bad shape, both economically as well as environmentally. The energy sector has to be opened up and liberalised in order to become competitive and integrated into the European energy market. This process is still running. Only an efficient energy production can attract foreign and domestic investment, as energy is usually an important and critical cost factor. For the implementation of EC Directive 2001/80/Ec, The Romania Government has therefore prepared a draft of Government Decision for the limitation of the emissions in the atmosphere coming from big power units i.e. over 50 MW, at the level of the EC Directives (for solid, SO₂ and NO_x emissions).

The Cartea Verde (O strategie europeana pentru energie durabila, competitiva si sigura) underscores the need of enhancing production capacities of the renewable energies in order to sustain energy supply and to make it competitive by a mix of different renewable energy sources.

The SOP IEC has adopted the Romanian energy policy through the improvement of energy efficiency and the valorisation of renewable energy sources. With the third key area of intervention within the priority axis 4 (Reducing the negative environmental impact of the energy system) the SOP IEC aims at contributing to the fulfilment of the directive 2001/80/EC.

Hence, the SOP IEC and the Romanian energy policy appear fully coherent.

4.1.6 Regional Operational Programme

There are still major coherence issues between the SOP IEC and the ROP:
Under priority 3, the ROP supports setting-up partnerships between enterprises and regional research and technological development institutes, in line with the Regional Innovation Strategies (RIS). Here, the use of R&D results aims to improve regional competitiveness in capitalising specific resources, leading to job creation, and inclusion of areas in decline within the economic circuit. To be coherent with the SOP IEC the dividing line is to be much better defined. The present programme drafts both support R&D based investment. The difference between regional competitiveness and competitiveness in general is to be defined. In principle such a clarification should be also made in the ROP.

As long as practical reasons do not rule out, it is recommended to recall Recommendation 26 (debriefing table) and to support science/R&D related incubators under the SOP IEC and to support regional (ordinary) business incubators under the ROP. R&D based enterprises have *per definitionem* a national relevance for competitiveness and should be supported only by the SOP IEC. It is true that simple business incubators could be regarded as a contribution to Lisbon (in term of entrepreneurship development), but they hardly contribute to national competitiveness. Otherwise, a very clear explanation and justification of that apparent cross contradiction would be required.

Business support structures under the ROP are also aimed at contributing to the enhancement of Romania's competitiveness within the framework of an enlarged European Union, which will create the basis for a better integration of the national economy within the European economy. This can only be a secondary objective of the priority 3 of the ROP. Otherwise this would duplicate the purpose of the SOP IEC. A clear dividing line is needed.

More analysis should be based on the second or third draft programme and follows later.

4.1.7 SOP HRD

The interaction of the SOP HRD and the SOP IEC is of specific relevance. Here no real overlapping is to be apprehended but issues of suboptimum use of synergies. Both programmes are complementary. The SOP HRD is at the supply side of the required high-level workforce needed to realise competitiveness of the Romanian economy. Here the SOP IEC represents a generator of the demand side. Therefore, there should be a clear and formal exchange between both programmes on requirements of training/qualification.

Regarding the activities under 3.2.3.1 of the SOP HRD (Promoting entrepreneurial culture) it is important not only to ensure the complementarity with the OP-IEC, but also to consider a way to organize projects that will benefit from both funds. In the implementation of the programme it is recommended to co-ordinate both OPs rather than utilising the flexibility facility (Article 34, Regulation 1083/2006). A genuine ESF measure under the SOP HRD supporting

young researchers (up to 35 years) which should apparently contribute to the priority axis 2 of the SOP IEC is in fact not foreseen under the SOP HRD. This passage needs to be revised in the SOP.

4.1.8 SOP Environment

Environment and competitiveness need to be linked in a synergetic way, otherwise policy runs the risk of a trade-off trap. Principally, increase of competitiveness is based on technological innovation. Technological innovation is the engine for structural change. Increased cost-efficiency of production is inherent in any innovation process. In other words the average resource consumption (input) per unit will be reduced through an innovation process (e.g. machinery consuming less energy or reduced communication cost through the internet. Moreover, R&D input into enterprises may also contribute to new standards, new products (eco-substitutes) and changed preferences among the consumers altogether leading to more sustainable development²⁴. This principle should be a matter of permanent consciousness among the stakeholders of the SOP IEC. There should not be the temptation to provide funding and other support to the private sector just to secure jobs or to counteract structural change. One should note that it is rather easy to label anything with the attribute 'innovative'.

For instance under priority axis 1 business incubators can be supported. It is again to be stressed that these should literally focus on genuine R&D or high-/medium-tech enterprises, otherwise running the risk of creating a trade-off regarding the environment.

4.1.9 SOP TA

After revision work there are no more immediate issues of coherence between the SOP IEC and the SOP TA. The specific technical assistance of SOP IEC is complemented with the horizontal support of the OP TA, which provides assistance for the common needs of all the structures and actors involved in the management and implementation of the structural funds and ensures the general public awareness on the role of the community support. In the programme text it would be better (for clarity) to more elaborate what is specific (in the sense of the operation under the SOP IEC) and what is more general (horizontal in the sense of the SOP TA). This brief paragraph still does not appear really sufficient to explain why there is TA in general and TA specifically for the SOP IEC (see above). According to the MA, the TA working group will further work on that issue.

4.1.10 SOP Transport

Between the SOP IEC and the SOP Transport no immediate issues of coherence are visible.

²⁴ According to the MA, these ideas will be included in the horizontal policy subchapter.

4.1.11 SOP Administrative Capacity

Between the SOP IEC and the SOP Transport no immediate issues of coherence are visible. Both programmes are complementary. Worth mentioning is the operation concerning the support granted to local administration for building up integrated Information Systems which is related to the supply of general training for the E-Government field in the SOP "Administrative Capacity Development". These actions are sufficiently co-ordinated.

4.1.12 EARDF and EFF programmes

The analysis of coherence between the SOP IEC and those two programmes cannot be evaluated since no drafts of those programmes have been made available yet. In the second version of the programme document few remarks on coherence between the priority axis 4 of the SOP-IEC and the NRDP are made. As regards fisheries (EFF), no immediate issue of coherence is visible, however, the Romanian fisheries sector (just as agriculture) can also have a relevance for national competitiveness²⁵, hence the relationship should be described.

4.2 Appraisal of the compatibility with the NSRF and the EU Strategic Guidelines

4.2.1 The Lisbon Growth and Jobs Strategy and the Community Strategic Guide lines on Cohesion

The three major strategic prongs of the Community Strategic Guidelines on Cohesion are

- An improved attractiveness of Europe and its regions for investment and the labour force
- Support of knowledge and information for growth
- More and better jobs

European Cohesion policy is hence a major factor in the re-launched Lisbon (Growth and Jobs) Strategy. It goes without saying – and does not need a more detailed analysis - that the SOP IEC aims at contributing with all its priority axes to just these objectives mentioned above. The SOP IEC is fully coherent with the Community Strategic Guidelines on Cohesion.

4.2.2 National Strategic Reference Framework

The Romanian NSRF is only available as a draft version. Under its chapter 3.2 all strategic threads are discussed. One of them is 'Increase the Long term Competitiveness of the Romanian Economy'. This chapter alone spells out the same strategic orientation as the SOP IEC. The priorities defined in the NSRF are

²⁵ Also here, R&D based investment is possible, therefore the possible upstream linkages between agriculture and fisheries and the respective agricultural or fisheries technology developed by the Romanian industry could be mentioned.

- Productivity growth and creation of a dynamic business base,
- Business support services and infrastructure,
- Certification & Eco-innovation,
- Entrepreneurial Development,
- Access to Finance,
- Research, Technological Development and Innovation,
- Information and Communication Technology; and
- Tourism.

Energy efficiency is covered by the chapter on developing basic infrastructures to European standards.

The strategic orientation of the SOP IEC is clearly reflected in the NSRF; moreover the SOP IEC is constituent component of the NSRF. There are no visible issues of incoherence.

4.3 Appraisal of the compatibility with EU horizontal objectives on Environment, Equal opportunities and Information society

4.3.1 Environment

The European sixth environment action programme identifies four priorities:

- climate change
- nature and biodiversity
- environment and health, and quality of life
- natural resources and waste.

As regards the SOP IEC innovative technologies introduced in the Romanian private sector will have either a positive, but at least neutral impact on the climate change. In relation to the expected economic growth this is to be regarded positive. Sustainable economic growth will moreover ensure a higher quality of life with an improved environment and better public health. In terms of natural resources, the more efficient and sustainable use of energy will have an important positive impact on the environment. The key intervention area 4.3 directly addresses the protection of the environment.

The priority on tourism should also adopt the environmental protection as a major objective. According to the MA, the respective SEA recommendation has been accepted.

Within the SOP IEC no sectoral policy is pursued which is to be appreciated from the viewpoint of functioning markets. However, selection of project proposals should be sensitised - wherever relevant - by the fact that eco-innovation and 'green technologies' have an enormous growth potential which is important for competitiveness:

Eco-innovation and 'green' technologies are not just good for the environment. They also offer opportunities for economic growth — making good business sense and giving EU companies a competitive edge.

The world market for environmental goods and services was estimated at over € 500 billion in 2003. This makes it comparable in size to the aerospace and pharmaceutical industries. And, with a growth rate of around 5 % per year, this market is growing faster than the economy of the EU. It also creates new jobs.

The EU is making the most of this opportunity. Europe already has 'first-mover' advantage in wind energy technology. The Environmental Technology Action Plan aims to give the EU the same competitive head start for other environmental technologies. The plan makes it easier to obtain finance for new technologies and to validate their performance. It also promotes best practice, and encourages governments and local authorities to 'buy green'. Protecting the environment can thus be a positive spur to economic and social progress. It is a 'win-win' strategy

(cf. A Quality Environment: How the EU is contributing, Brussels, 2005)

4.3.2 Social inclusion

The overarching European objectives of the OMC for social protection and social inclusion are to:

- promote social cohesion and equal opportunities for all through adequate, accessible, financially sustainable, adaptable and efficient social protection systems and social inclusion policies;
- interact closely with the Lisbon objectives on achieving greater economic growth and more and better jobs and with the EU's Sustainable Development Strategy; and
- strengthen governance, transparency and the involvement of stakeholders in the design, implementation and monitoring of policy.

The relationship of the SOP IEC with the objectives of social protection and social inclusion is more indirect in terms of social protection systems and government transparency as it is predominantly a programme for enhancing economic growth. Nevertheless, inclusion of all social groups implies an increase and stabilisation of the participation rate on the labour market leading to more sustainable growth, which is again needed for integration into the EU economy. In the SOP IEC disadvantaged groups are particularly addressed by Priority axes 1 (e.g. part-time work, tele-work) and 3 (access to small and isolated communities through broadband infrastructure). Therefore there is an important relationship with the second a.m. objective in terms of interaction with the Lisbon goals. Economic growth will then lead – given there is a transparent governmental system – to an improvement of the social protection opportunities and systems.

Equal opportunities should not be restricted to priorities 1 and 3 but addressed by all priorities (either directly or indirectly).²⁶

²⁶ According to the MA, equal opportunity is ensured mainly through preference points in the projects assessment process (as already stated in the programme complement). The explanation will be also mentioned in programme document.

4.3.3 Information Society

The Commission Communication 'i-2010: A European Information Society for Growth and Employment' underscores the following strategic threads:

- the completion of a Single European Information Space which promotes an open and competitive internal market for information society and media;
- strengthening Innovation and Investment in ICT research to promote growth and more and better jobs;
- achieving an Inclusive European Information Society that promotes growth and jobs in a manner that is consistent with sustainable development and that prioritises better public services and quality of life.

The SOP IEC aims at filling infrastructural gaps in the coverage of the information society (particularly with priority axis 3: ICT for private and public sectors). This should contribute to the completion of the European Information Space (bullet 1). Under priority axis 2 R&D activities and networking also include ICT research and innovation (bullet 2). As a horizontal objective of priority axis 2 social inclusion is addressed. The intended introduction of e-economy, e-government and e-health service delivery is aimed to be improved for the whole society (bullet 3).

The SOP IEC contributes to the European Information Society and is fully coherent with the overall supranational European policies.

4.4 Results of the Strategic Environmental Assessment (SEA)

The 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 the Romanian 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). The full SEA report is annexed to the ex-ante evaluation report.

4.4.1 Major findings

The implementation priority axes of the SOP 'Increase of Economic Competitiveness' will probably have significant effects on the environment. The writer is convinced that, if interpreting the term 'increase of economic competitiveness' in a way to optimise the relationship between resource input and production output the environmental effect can only be either neutral (with additional output) or positive (same output with less resource input). This is, however, pure economic theory, and the SEA team has been right to point out that there are risks. Therefore, the recommendation of the SEA team to stress the need of 'increasing Romanian companies' productivity, *in compliance with the principles of sustainable development*, and reducing the disparities compared to the average productivity of EU' is justified even though the formulation might sound tautological. The same can also be underscored for the specific objectives, namely *environmentally friendly development* of the Romanian productive

sectors, favourable environment for *sustainable* enterprises' development, and promotion of *sustainable* tourism development in Romania²⁷.

The SEA has consequently concluded that mostly neutral and positive effects are expected from implementation of the measures to be carried out under SOP IEC. But there are risks, and negative effects may occur if e.g.: Natura 2000 protected sites will be identified in the locations or close to the operations to be funded from the SOP and if EIA procedures are not carried out or not carried out properly (e.g. the relevant stakeholders and the public are not involved prior to the activities that are likely to have significant environmental effects), that is, if in general, production costs will be kept low through externalisation and not through conscious optimisation of overall resource efficiency (i.e. sustainability).

Key mitigation measures of the SEA team were proposed for SOP IEC as follows:

- projects have to be screened for EIA. If EIAs are carried out, special consideration should be given to alternatives reducing the impact on Natura 2000, landscape fragmentation and green-field developments;
- priority support should be given to the investments that promote BAT technologies and application of sound environmental management practices (EMAS, ISO EN 14001) in the supported facilities;
- priority support should be given to the investments that promote reduction of energy consumption, increase energy efficiency, lesser energy demand (e.g. oil and gas), reduction of environmental emissions (especially air) and those promoting sustainable use of the natural resources;
- priority support should be given to the projects enabling PT use (e.g. rail versus road and measures aimed at PT promotion);
- projects that will be selected using the proposed environmental selection system (see below) should be prioritised in the overall SOP IEC funding;
- projects that help to fulfil Romania's environmental obligations assumed by international agreements and treaties.

During the assessment, a system for environmental evaluation and selection of project applications was proposed (as an additional measure to prevent, reduce or offset any significant adverse effects on the environment). The system for environmental evaluation was designed in two stages with a pre-project environmental evaluation during project preparation and a formal environmental evaluation during the official selection procedures.

In order to ensure monitoring, it was recommended:

- to incorporate the environmental indicators proposed into the overall system of monitoring the ROP implementation impacts;
- to connect the monitoring system to the system of evaluating and selecting the projects, using environmental criteria;
- to publish the results of monitoring regularly (at least once a year);
- to ensure sufficient personnel and professional capacities for environmental areas within the SOP monitoring;
- to involve the Ministry of Environment and Water Management into the discussion about the overall system of monitoring and especially the way of incorporating environmental issues into the overall system before it is launched; and
- to ensure that the applicants are informed sufficiently about environmental issues and about possible links of the draft projects to the environment.

²⁷ It was already recommended during the ex-ante evaluation process to consider environmental protection under the priority axis for tourism.

4.4.2 Conclusions

The recommendations formulated by the SEA team appear justified, fair and balanced. The ex-ante evaluator supports those recommendations. The final programme version has not been finalised by the cut-off date of the evaluation report. Therefore, the ex-ante evaluator has not had the opportunity to assess in how far the mentioned conclusions and recommendations of the SEA report have been considered in the final programme version (except the recommendation of including an objective of environmental protection into the priority axis on tourism). The writer is however convinced that the Managing Authority will seriously consider the SEA recommendations so that there will not be corresponding qualitative deficiencies in the programme document.

4.4.3 Consultations

The environmental report was prepared in close co-operation with the Managing Authority. Consultation with other relevant authorities (relevant ministries and agencies) has been done through the Working Group (WG) established for the purpose of the SEA. In order to involve the public in the consultation on preparation and assessment of the SOP IEC, the SEA team initiated the establishment of the web-page within the Managing Authority where the SEA working documents and other relevant information were posted. Visitors of the site were invited to comment on the draft documents in writing and could register to take part in the public debate. The public consultations based on this report took place on 19 January 2007.

4.5 Overall conclusions on the coherence of the strategy

As regards the national policies (SME policy, tourism, R&D policy and also energy policy) things appear well co-ordinated. This can be confirmed in the evaluation report. In the programme document a comprehensive analysis of coherence and policy synergies is given. There are also no issues regarding Lisbon, the CGC and the environment (except that some related environmental policy strategies should be added for the tourism priority (p. 68)). Equal opportunities should be covered by all priority axes (not only, as here the case, 1 and 3). Major coherence issues appear when viewing the interaction among the SOPs/ROP. However, effort is needed from the part of the ROP (rather than the SOP IEC) to define a clear demarcation line which reveals complementarity and synergy between programmes. It is advised to revise the orientation of the ROP to enhance economic integration of Romania into the EU. This is the characteristic purpose of the SOP IEC and should not be duplicated.

5 Evaluation of expected results and impact

5.1 Quantification of objectives at programme and priority level

At programme level the target is an average annual growth of GDP per employed person by about 5.5%. According to the planners this could allow Romania to reach approximately 55% of the EU average productivity by 2015. The National Commission for Forecast (CNP) and World Bank empirical research support this target so that it can be assumed realistic. However, one has to be aware that this forecast-justified economic goal is based on numerous assumptions which will not necessarily be realistic during the entire programming cycle. Long-run forecasts are always uncertain. Moreover, this policy objective is not exclusively related to the SOP but is a general forecast based on all economic variables explaining growth (as regards the possible impact of the SOP IEC see chapter 5.2.2).

The specific objectives are defined as the following ones

(1) 'Consolidation and growth of the Romanian productive sector': This objective is just qualitatively explained. The explanation remains rather general and virtually captures the idea of the whole programme. As an indicator and objective this is not practicable for programme monitoring.

(2) 'Establishment of a favourable environment for enterprises' development': The fulfilment of the two above objectives is quantified by the increase of SME's share within GDP by 10 percentage points in 2015. Assuming a further growth of the SME sector as it has been since 1999 (cf. Economic analysis of the first programme draft) this objective is realistic. It is however to be stressed, that the gain of ten percentage points should be based on economic growth but not shrinkage of the large enterprise segments of the economy. The SOP IEC will certainly contribute to that target.

(3) 'Increase of the R&D capacity, stimulation of the cooperation between RDI institutions and enterprises, and increase of enterprises' access to RDI': According to the planners the achievement of this objective should contribute to Romania's aim to increase the gross domestic R&D expenditures (GERD) to 3% of GDP by 2015. The objective of three percent is a political one, closely related to the Lisbon strategy. From the viewpoint of the writer, even the catching up of just 0.4 percentage points to reach the present average of the EU would be a quantum leap for Romania. The political target should remain, but it should be clear to the political decision makers what it really means. It goes without saying that the SOP IEC will contribute to increased R&D expenditure at national scale.

(4) 'Valorisation of the ICT potential and its application to the public (administration) and private sector (citizens, enterprises)'
The target is the increase of Internet users' number (enterprises' access to on-line services) from 52% in 2003 to 70% in 2015. This target can be assumed realistic. But it should be borne in mind that just as internet has been a genial innovation, other innovations within rather short periods of time might make this

target obsolete. The time horizon 2015 is already rather long.²⁸ According to the responsible Intermediary Body, the target will be possibly replaced with the broadband penetration rate (as number of broadband connections per 100 persons), which is a more specific and relevant indicator). The proposed target is then: increase of broadband internet penetration rate from 3.5% in 2005 up to 25% in 2015.

(5) 'Increased energy efficiency and sustainable development of the energy system':

The envisaged objective of the SOP is to contribute to the following national targets: the reduction of the primary energy intensity by 40% compared to 2001, the 33% share of electricity produced from renewable energy resources in the gross national electricity consumption by 2010 and the reduction of emissions in the energy sector according to the National Programme for the reduction of sulphur dioxide (SO₂), Nitrogen Oxide (NO_x) and dust emissions from large combustion plants. As it is a national target and independent from the SOP IEC, the writer cannot further comment on it, except that the SOP IEC will certainly contribute to the achievement of those targets.

(6) Promotion of Romanian tourism potential

The target is to increase tourism flows in Romania by 20%, by 2015. Since the programme only intervenes at the national level (policy framework, promotion and networking) the impact of the SOP IEC can only be indirect. Growth of the tourism sector will be generated in the tourist sites of the country.

5.2 Evaluation of expected results

5.2.1 Indicators and expected outputs and results

In the following chapter quantified outputs and results are assessed. The evaluation does not address the original indicators and quantification in the first and second programme draft but the newly agreed list of indicators prepared by Dietmar Welz.

Due to the fact that for Romania as a new EU member country, as of 2007, there are no forerunner programmes where to determine possible quantifications. The writer has therefore recommended to imagine typical projects (i.e. what for example is intended by the specific operations) and to calculate desired outputs and results against costs. According to the evaluator for the indicator system just this has been done. Therefore we assume the ex-ante quantifications to be plausible in general. In general the column for baseline values should be deleted. Since results and outputs are strictly programme related, baseline values are consequently always zero. The inclusion of baseline values is therefore not only useless but also confusing if data are automatically re-calculated in monitoring/spreadsheet applications. For instance, relative variations (percentage) then appear as error (x/0). Baseline values are only relevant for impact indicators.

²⁸ As an example, in the beginning of the 1990s the so-called interactive videotext (in France Minitel, in Germany BTX) has been also co-funded by the Structural Funds. That technology has been something of a forerunner of the internet. The revolution of the internet since mid-90s has rendered the BTX and all the investments undertaken valueless within few years.

At programme level the following indicators including quantification have been defined.

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Global Impacts					
Induced growth rate of GDP (national indicator, with an impact contribution of the SOP)	annual rate in %				5.5
New jobs induced by the SOP IEC (including its multiplier impacts)	number FTE				100,000
Specific Impacts					
Increase of SME's share of GDP	up to % of GDP				10
Increase of gross domestic R&D expenditures (GERD) share of GDP	up to % of GDP				3
Enterprises with access to on-line services (of total number of enterprises)	%	52	2003		70
Additional population covered by broadband access	increase in %			SMIS / surveys	10
Increased market share of renewable energy production in total consumption	increase of share in %				1
Increased tourism flows in Romania	rate of growth in %				20

As regards the global impact, the standard indicator (jobs created) has been selected. It should be made clear whether it means net or gross jobs. Gross jobs is understood as a result indicator rather than one measuring impacts (which would be net jobs). Induced growth rate of GDP per employee measures the growth rate of productivity. Both indicators are relevant and plausible in their quantification. An input-output estimation (see below) forecasts, by 2009, already 119,000 new jobs induced by the SOP IEC. This forecast seems to be rather optimistic; a conservative forecast of 100,000 new jobs generated by the SOP IEC until 2015 is therefore an acceptable quantification.

Although the indicator list should be kept brief and simple, a genuine competitiveness indicator is still missing. It is recommended to include an operational indicator measuring market integration (e.g. the Grubel-Lloyd index). Alternatively a productivity-related indicator could be appropriate. The other indicators are already assessed under chapter 5.1.

At priority axis 1 the following indicators are specified:

Priority Axis 1 An innovative productive system

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Assisted SMEs for direct investments	number	-	-		1,000 (with an average grant size of 250.000 Euro)
Assisted SMEs for certifications	number				1,500
SMEs that participated in international fairs	number	-	-	SMIS	1,200
Local guarantee funds participating in the grant scheme	number	-	-	NCGF for SMEs	10
Newly created/or empowered incubators	number	-	-	SMIS	20
Result					
Jobs created in assisted enterprises	number / FTE	-	-	SMIS	2,500
Firms that implemented ISO 9001	number	-	-	SMIS	1,000
Firms that implemented ISO 14001 or EMAS	number	-	-	SMIS	500
Investment of assisted firms that implemented ISO / EMAS	M Euro	-	-	SMIS	280
Increase in exports of assisted SMEs.	%	-	-	SMIS	10%
SMEs recipients of guarantees	number	-	-	SMIS	600
Volume of granted guarantees	M Euro	-	-	SMIS	120
Incubated start-ups	number	-	-	SMIS	500
Enterprises benefiting of consulting services	number	-	-	MET	2,000

The indicators for Priority Axis 1 as such are justified. The transmission from the output to the result indicators is implicitly visible.

The quantification of the first output indicator ('Assisted SMEs for direct investments') appears too low. E.g. the updated mid-term evaluation of the Objective 2-Programme Hessen (Germany) found around 200 enterprises supported by grants amounting to 32 million Euro²⁹. In Romania more than 625

²⁹ PRAC 2005, Aktualisierung der Halbezeitevaluierung des Ziel-2-Programms Hessen (2000-2006), Bad Soden, pp.33-34, (report downloadable under www.efre-hessen.de).

million Euro are allocated for such grants³⁰, making up twenty times more than for the mentioned German programme. I.e. minimum 4,000 enterprises could benefit from grants in Romania. Since the price level in Romania is still much lower than that in Germany, the quantification could be even considerably more than 4,000.

The result indicator 'jobs created in assisted enterprises' is not well defined. It is neither clear whether those jobs are gross or net jobs³¹ nor is it clear what is meant by 'assisted enterprises'. In relation to the forecast overall employment impact 2,500 jobs appear rather low, even if those are only attributed to Priority Axis 1.

If 120 million Euro are foreseen for guarantees the question is whether the rest of 84 million Euro of the allocation of operation 1.2 (Access to credit and financing instruments) is devoted to other financial instruments. In this case either all targets are to be quantified (i.e. guarantees, venture capital, credit) or one indicator for the most innovative financial instrument among the possible ones (venture capital) should be specified. It is recommended to define 'Volume of venture capital shares: e.g. minimum 75 million Euro' replacing (or complementing) the indicator for the guarantees³².

At priority axis 2 the following indicators are specified:

Priority axis 2 Research, Technological Development and Innovation for Competitiveness

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Total of supported R&D projects	number	-	-	SMIS	800
Joint projects realized by R&D Institutions and enterprises (R&D partnerships)	number	-	-	SMIS	200
Enterprises supported in R&D partnerships	number	-	-	SMIS	300
Replaced by R&D centres connected to international networks supported by electronic platforms of GRID/GEANT type	number	-	-	SMIS	80

³⁰ Cf. the table of categorisation in the programme document under code 08: Euro 625,625,308.-

³¹ Normally the concept of gross employment is pursued.

³² As the innovative financial instruments operation will start later, the MA prefers the guarantee indicator. However, as there is the clear objective to include innovative financial engineering tools (even with the assistance of JEREMIE) it is recommended to include this indicator. 75 million Euro are considered as a moderate target.

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Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Supported high-tech start-ups and spin-offs	number	-	-	SMIS	50
Public expenditures in assisted RDI projects	mil EUR	-	-	SMIS	495
Result					
New jobs created in assisted beneficiaries (research related)	number / FTE	-	-	SMIS/beneficiaries	200
Direct private expenditures in supported RDI projects	mil EUR	-	-	SMIS/beneficiaries	240
New products and processes	number	-	-	SMIS / beneficiaries / surveys	300
US and EPO patent applications	number	-	-	SMIS / beneficiaries / surveys	50

The indicators for Priority Axis 2 as such are justified. The transmission from the output to the result indicators is implicitly visible.

Two output indicators and one result indicator are not yet quantified. The result indicator 'enterprises involved in R&D partnership' is too vague. It should be clearly defined what is meant by 'involvement'. It could be anything from one phone call to considerable financial and working involvement. The result indicator 'new products and processes' should also be better defined.

At priority axis 3 the following indicators are specified:

Priority Axis 3 ICT for private and public sectors

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Broadband network projects supported in market failure areas	number	-	-	SMIS	100
Public internet access points projects supported in market failure areas	number	-	-	SMIS	100
Public electronic services projects supported	number	-	-	SMIS/beneficiaries	100
E-economy projects supported	number	-	-	SMIS/beneficiaries	1000
Result					
Additional communities connected to broadband networks in market failure areas	number	-	-	SMIS/beneficiaries	500 (5 communities/project)
Additional users of public internet access points in the market failure areas	number	-	-	SMIS/beneficiaries	20,000 (200 individual users/project)
Users of supported E-government applications	number	-	-	SMIS/surveys	Modified as 1,000,000
SMEs using the supported E-economy applications	number			SMIS/beneficiaries	5000 100 SME/project

The indicators for Priority Axis 3 as such are justified. The transmission from the output to the result indicators is implicitly visible.

The quantification of just 5,000 additional SMEs with access to broadband appears to be low and not cost-efficient. Per broadband network in market failure areas only 50 SMEs will be supported. The indicator 'Additional SMEs using E-Business for market operations' does only make sense if it means the provision of electronic business services. If it is only use of that one might question the relevance of broadband access to the 1,500 enterprises not involved in e-government and e-commerce. Therefore it should be also made clear that the result indicators 'Additional SMEs connected to broadband internet access' and 'Additional SMEs using E-Business for market operations' are *pars pro toto*, i.e. part of the result indicator 'Additional SMEs connected to broadband internet

access'. It is therefore recommended to reformulate it 'thereof additional SMEs using e-government [e-business for market operations]'.
At priority axis 4 the following indicators are specified:

Priority Axis 4 **Improvement of energy efficiency and sustainable development of the energy sector**

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Projects for improving energy efficiency	number	-	-	SMIS	20
Projects for the valorisation of RES	number	-	-	SMIS	25
Projects for reducing the negative environmental impact in large combustion plants	number	-	-	SMIS	5
Result					
Reduction of primary energy intensity at assisted beneficiaries	%	-	-	SMIS	10%
Additional capacity of RES	MW	-	-	-	120 MW
Reduction of polluting emissions in assisted enterprises	%	-	-	-	30%

The indicators for Priority Axis 4 are justified. The transmission from the output to the result indicators is implicitly visible. From the evaluator no further comments are necessary.

At priority axis 5 the following indicators are specified:

Priority Axis 5 **Romania, an attractive destination for tourism and business**

Indicator	Unit	Baseline	Baseline Year	Source	Target (2015)
Output					
Promotional campaigns for advertising the tourism brand at national and international level	number	-	-	SMIS / National Authority of Tourism	10
National Tourism Information and Promotion Centres supported	number	-	-	SMIS / National Authority of Tourism	7
Result					
Tourists visiting the Information and Promotion Centres	number	-	-	SMIS / National Authority of Tourism	1 mil.
Web site visitors	number	-	-	SMIS / National Authority of Tourism	1.5 mil.

The indicators for Priority Axis 4 are justified. The transmission from the output to the result indicators is implicitly visible. From the evaluator no further comments on that are necessary.

As regards priority axis 6 (Technical Assistance) indicators are just management indicators (number of persons trained, monitoring committee meetings etc.). The auxiliary role of Priority 6 does not have a direct impact on economic competitiveness, therefore those indicators are not subject to a closer evaluation here³³.

5.2.2 Macro-economic impacts

In the following the macro-economic impacts of the SOP IEC are viewed. It was not the task of the ex-ante evaluation to independently estimate impacts on employment and income by available or self-developed macro-econometric or input-output models. Nevertheless it is the task of the evaluation to specify impacts based on rigorous research. For Romania, Andrea Bonfiglio (Università Politecnica delle Marche) has estimated employment and income effects with a multi-regional input-output model³⁴. The horizon of prognosis is limited to 2007-2009.

³³ Since many of the activities of that Priority Axis are determined by the general regulation (monitoring, implementation, evaluation, communication) and operationally described in the draft regulation on implementation, indicators are anyway not always relevant here as the authorities responsible for planning and implementation just need to comply to European law.

³⁴ Andrea Bonfiglio 2005, *Analysing EU Accession Effects in Romania ba a Multiregional I-O-Model*, Quaderno di Ricerca No. 226, Università Politecnica delle Marche

Despite controversial scientific standpoints the I-O model is still considered a valid tool to quantify total effects in terms of output and, by a simple extension, of income and employment, deriving from the final demand variation. Moreover, the multiregional version offers further advantages: it guarantees major internal consistency than one region models, it allows taking account of the diverse pattern of consumption in the different regions, capturing effects due to trade relationships among regions and mapping impact distribution on the territory.

For the purpose of the SOP Competitiveness the presented aggregated estimation results are sufficient as the programme intervenes at national level.

2007-2009 the financial allocation of Structural Funds (without Cohesion Fund EFF and EARDF) is assumed with Euro 3.643 billion (in 2000 prices). Including the three additional funds 7.683 billion Euro are foreseen to be spent. For the SOP Competitiveness 655.644 million Euro are allocated until 2009. This makes up around 18% of the SF allocation and slightly more than 8.53 % of the whole EC contribution. In a very simple approach one can assume an evenly distributed weight of effects among all Structural Fund programmes so that out of the total input of Structural Funds until 2009 8.53% can be attributed to the SOP IEC.

Taking the estimation results found by Bonfiglio (2005, p.26) which are:

An additional income effect of 2.425 billion Euro (among that 128.6 million for the agricultural sector, 1.082 billion Euro for industry and 1.213 billion Euro for services) one can assume an impact of the SOP IEC at around 206.85 million Euro among all three sectors. Since emphasis of the SOP IEC is on industry and services and here the weight of impact is higher than for the agricultural sector, the simple estimation could be regarded as very conservative.

As regards employment effects, Bonfiglio estimates additional jobs effected by all EU funds at slightly above 1.4 million. Interestingly, the majority of jobs will be created in the agricultural sector (around 700,000) revealing the extreme difference in wage levels between agriculture on the one hand and industry and services on the other hand. That means that a corresponding estimate of 119,400 new jobs induced by the SOP IEC is to be regarded too optimistic³⁵.

5.3 Justification of the proposed policy mix

5.3.1 The choice of the policy mix

There is no doubt that the policy mix represents adequate remedies to strengthen economic competitiveness and EU integration. Principally the policy interventions respond to the strengths and weaknesses diagnosed.

³⁵ In comparison with 2000 data, income and employment are forecasted to increase by about 16% and 17%, respectively. The bigger variation is registered by agriculture, followed by industry and, finally, services. In terms of effectiveness, policy generates an increase in income by 32% of public expenditure and in employment by 183 labour units for each one million Euro. At a sector level, policy demonstrates to be more effective in services, as for income, and in agriculture, as for employment (ibid. p.25).

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In how far the pursued composition of policy remedies (under consideration of the repartition of the budget among the priority axes and operations) can realistically achieve the desired quantification should be closer looked at. The preliminary status of the programme, however, does not allow an in-depth analysis, as there is still uncertainty about the repartition of funds among the priority axes (and operations).

The indicative financial table is structured as follows:

SOP Economic Competitiveness for Romania 2007-2013

Indicative Financial Plan

Priority axes / Key operations	Total Funds €	Total Public Funds €	ERDF €	National public funds €	Central government €	Local authorities/budget €	Municipalities €	other public funds €	private funds €
PA 1: An innovative productive system	1.285.900.000	1.005.470.000	694.400.000	311.070.000	-	-	-	-	280.430.000
1.1 Productive investments and preparation for market competition, especially for SMEs	749.950.000	555.520.000	361.090.000	194.430.000	-	-	-	-	194.430.000
1.2 Access to credit and financing instruments for SME	204.240.000	204.240.000	173.600.000	30.640.000	-	-	-	-	-
1.3 Entrepreneurship development	331.710.000	245.710.000	159.710.000	86.000.000	-	-	-	-	86.000.000
PA 2: Research, Technological development and innovation for Competitiveness	978.300.000	736.730.000	470.400.000	266.330.000	-	-	-	-	241.570.000
2.1 R&D partnerships between universities/research institutes and enterprises for generating results directly applicable in the economy	195.400.000	144.740.000	94.080.000	50.660.000	-	-	-	-	50.660.000
2.2 Investments in R&D infrastructure	288.990.000	262.710.000	211.680.000	51.030.000	-	-	-	-	26.270.000
2.3 RDI support for enterprises	493.920.000	329.280.000	164.640.000	164.640.000	-	-	-	-	164.640.000
PA 3 ICT for private and public sectors	538.110.000	449.910.000	336.000.000	113.910.000	-	1.990.000	-	-	88.200.000
3.1 Supporting the Information technology use	170.630.000	136.710.000	100.800.000	35.910.000	-	1.900.000	-	-	33.920.000
3.2 Developing and increasing the efficiency of modern electronic public services (E-Government, E-Education, E-Health)	158.120.000	158.120.000	134.400.000	23.720.000	-	-	-	-	-
3.3 Sustaining the E-Economy	209.360.000	155.080.000	100.800.000	54.280.000	-	-	-	-	54.280.000
	15.000.000	15.000.000	15.000.000	-	-	-	-	-	-
PA 4 Increased Energy efficiency and sustainable development of the energy system	1.675.520.000	1.120.000.000	560.000.000	560.000.000	-	4.480.000	-	-	555.520.000
4.1 Improvement of energy efficiency	924.000.000	616.000.000	308.000.000	308.000.000	-	-	-	-	308.000.000
4.2 Valorisation of renewable energy resources	163.520.000	112.000.000	56.000.000	56.000.000	-	4.480.000	-	-	51.520.000
4.3 Reducing the negative environmental impact of the energy system	588.000.000	392.000.000	196.000.000	196.000.000	-	-	-	-	196.000.000
PA 5: Romania, an attractive destination for tourism and business	131.770.000	131.770.000	112.000.000	19.770.000	-	-	-	-	-
5.1 Promotion of the Romanian tourism potential			67.200.000	11.860.000	-	-	-	-	-
5.2 Development of the national network of Tourism Information and Promotion centers			44.800.000	7.910.000	-	-	-	-	-
PA 6 Technical Assistance	79.060.000	79.060.000	67.200.000	11.860.000	-	-	-	-	-
6.1 Support to the SOP management, implementation, monitoring and control	47.440.000	47.440.000	40.320.000	7.120.000	-	-	-	-	-
6.2 Support for communication, evaluation and IT development	31.620.000	31.620.000	26.880.000	4.740.000	-	-	-	-	-
					-	-	-	-	-
Summe	4.688.660.000	3.522.940.000	2.240.000.000	1.282.940.000	-	6.470.000	-	-	1.165.720.000

The assessment of the policy mix has to be related to the quantification of the indicators and the budgetary repartition. With around 2.3 billion Euro (Priority axes 1 and 2) the foundations of a nation-wide knowledge-based economy should be laid³⁶. ICT for private and public sectors (priority axis 3) is necessary to facilitate the operation of a modern private sector and a civil society. It is just a modernisation of social and business-related infrastructure. Since the energy

³⁶ In relation to the overall volume of EU co-funded programmes 2.3 billion is with around 11.5% (from the overall budget under the NSRF programmes) a rather small share if one considers the important Lisbon targets. However, the writer is convinced that a conservative budgeting for such risk-bearing innovative operations is more than justified. Firstly, projects of that type (i.e. priority axes 1 and 2) are very demanding in terms of the quality of the applications. Secondly, if it turns out, at a later stage, that there is more qualified demand (absorptive capacity) for those operations, a general revision of the budget can be foreseen. Such a case should be regarded as a very favourable situation suggesting Romania to have a very robust knowledge-based growth potential. For the time being a conservative budgeting should be maintained.

sector suffers from rampant inefficiency and energy is one of the major cost factors of the private sector, modernisation is necessary in order to enhance competitiveness of the Romanian economy. The relatively large allocation compared to the priority axes 1 and 2 is justified because enormous efforts are necessary to remove the energy-implied obstacles for the private sector. While the energy sector is just an important upstream sector for Romanian producers the tourism sector is of national strategic importance in terms of competitiveness. Hence, although the programme might appear thematically rather broad (like a 'supermarket'), a second glimpse reveals that exactly these specific Romanian issues affecting competitiveness are tackled with the SOP IEC. Increase of economic competitiveness is the overall goal of that programme.

5.3.2 Analysis of Categorisation and Earmarking

The new member and acceding member states are exempted from the obligation to allocate 60% (or 75% respectively) for the Lisbon earmarking categories. Nevertheless the SOP IEC is the major generator of the Lisbon strategy in Romania; therefore an exemption from those earmarking obligations, particularly for that programme, is not advisable.

The categorisation of the SOP IEC has been defined at three dimensions, which are theme-oriented, finance related and territorial. The approach is in accordance with the draft regulation on implementation (CDRR-05-0010-07, annex IIA). The latter dimension has been introduced since the European Commission has put more emphasis on territorial cohesion. The categorisation table of the programme reveals that more than 82.5% of the planned expenditure belongs to operations of the so-called 'Lisbon Earmarking list'. This makes up around 2.109 billion Euro for the 'Lisbon allocation'. It must be noted however, that out of that around 625.6 million Euro (the biggest allocation in the SOP IEC) are allocated for subsidies to enterprises which – in this general definition – are not necessarily innovation-oriented³⁷. In spring 2006 there was a controversial discussion between the Commission and the member states on the code No. 08 (other business investments, i.e. the traditional grants)³⁸. The member states could succeed with their position, but the Commission still emphasises that any support to enterprises has to concentrate on genuine innovation. Therefore it is recommended (from the part of the ex-ante evaluation) for the programme text to stress the intention to spread direct subsidies to enterprises exclusively or at least mainly for measures of process or product innovation and/or modernisation in terms of the Lisbon targets³⁹.

5.4 Overall conclusions on expected results and impact

In conclusion it can be said that the specific indicators at the programme level are sufficiently defined and quantified. The Lisbon goal of 3% gross domestic expenditure on R&D (GERD) is an overall political goal, but hardly achievable by

³⁷ Part of this allocation will certainly be innovation-related, but it cannot be estimated ex-ante, so it was included under code 08.

³⁸ Thus, without code no. 08, only 58% of the allocations would have been earmarked for Lisbon. This variation is quite strong.

³⁹ i.e. not simply the extension of existent machinery.

2015 (even for the EU on average). An impact indicator genuinely measuring economic competitiveness is missing.

The indicators and their quantification at operational level (priorities and related operations) are now sufficient. The transmission from the output to the result indicators is implicitly visible for all priority axes.

As regards the macro-economic impacts, recent research suggests that – under very optimistic assumptions - by 2009 the SOP IEC could contribute to increased employment with around 120,000 new jobs.

The pursued policy mix and the repartition of the budget (both internally as well as related to the overall NSRF allocations) can be regarded as justified.

With more than 80% measures covered by the Lisbon earmarking, the programme is likely to over-achieve the benchmarks (60% for the Convergence Objective) which is even not obligatory for new and acceding EU member countries. However, it is to stress that a large share of the Lisbon earmarked operations in the SOP IEC is related to direct business subsidies (code 08) which are contested as long as they do not explicitly contribute to process or product innovation or modernisation.

Major recommendations are:

- An impact indicator genuinely measuring economic competitiveness should be added. It is recommended to include an operational indicator measuring market integration (e.g. the Grubel-Lloyd index). Alternatively a productivity-related indicator could be appropriate.
- In some cases the definition of indicators should be more comprehensive. In priority axis 1 the number of enterprises targeted should be reviewed as the number appears too low.
- For the quantification of objectives it is recommended to imagine typical projects (i.e. what for example is intended by the specific operations) and to calculate desired outputs and results against prevailing costs.
- It is recommended to define 'Volume of venture capital shares: e.g. minimum 75 million Euro' replacing (or complementing) the indicator for the guarantees.

6 Appraisal of the proposed implementation system

6.1 Introduction

The implementation system of a programme has a critical relevance for the success of policy intervention. Even though a programme might pursue a realistic purpose based on a clear intervention logic, deficiencies in the institutional capacity and/or inefficiencies in inter-institutional co-ordination implying increased transaction costs can put any programme at risk. This chapter deals with the analysis institutional and inter-institutional capacity for the implementation of the SOP IEC. Furthermore the evaluation also looks at the formal compliance of the description of the entire implementation system.

6.2 Management

6.2.1 Description in the programme

In the programme document the description of the programme management and the co-ordination is quite comprehensive. The scope of tasks entrusted to the Managing Authority is fully in compliance to the Regulation 1083/2006 Article 60. Likewise the tasks of the intermediate bodies are completely described. The difference between the intermediate bodies and other 'implementing agencies' appears vague and should be clarified in the final programme draft. The role of 'implementing agencies' may just deal with receiving sub-delegated tasks. It should be therefore added that the MA and the IBs remain fully responsible for the operations. Implementing agencies are not to be considered part of the formal implementation structure.

6.2.2 Feasibility of the implementation system

Apart from the description in the programme, the feasibility of management and inter-institutional co-ordination is of particular relevance. The administrative set-up has been regarded by the writer as a particularly critical issue. The number of involved Intermediary Bodies is quite high, some of them has no specific experience with the implementation of larger European programmes and the staff capacities appear low in terms of experience.

For this purpose it was decided to have a closer look at the shape of the implementation system with a view whether it is capable to implement the SOP IEC with sufficient success.

The concrete Terms of Reference have been:

(1) to assess whether the IBs are capable to fulfil the required tasks for that programme in general (is the staff qualified and committed, are there clear job

descriptions; do they have experience with other funding schemes etc.?) and specifically with respect to such a large ERDF programme (do they know the important EU regulations and how to apply them in the operational activities/implementation?).

(2) Is the inter-institutional co-ordination MA - IBs (and IBs among each other) ensured? How do they co-operate/inform each other?

(3) a general assessment: Is there a chance for that institutional construction to be successful? If yes, what major recommendations should be conceived, in order to improve/stabilise the institutional capacity for the SOP-EC?

The assigned Romanian expert's task has thus mainly concentrated on the analysis of the administrative capacity of absorption. Both the Management Authority (MA) and the Intermediate Bodies (IBs) have been focused by qualitative empirical research in this respect.

The MA has been set up within the Ministry of Economy and Commerce while the IBs are included in the following ministries and agencies:

- the IB for innovative production systems – National Agency for SMEs
- the IB for R&D – Ministry of Education and Research
- the IB for ICT – Ministry of Communications and Information Technology
- the IB for increasing the energy efficiency – Ministry of Economy and Commerce, Energy Directorate
- The IB for tourism promotion – National Authority for Tourism, within the Ministry of Transportation, Construction and Tourism

The inquiry has been structured by three design elements, namely institutional-organizational structure, human resources and systems and instruments for programming and implementation, aiming to respond to the question of their readiness for the implementation of the OP-IEC.

With this purpose in view the inquiry has been organized into *two phases*.

First, a questionnaire regarding the administrative capacity of absorption was distributed to the MA and all IBs and it has to be remarked from the very beginning their promptness in filling it. This questionnaire was elaborated by the Romanian expert one year before, on the occasion of participating in the PAIS III study organized by the European Institute of Romania in order to assess Romania's absorption capacity of the EU funds. Thus an objective comparison between the facts emphasized last year and the current situation in the specific case of the OP-IEC has been possible. It may be said that a real progress has been recorded and various aspects will be referred to in the subsequent sections.

Second, interviews with the representatives of the MA and all IBs have been carried out, starting from the answers to the questionnaire and continuing with further details on the most important issues envisaged.

As regards the institutional-organisational structure the emphasis has been put on the legal setting up and internal organisation by department followed by the

relationship between the programming department and the other departments in the institution as well as the use of an extended partnership framework.

Both the MA and almost all IBs have been set up as a result of the Romanian Government's Decision of August 2004 regarding the institutions designated to deal with the EU structural assistance from January 1, 2007 on. As an *exception*, the IB for tourism promotion has been designated in this position and set up in January 2006 that could have created serious organisational catching-up problems. Though, they have been surmounted to a great extent owing to the personal efforts of a highly competent, energetic and dedicated general director, with a long experience in strategy, programming and pre-accession funds administration. Here can be added the experience of some of the team members with regard to integration strategy and programming in general as well as in elaborating and carrying out programmes for tourism development and promotion in particular. On the other hand, as the percentage of total OP-IEC funding allocated for Tourism priority represents only 5%, special problems with implementation of this OP priority axis are not foreseen.

In the beginning almost all IBs were set up as departments within the existing directorates for strategies, policies, European integration, programming, etc. As they have become separate entities within the corresponding ministries, agencies later on, this fact created a series of difficulties regarding the personnel policy, activity funding, infrastructure, etc.

At present both the MA and IBs have well balanced organisational structures, with clear responsibilities for each department (programming – implementation, monitoring and evaluation – management and financial control – IT, logistics and technical assistance).

As a rule, the programming department of the MA and IBs co-operates with the other departments in the institution in formally or informally established workgroups. In most cases the workgroups do not follow a regular pattern, being occasionally held in order to solve particular issues that come up during the planning and programming processes.

The use of an *extended partnership framework* – as a mandatory requirement for programming SFs and Cohesion Fund – varies among institutions.

The MA established an extended partnership structure in March 2005, with a permanent working group that includes representatives of all IBs and other institutions involved. As a particularity – that might create a difficulty – the MA for the OP-IEC is the only MA that has partners at the same level in their institutions (directors in the ministries where the IBs have been established). Though, the MA representatives consider that the good inter-personal communication with their partners plays a significant role in a successful co-operation. Otherwise, observing strictly the terms of the established partnership framework is the pre-condition for a successful co-operation between MA and IBs.

The MA of the OP-IEC does also participate in the thematic working groups coordinated by the MA from the Ministry of Public Finance and co-operates with the

Ministry of European Integration as AM of the Regional Operational Programme (for a clear distribution of the objectives between the ROP and the OP-IEC, with corresponding responsibilities).

At the IB level, there are significant variations as far as the intensity and the success of their co-operation with potential partners is concerned, the main reason invoked for their difficulties by most of the IBs being the lack of funding and – as a consequence – of logistics for this purpose.

The best results can be mentioned in the case of the IB for SMEs (Axis 1 – innovative production systems), where the partnerships work successfully both at national and regional level and are considered powerful sources for institutional and social dialogue. In the opposite situation, the lack of funding for information and communication with potential partners (e.g. the case of the IB for Axis 3 – ICT for public and private sector) can create delays and even diminish the absorption capacity of the EU funds although the IB participated to numerous communication events in 2006.

In almost all cases analysed *the human resources* remain a sensitive issue. An overview on the existing staff as against the planned number of persons to be hired until the end of 2006 is presented in the table below. It also shows the number of persons hired in 2006 and of those of more than two years of experience in the administration of the EU funds.

MA - IB	Planned staff	Existing staff	of which, hired in 2006	Persons with more than 2 years of experience in the administration of EU Funds
MA	60	47	24	13
IB-SMEs	50	48	6	8
IB-R&D	60	48	38	7
IB-ICT	40	26	13	-
IB-Tourism	13	10	10	2
IB-Energy	50	44	32	3

Analysing the objective picture offered by this table and combining it with the results of previous informal discussions with representatives of various MAs and IBs it seems that the decisions regarding the personnel policy have led to overstaffed MAs and IBs, with quite serious difficulties in hiring persons of an adequate profile in terms of qualification and job description. Worth mentioning is that the Managing Authority and the IBs have already addressed that issue and expect that at the start of the programme activities the available staff will be better geared towards the needs of programme implementation (in number and qualification). However, in some cases (see IB – ICT) it is estimated that there will be not enough candidates for the vacant jobs until the end of 2006.

The share of the inexperienced employees is high, many of them being hired soon after graduation from the university. Though, some of the interviewed IB representatives consider that their enthusiasm and openness to acquiring new knowledge can compensate in some degree the lack of experience. Doubts might be formulated in this respect, especially for the IB where the share of completely inexperienced employees in total existing staff is high. Two different examples in this respect: at the IB-ICT 13 out of total 26 persons have been hired in 2006; at the IB-R&D 24 out of 34 persons have been also hired in 2006 but the big difference is that many of the new employees in IB-ICT are young graduates whereas a high share of the new employees in IB-R&D have previous working experience.

As for the case of the experienced staff, most of them have been transferred from the strategy/programming directorate of either the ministry the IB belongs to or other ministries that have administered pre-accession funds. The others are people hired as a result of publicity campaigns, with very diverse backgrounds (engineers, economists, jurists, sociologists, etc.) coming from institutions with no direct involvement in EU integration. As could be noticed from the interviews organized by the Romanian expert – not only with directors of the IBs but also with their collaborators and ordinary staff – the employees with previous working experience (even though not in the EU funds administration) are diligent persons, open and able to adapt to the new job requirements (for example, the case of former researchers in scientific research institutes, former academics or teachers, etc.)

If the planned number of employees were lower the personnel composition would be more flexible and the transfer of knowledge and experience easier to be done (as the case of the IB – Tourism, where I could notice a high cohesion within the group).

In terms of professional knowledge and training, at the MA level the personnel involved in planning/programming activities is highly trained in the specific area of activity and has an in-depth knowledge of national and EU legislation on planning/programming, state support, public acquisitions, etc. EU requirements in programming as well as in other relevant areas (for instance: equal opportunities for men and women, protection of the environment, promotion of the information technology society) are also well known. This conclusion is not however applicable to all IBs some of these admitting that some personnel is poorly, insufficiently trained. They have also mentioned that in some cases the training courses provided more general knowledge rather than specialized one, in accordance with the concrete requirements of the future EU funds administration. As for the informal training (e.g. individually, via internet) in most cases this is rather low as a result of logistics scarcity. Specialized training will be possibly addressed in a new Phare TA project expected to start in December 2006.

In the context created by the novelty of operational programming for the use of structural and cohesion funds as well as by the lack of experience in the area *the impact of technical assistance received could have a decisive role*. This is referring to technical assistance received prior to the development of the operational programme as well as to that provided for this purpose as such.

In this respect the MA could benefit from twinning and technical assistance projects both prior to the design stage of the OP (especially via Phare programme) and during the elaboration of the OP (assistance provided within a twinning project with Italy as well as assistance provided by the Ministry of Public Finance), which indicates that personnel grew familiar with the EU experience and requirements in programming and other relevant areas that resulted in an higher level of personnel qualifications. Most of the IBs have also benefited from technical assistance, especially via their relationship with the MA and the twinning project, during the elaboration of the OP. Prior to this, some of the IBs did not mentioned any technical assistance or foreign support.

Finally, *providing adequate working conditions* is essential. Not only the MA but also the IBs consider that the logistics is far below the optimum level. It is possible that the adequate work conditions to lead to greater employee mobility and implicitly to a lower management capacity at institutional level. Ensuring adequate workplace, appropriately furnished and equipped with computers, printers, copying machines, etc. and related consumables is a must, as a major factor that may influence the efficiency of both programming and implementation.

As regards the wage level of the personnel, this is close to the national average (about 900 RON). The application of Law no. 490/2004 on financial incentives for personnel who manage community funds granted a 75% pay increase to the base salary, thus leading to higher wages for employees in MAs and most IBs compared to both other institutional departments which do not manage community funds and other public administration institutions in Romania.

Taking into account both the pay level and various non-financial incentives (such as job stability, training opportunities, career development) the mobility of employees still remains low. However, since the wage-based income (especially in the case of young employees) is far below the average pay offered by many private companies, an increased employee mobility towards these companies is quite possible. But so far a *high* instability is not expected since many of especially young people working in the public administration structures dealing with EU funds administration are seriously interested in a career development, not only in rapid wage increase).

The third component – systems and instruments for programming and implementation – has a particular significance to ensuring a high absorption capacity of the EU funds.

According to the MA's answers to some items in the questionnaire, the IBs are representative for their filed of activity but they do not have *expertise for the EU funds administration*, with one exception. Though, two of the IBs have administered national funds. This situation may create some adaptation problems and delays in programme implementation at least in the first 1-2 years.

Implementation agreements with all IBs have been established but they have not been signed yet. In line with the national legislation, the MA has not hierarchical authority in relation with the IBs. Nevertheless, when asked about the quality of

co-operation with the IBs the MA has considered it "very good". In mid and long run the clear establishment of responsibilities and terms of co-operation between MA and IBs are to represent the objective guarantee for an effective programme implementation.

As regards *the internal work procedures*, their elaboration is in progress for both programming and implementation. A *manual of conformity* with the EU legislation does not exist at the MA level but some IBs have started developing conformity procedures for their specific field of activity. From the discussions with the MA representatives, it has resulted that starting from January 1, 2007 the *acquis communautaire* will be considered and observed as national legislation.

One of the most sensitive questions refers to the *project selection procedure* and *project pipeline*.

So far, indicative selection criteria are included in the Complement Programme, available on the webpage of the Ministry of Economy and Commerce. Though, a *standardised application form* does not exist yet, but only a draft elaborated by the MA of the Ministry of Public Finance. According to the MA a second – improved- draft of the package (application form, payment claim and contract) will be issued soon by the MPF.

A national manual for the cost-benefit analysis applicable for big projects has not been yet elaborated. Instead, according to the MA statement, there is a Guide of the cost-benefit analysis for investment projects developed in 2002 under the co-ordination of the DG Regio, which is known only by a limited number of persons, even within the MA. At present a new guide is available and training for its employment is highly recommended.

The responses to the *project pipeline* question vary very much among the IBs. Some of them, like the IB – SMEs or IB – R&D are in a very good position, an important contribution being brought about by the territorial offices each of these two IBs have set up. The territorial offices act not only in the field of information dissemination and communication with potential beneficiaries but also for collection and primary, formal appraisal of applications. At present the IB – R&D runs a programme (IMPACT, funded by the state budget) that offers support for the elaboration of EU-funded project proposals via consulting providers chosen by means of three selection sessions. The IB – SMEs has also benefited from a Phare project for consulting purposes.

In other cases things have not advanced too much. The main cause consists in the lack of funding for own information campaigns and communication, in many situations information being transmitted as a result of participation of IBs representatives in various meetings organised by local public administration, local chambers of commerce, etc.

As possible remedy the IB – ICT proposes a horizontal operation to be adopted at the MA level in order to support the IB information and communication with potential beneficiaries, as a pre-condition for ensuring a high capacity of absorption. This will be possible under the TA priority axis.

From co-ordination viewpoint, the MA can initiate support procedures in order to improve the information and communication of IBs with their potential beneficiaries. At the same time it seems that IBs are well qualified for initiating proper project ideas.

To conclude, compared with the evaluation undertaken one year before, the elaboration of the OP-IEC and the preparations for its implementation have advanced with a reasonable pace, being possible to change the score corresponding to "D"-level (insufficient capacity) for human resources and systems and instruments * to the upper level of score "C" – capacity not entirely sufficient but with good chances to recover the weaknesses that still exist.

Further efforts and support should concentrate on the following:

- establishing and observing clear, objective rules for communication and co-operation between MA and IBs;
- defining precise, effective working procedures for the Monitoring Committee to be established and getting in force soon;
- a flexible employment (personnel) policy, focusing on the staff quality rather than strict quantity levels;
- changes in training orientation, with much more emphasis on specialized knowledge, new work procedures, new guide for Cost-Benefit analysis, etc.;
- providing adequate working conditions, in terms of logistics and wage;
- clear, effective support for project pipeline envisaging the funding of IBs information campaigns and communication in order to foster project ideas, qualified consulting for project elaboration and primary, formal appraisal of applications.

6.3 Monitoring

As regards selection processes and monitoring the partnership principle is sufficiently considered.

Operational monitoring (i.e. project monitoring and programme reporting) is entrusted to the Managing Authority which is controlled by the Programme Monitoring Committee (to be established according to Article 63, Regulation 1083/2006). The list of members should be more concrete. It is not sufficient to just list-up 'relevant NGOs' or 'social partners'. The emphasis on equal opportunities is to be appreciated, but in fact the Managing Authority has no direct influence on the seconded members and gender equity.

In the programme draft the information on the computerised exchange of data is insufficient. First of all it should be described whether and if yes how the SMIS is connected with SFC 2007 (interface). It is not sufficient just to say that there will be a computerised exchange of data with the European Commission⁴⁰. Very important is the description of information recorded by the system in place

* for institutional and organizational structure the score was already C, quite close to B (sufficient capacity) at the end of 2005.

⁴⁰ If the details are not yet known, it should be pointed out that this will be clearly described in the report on the implementation provisions (Article 71 of the Regulation 1083/2006)

(according to the Regulation on Implementation). This information has to distinguish between data for financial procedures and data and documents on the monitoring of the programme. The programme should also include a description on how to ensure reliability of the data and the security of data storage and exchange.

Regarding the selection process application forms/procedures are standardised among all programmes according to the origin of funding (Cohesion Fund, ERDF, ESF): Forms or criteria are to be geared towards the programme indicators and their quantification. In the application forms the project indicators are to be individually determined from the programme indicators. In a footnote it says:

„Note pentru Autoritățile de Management: Autoritatea de Management va realiza o lista cu indicatori pe tipuri de proiecte, corespunzătoare fiecărui domeniu major de intervenție din Programul Operațional, indicatori care vor apărea și în SMIS. ...”

This is very important and makes it possible to monitor ex-ante programme objectives and those summed up from the applications.

6.4 Evaluation

The evaluation plan appears to be too inflexible. For the programme a permanently assigned evaluator (or group of evaluators) should carry out a genuine ongoing evaluation. Two interim evaluations (2010 and 2012) can hardly protect the programme from failure (2010 could be too late). Romania as a new member country has not yet sufficient experience with programme implementation and the implementation structure is complex and vulnerable. It is also recommended to establish a steering committee for the evaluation procedures.⁴¹

6.5 Financial management and control

The financial management and control is comprehensively described.

The role of the certifying authority is described in line with the Article 61, Regulation 1083/2006. Regarding the payment process at the Ministry of Public Finance level, the decision was made to have two payment flows (i.e. including indirect payment, through the paying units that are established near Managing Authorities, for the other operational programmes). In this case it should be made clear that these paying units are only intermediate accounts needed for the proper financial implementation. They are not the authorities designed in accordance to Article 61.

The description of reporting on irregularities appears sufficient, while the description of the tasks of the independent audit authority is not sufficient. The reference to Article 62, Regulation 1083/2006 should be made. As it appears in the programme document one could interpret it as a requirement just of national law. It should be stated that this authority is supposed to carry out the required

⁴¹ The reference to ad-hoc evaluation will be detailed and a reference will be added to the multi-annual evaluation plan under the central evaluation unit of the MFP

independent random audits with the obligation to regularly report on an annual base. It should furthermore be stated that the description of audit trail will be submitted to the Commission within nine months after approval of the SOP.

6.6 Overall conclusions and recommendations on the implementation system

Quality of the description:

- (1) In general, the implementation system proposed for the SOP IEC meets the requirements of the Regulation 1083/2006 (Articles 58 ff.). It would be useful to more comprehensively define the difference between the intermediary bodies and implementing agencies in the respective sections of the programme document.
- (2) The composition of the Monitoring committee should be better described and defined including concrete designation of the institutions and the representatives. The respective representatives – probably the responsible programme manager – of all other OPs should be constituent members. Monitoring of the programme should be supported by consistent application forms. Forms or criteria are to be geared towards the programme indicators and their quantification. This makes it possible to monitor ex-ante programme objectives and those summed up from the applications.
- (3) The evaluation plan appears too strict. For the programme a permanently assigned evaluator (or group of evaluators) should carry out a genuine ongoing evaluation. Two interim evaluations (2010 and 2012) can hardly protect the programme from failure (2010 could be too late). Romania as a new member country has not yet sufficient experience with programme implementation and the implementation structure is complex and vulnerable. It is also recommended to establish a steering committee for the evaluation procedures.
- (4) The role of the paying units besides the certifying authority is still to be better described in order to avoid confusion. Furthermore some information on the random audits and the role of the independent audit authority (according to the General Regulation) should be added.

Inter-institutional co-ordination:

- (1) Both the AM and almost all IBs have been set up as a result of the Romanian Government's Decision of August 2004 regarding the institutions designated to deal with the EU structural assistance from January 1, 2007 on. The IB for Tourism has been created very recently and might face problems in quick adaptation to effective co-ordination
- (2) The MA established an extended partnership structure in March 2005, with a permanent working group that includes representatives of all IBs and other institutions involved. As a particularity – that might create a difficulty – the MA for the OP-IEC is the only MA that has partners at the same level in their institutions (directors in the ministries where the IBs have been established). Though, the MA representatives consider that

the good inter-personal communication with their partners plays a significant role in a successful co-operation. Otherwise, observing strictly the terms of the established partnership framework is the pre-condition for a successful co-operation between AM and IBs. In mid and long run the clear establishment of responsibilities and terms of co-operation between MA and IBs are to represent the objective guarantee for an effective programme implementation.

- (3) At the IB level, there are significant variations as far as the intensity and the success of their co-operation with potential partners is concerned, the main reason invoked for their difficulties by most of the IBs being the lack of funding and – as a consequence – of logistics for this purpose. The best results can be mentioned in the case of the IB for SMEs (Axis 1 – innovative production systems), where the partnerships work successfully both at national and regional level and are considered powerful sources for institutional and social dialogue. In the opposite situation, the lack of funding for information and communication with potential partners (e.g. the case of the IB for Axis 3 – ICT for public and private sector) can create delays and even diminish the absorption capacity of the EU funds.

Personnel:

- (1) Decisions regarding the personnel policy have led to overstuffed MAs and IBs, with quite serious difficulties in hiring persons of an adequate profile in terms of qualification and job description. The interviewed people themselves admitted, in some cases, that the number of planned staff is too high. Moreover, in some cases (see IB – ICT) it is estimated that there will be not enough candidates for the vacant jobs until the end of 2006. Two different examples: at the IB-ICT 13 out of total 26 persons have been hired in 2006; at the IB-R&D 24 out of 34 persons have been also hired in 2006 but the big difference is that many of the new employees in IB-ICT are young graduates whereas a high share of the new employees in IB-R&D have previous working experience.
- (2) If the planned number of employees were lower the personnel composition would be more flexible and the transfer of knowledge and experience easier to be done (as the case of the IB – Tourism, where one can notice a high cohesion within the group).
- (3) (Stability of the staff situation): Since the salaries (especially in the case of young employees) are far below the average pay offered by many private companies, an increased employee mobility towards these companies is quite possible. Staff fluctuations may affect the effectiveness of the programme implementation.
- (4) In terms of professional knowledge and training, at the MA level the personnel involved in planning/programming activities is highly trained in the specific area of activity and has an in-depth knowledge of national and EU legislation on planning/programming, state support, public acquisitions, etc. EU requirements in programming as well as in other relevant areas. This conclusion is not however applicable to all IBs some

of these admitting that some personnel is poorly, insufficiently trained. They have also mentioned that in some cases the training courses provided more general knowledge rather than specialized one, in accordance with the concrete requirements of the future EU funds administration. As for the informal training (e.g. individually, via internet) in most cases this is pretty low as a result of logistics scarcity. This situation may create some adaptation problems and delays in programme implementation at least in the first 1-2 years.

Project pipelines:

More advanced catalogues of projects exist for the priority axes 1 and 2. In other cases things have not advanced too much. The main cause consists in the lack of funding for own information campaigns and communication, in many situations information being transmitted as a result of participation of IBs representatives in various meetings organised by local public administration, local chambers of commerce, etc. Considering the large variety of priorities included in the OP-IEC (as a particularity in comparison with other OPs, much more focused on a specific domain) it is hard to believe (objectively speaking) that the MA has a comprehensive view on the project pipelines of all IBs. But, from co-ordination viewpoint, the MA can initiate support procedures in order to improve the information and communication of IBs with their potential beneficiaries.

Recommendations:

- (1) There should be a clear definition of IBs and 'Implementing Agencies' and the respective difference between both types of institutions involved.
- (2) The programme monitoring (i.e. the monitoring committee and the electronic system) should be better described in its details.
- (3) Organising a genuine ongoing evaluation instead of mid-term or on-the-spot assessments
- (4) The description of the independent audit authority should be in accordance to the Regulation.
- (5) Establishing and observing clear, objective rules for communication and co-operation between MA and IBs.
- (6) Defining precise, effective working procedures for the Monitoring Committee to be established and getting in force soon.
- (7) A flexible employment (personnel) policy, focusing on the staff quality rather than strict quantity levels (including the provision of adequate working conditions, in terms of logistics and salaries).
- (8) Changes in training orientation, with much more emphasis on specialized knowledge, new work procedures, new guide for C-B analysis, etc.

- (9) Clear, effective support for project pipeline envisaging the funding of IBs information campaigns and communication in order to foster project ideas, qualified consulting for project elaboration and primary, formal appraisal of applications.

Finally it is to be emphasised that the Managing Authority, the IBs and all other stakeholders in the process of programme implementation should pro-actively communicate the programme and the related opportunities for beneficiaries and final target groups.

7 Evaluation of the Community Value Added

The status of the evaluated programme is that of a draft version. The possible variation of Community Value Added is therefore fairly strong.

Multi-annual programming: In contrast to the pre-accession aid, cohesion policy is organised in a longer run planning process where stakeholders have to demonstrate discipline and reliability to stand a seven year period of strategy implementation. Cohesion policy stipulates more solidarity and co-ordinated activities and – if realised successfully by all member states– it will strengthen the European Union as a whole. Certainty in planning and trust in policy processes are further benefits of multi-annual programming.

A very important Community value added is enhancing real convergence. This is particularly important for Romania, as this country is still significantly lagging behind in most social and economic variables. Community value added does not materialise in more sustainable growth of Romania but rather in its implications for the EU as an economic space where poorer regions and countries are dynamically converging with the more advanced countries and regions. Here it is important to recognise that the overall goal of a balanced regional development according to Article 160 (EC Treaty) has to go hand in hand with the *Lisbon* objectives, representing the core of the economic growth strategy of the Community. For Romania, the interaction of the SOP IEC and the ROP are to be pointed out in this context.

If the spirit of the programme can be successfully transmitted, Romanian SMEs will become capable to internationalise, i.e. to enhance their export orientation within the EU and worldwide, to be ready for trans-European networking (with other enterprises and/or research institutions) and also to merge with companies from other EU countries. A successful 'going European' of Romanian SMEs will result in a higher degree of market integration and thus generating another important Community value added.

Enhanced partnership, both horizontally in terms of a functioning monitoring committee and perhaps inter-regional co-operation with other regions, as well as vertically in terms of a smooth co-operation between the Romanian government, the European Commission and the regional entities where the programme impacts directly materialise, is also an important aspect of Community value added.

A final specific value added to be expected by this programme (just as all other Community funded programmes in Romania) is the need of prudent monitoring and evaluation. Cost efficient budgeting and optimisation of effectiveness and impact is one of the major purposes of advanced control of programme progress. The impacts of effective national and regional programmes trigger important positive spill-over effects for other EU regions. As long as monitoring and the

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evaluation process will be organised soundly, not only Romania, but also the EU as a whole will benefit through efficiency and effectiveness of Community resource allocation.

Ex ante – and under consideration of the not yet finalised progress of programming – it is not possible to estimate the different aspects of Community value added more concretely.

Annex 1 Proposed structure and draft model chapters for the economic baseline analysis

1. Economic Baseline Analysis

1.1 Introduction

Model chapter: 1.1.1 *The Competitiveness of the Romanian Economy*

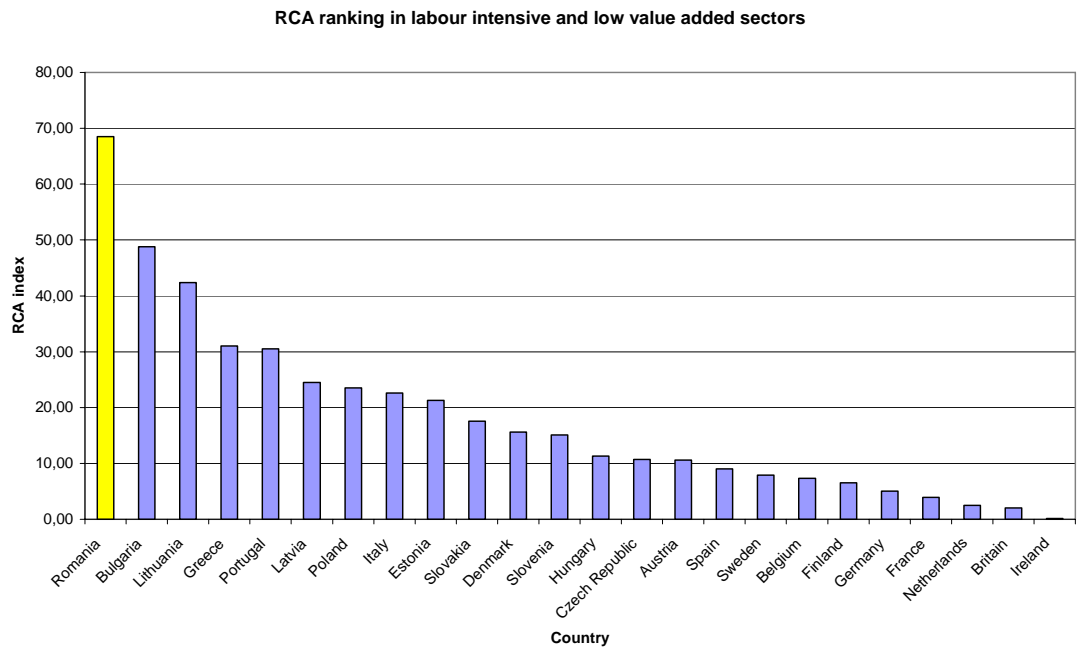
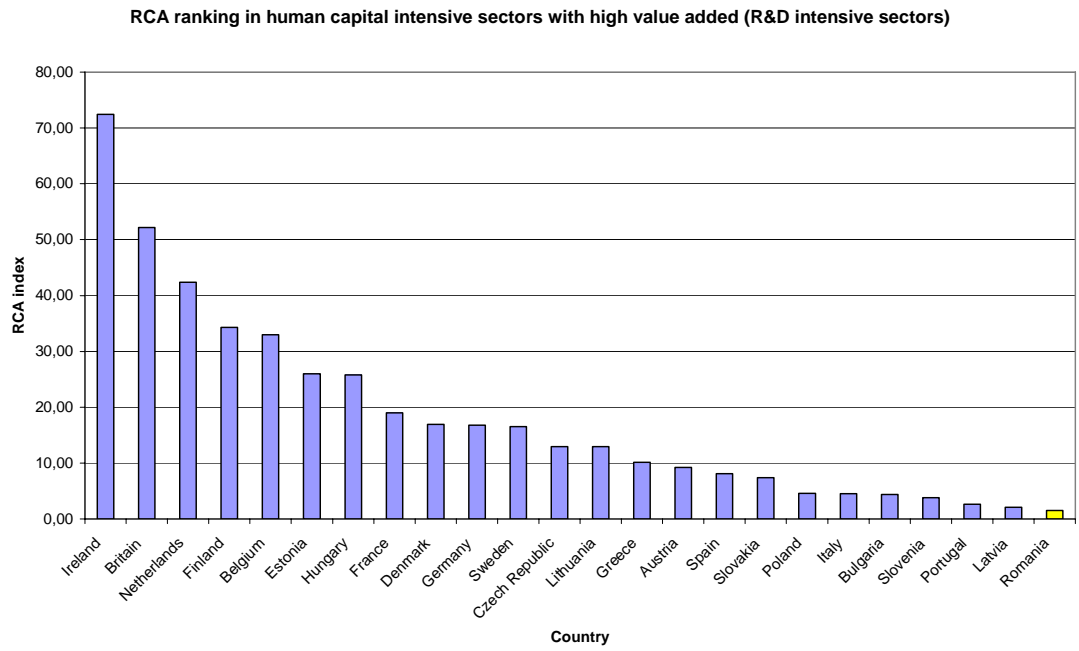
The SOP Increase of Economic Competitiveness applies to Romania as a whole. It is a sectoral Operational Programme. For Romania as an acceding EU country the increase of economic competitiveness is of paramount importance. As regards the Lisbon objectives, Romania is considerably lagging behind the EU25 average. But not only with respect to the EU25+2, but even in international comparison, Romania's competitive position is relatively low. The study on the world states' competitiveness conducted by World Economic Forum (WEF), ranked Romania 67th out of 117 analyzed countries in 2005 (with a score of 3.67), lower compared to the previous year when it was 63rd out of 104 analyzed countries (with a score of 3.86), behind the new member states and also behind other candidate countries such as Bulgaria (ranked 58th) and Turkey (ranked 66th). World Economic Forum conducts the analysis of competitiveness based on three factors: technology, institutional frame and Macroeconomic environment. The Report on Global Competitiveness – World Economic Forum, 2003 and 2004 (on which data is available) ranked Romania 55th - in terms of technology, 58th - in terms of macroeconomic environment, and 67th - in terms of public institutions, out of 80 analyzed countries, which demonstrates the need for major improvements in these areas. Hence, structural change towards an innovative and competitive economy is still at the very beginning.

Model chapter 1.1.2: *The Level of Competitiveness of Romania within the EU 25+2*

Competitiveness in international trade among different sectors or product groups can be *inter alia* measured by the index of *Revealed Comparative Advantage*. By using processed OECD data⁴² one finds that among the EU 25+2, on the one hand Romania displays the lowest value in high value added and human capital intensive sectors, i.e. in the R&D intensive sectors (1.5%, followed by Latvia and Portugal with 2.1% or 2.6% respectively) and on the other hand also the highest score in labour intensive low value added sectors (almost 70% followed by Bulgaria with less than 48.8%).

⁴² Cf. V. Kaitila: The Factor Intensity of Accession and EU15 Countries' Comparative Advantage in the Internal Market, Helsinki, 2004

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Data source: Kaitila 2004, based on OECD 2002 data

The margin for the high tech sectors between last rank Romania and first rank Ireland is more than 70 percentage points⁴³. Competitiveness in terms of the Lisbon targets appears therefore lowest among all EU and accession countries. But also in terms of trade integration into the EU markets Romania appears to be among the poorer performers, lower than Turkey, but still ahead of Bulgaria and the Baltics. The adjusted general, vertical and horizontal *Grubel-Lloyd-Indexes* of Intra-industry trade (NACE 4-digit level) compared to all other new member or accession countries are as follows:

Ranking: Candidate countries with all EU countries	Adjusted Intra-industry Trade indices (general, horizontal and vertical) in 2000		
	IIT	HIIT	VIIT
1. Czech Republic	0.637	0.097	0.540
2. Slovenia	0.574	0.127	0.446
3. Poland	0.551	0.130	0.421
4. Hungary	0.509	0.121	0.389
5. Slovakia	0.418	0.092	0.326
Mean	0.391	0.067	0.324
6. Turkey	0.367	0.055	0.312
7. Romania	0.337	0.040	0.297
8. Bulgaria	0.308	0.022	0.285
9. Estonia	0.267	0.020	0.247
10. Lithuania	0.206	0.009	0.196
11. Latvia	0.124	0.020	0.104

Calculation based on Eurostat, Comext databank, 2002.

The countries revealing an intra-industry trade index lower than the CEEC average are not yet sufficiently integrated into the EU markets. Just with a view to real convergence and market integration (indicated by a similarity of trade patterns)

⁴³ It is true that also highly developed old member countries like Italy reveal a rather poor record of RCA in high-tech, however one has to consider the fact that the tables above only illustrate the margins of the RCA distribution of technology levels. In fact, as Kaitila (2004) finds, Romania could achieve RCA values above 3% (regarding trade with the EU15) only in labour-intensive low value added sectors with the exception of the 'production of insulated wire or cable' belonging to the category with more human capital intensive production but not R&D intensive. In most other new member countries (including Bulgaria as acceding country besides Romania) the distribution of RCA among the sectors is different with more shares of higher value added sectors (pp.3 and 23).

Romania has therefore still to bridge a large gap. [Perhaps more recent comparative data are already available]

In terms of GDP Romania is ranked second last among the EU25+2. During the last years, however, high growth rates suggest a rather sustainable catching-up process. Hence, during the last years Romania has met the Lisbon target of minimum 3% growth.

In conclusion it can be said that, on the one hand, the impressive growth rate during the last years therefore suggests an accelerated catching-up process of Romania and can by thus interpreted as a potential for increased competitiveness. On the other hand, market integration of Romania with respect to the EU is still at the very beginning. It can be seen as an indication for a weakness in terms of competitiveness.

[... Further discussion on the Integrated Employment and Economic Guidelines under the Lisbon process and the Community Strategic Guidelines].

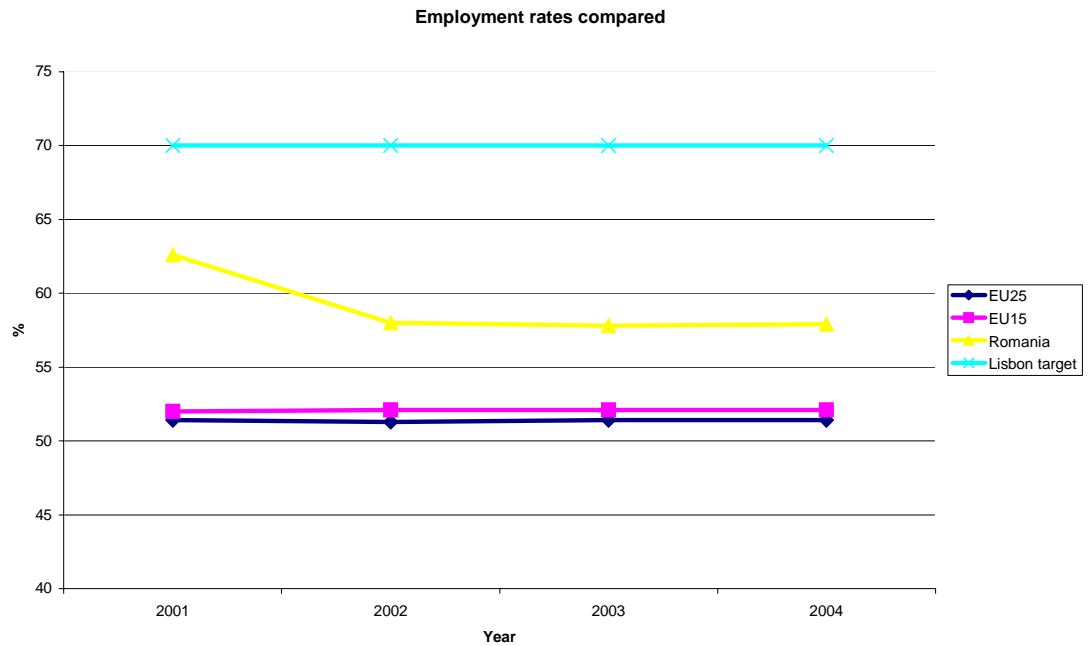
[... A brief explanation which economic fields are covered in the analysis and why just these have a particular/critical relevance for competitiveness].

Model chapter: 2.2 Employment

Combined with the productivity level the participation rate is an important determinant of the growth potential of an economy. The Lisbon target is at 70%. [Lisbon target of 70% needs to be further explained]

Employment, the productivity of labour and aggregate output are linked by the so called "fundamental identity". A high participation rate and sustained productivity growth are the hallmarks of economic growth, a successful development and thus a paramount priority of economic policy. The Romanian participation rate has developed as follows.

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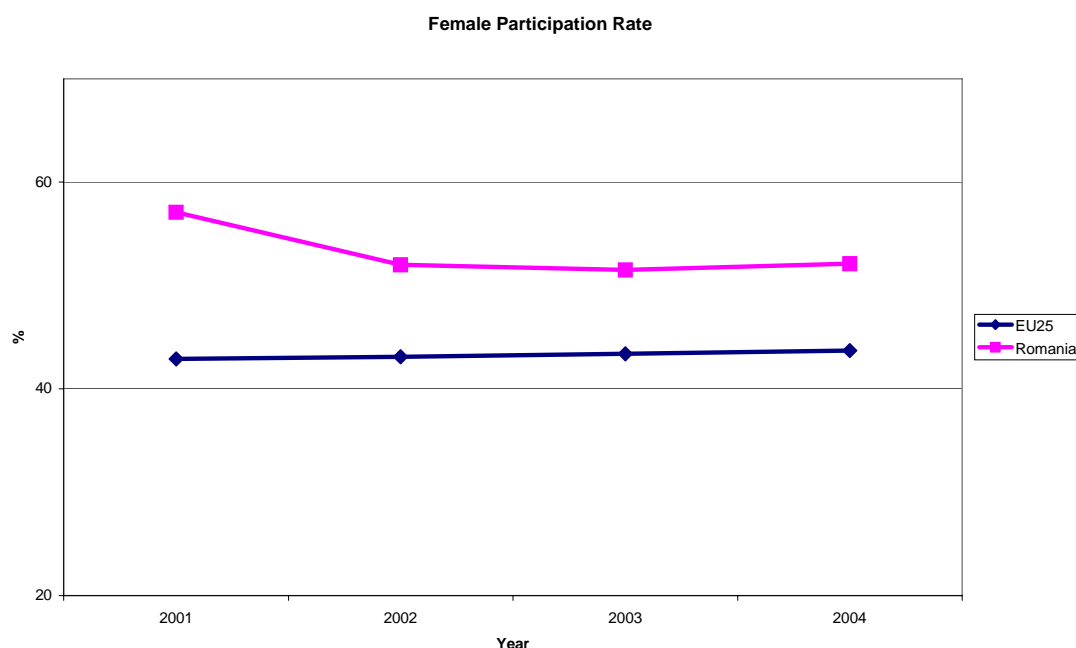
Source: Eurostat data

Compared to the EU15 and EU25 averages the level of employment in Romania is still more than ten percentage points higher. The reason for that difference might be found in the relatively low level of labour costs and the not yet completely implemented restructuring of the economy.

From 2001 until 2002 the employment rate lost almost 10 percentage points until 57.7% but then remaining stable until 2004. The visible decline in employment started already in 1992 in the context of the transition and restructuring. Surplus labour was gradually reduced and productivity improved correspondingly. However, labour productivity increases was not accompanied by corresponding output growth as this would have required major capital investments⁴⁴. Only from 2006 it is expected that the participation rate will again grow due to successful stabilization policies leading to more sustained growth.

The employment rate for women is much lower than the employment rate for men (52.1% vs. 63.4% in 2004) but also here still substantially above the EU average (43.7%).

⁴⁴ The main causes of this evolution were: the general economic decline with the reduction of total output, the failure of macro-stabilization policies and the delay of privatization, the reduction of investment and the restructuring of inefficient economic agents, the low mobility of labour force in territory, the constraints associated with the international environment (cf. Claudiu G. Bocean and Catalin M. Barbu 2006, Links between Employment, Productivity and Output Growth. Case of Romania, University of Craiova, Dolj).



Source: Eurostat data

The evolution of the Romanian labour market in Romania has also been influenced by demographic and social phenomena such as: the decrease in the fertility rate, increased mortality, the growing number of emigrants and the reduction of the quality of medical services. These lead to a demographic change with an ageing population similar to the old member states.

A high participation rate and a stable productivity growth are the determinants of sustainable economic growth and increased competitiveness.

In conclusion it can be said that the relatively high participation rate (including that of women) is still an important potential for economic growth and increased competitiveness, provided that the labour productivity is also increasing correspondingly. For Romania the employment level is still considerably higher than in the EU 25 or EU15 but it has declined during the transition process and there is still a major gap in productivity and to achieve the Lisbon targets.

2.3 Gross Domestic Product and Income

(figures and interpretation from the Eurostat databank)

3. Specific Issues of Economic Competitiveness

3.1 The Manufacturing Sector: Structure and Value added, Investment and Productivity

(sectoral shares, technology level shares, size shares, and trends of value added and investment, foreign trade; Output / labour volume)

3.2 The Service Sector: Structure and Value added, Investment and Productivity

(sectoral shares, technology level shares, size shares, and trends of value added and investment; value added / labour volume)

3.3 A further Glimpse at the SME Sector

(Horizontal multi-sectoral view: Trends of size structure, technology level, employment and productivity, investment; accessibility to finance)

Model chapter 3.4: *Scientific Research, technological Development and Innovation*

The evolution of the R&D and innovation (RDI) field in Romania is undergoing important changes, mainly due to the near perspective of EU accession. The analysis of present RDI situation reflects the political and economic efforts necessary for responding to accession requirements and for ensuring the necessary conditions to achieve the overall Lisbon objectives.

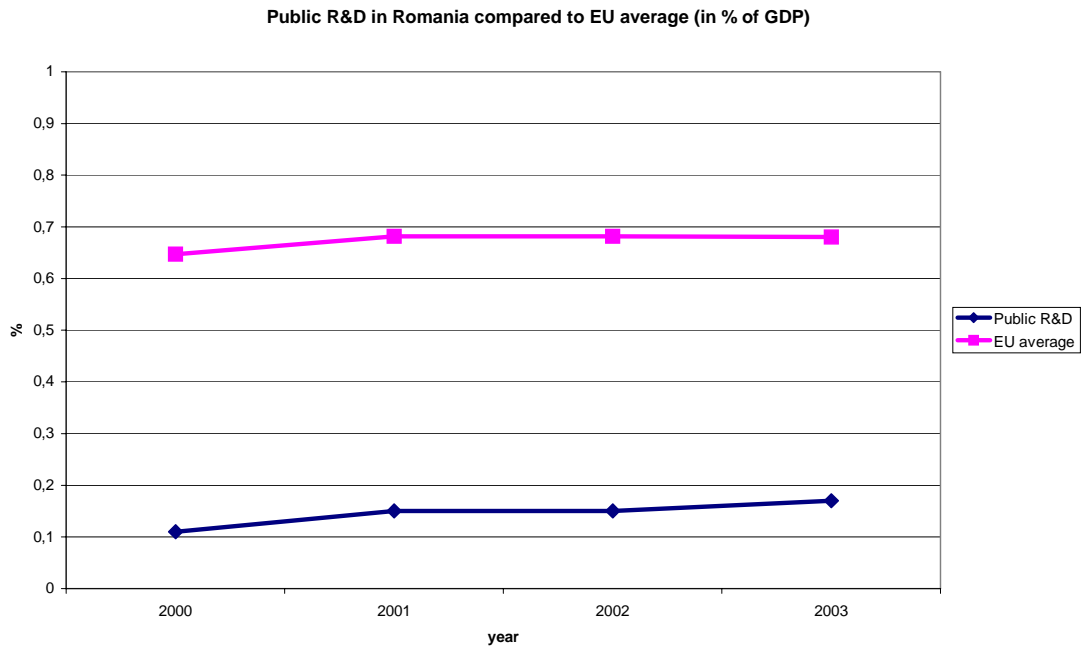
3.4.1 Overview

In the 2005 EIS study of the European Commission (Hollanders et.al) Romania ranks second to last on the Summary Innovation Index (SII) out of 33 countries (EU including accession and candidate countries plus Norway, Iceland and Switzerland). Its worst performance is for intellectual property rights, with almost no USPTO patents. It performs very poorly on innovation drivers, knowledge creation and poorly on innovation & entrepreneurship and applications. Only two indicators of the EIS survey for Romania are found above the EU average: namely the percentage of SMEs that have introduced non-technical change and the new-to-market product sales.

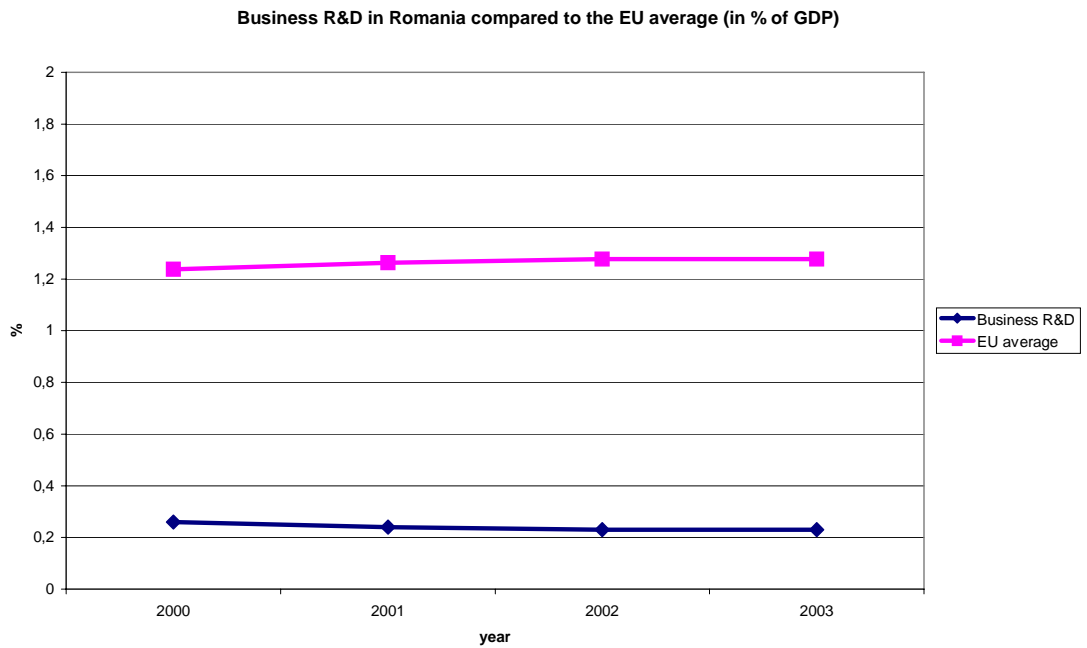
3.4.2 Public and private R&D

Both public and private business R&D lag far behind the EU average. On average only 20% of the EU mean could be achieved in Romania until 2003. The R&D intensity of Romania is lower than countries from Central, and South-Eastern Europe. Interestingly, public R&D in Romania could increase from 0.11 to 0.17% in 2004, while business R&D even slightly slumped from 0.26 to 0.23. The slightly diverging trend might accrue from the specific commitment of the Government for the implementation of the Action Plan for reaching the 3% objective of the Lisbon strategy. Public support in financing innovative activities in enterprises is, however, very low, only 10% of innovative enterprises (400, from which 306 SMEs) receiving funding.

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Source: European Commission: EIS 2005



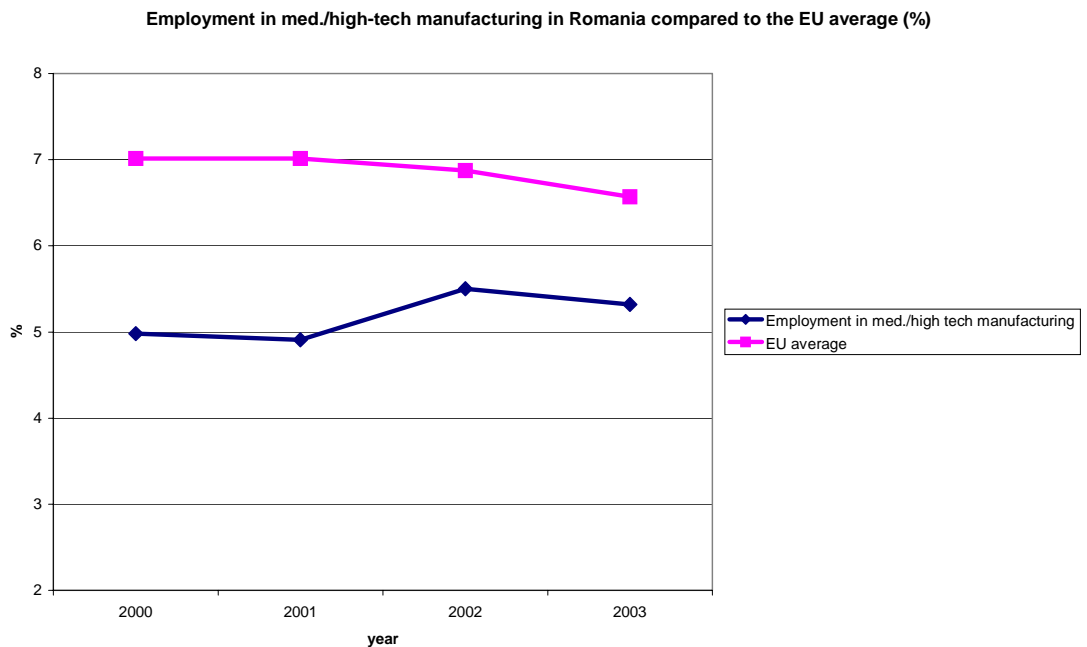
Source: European Commission: EIS 2005

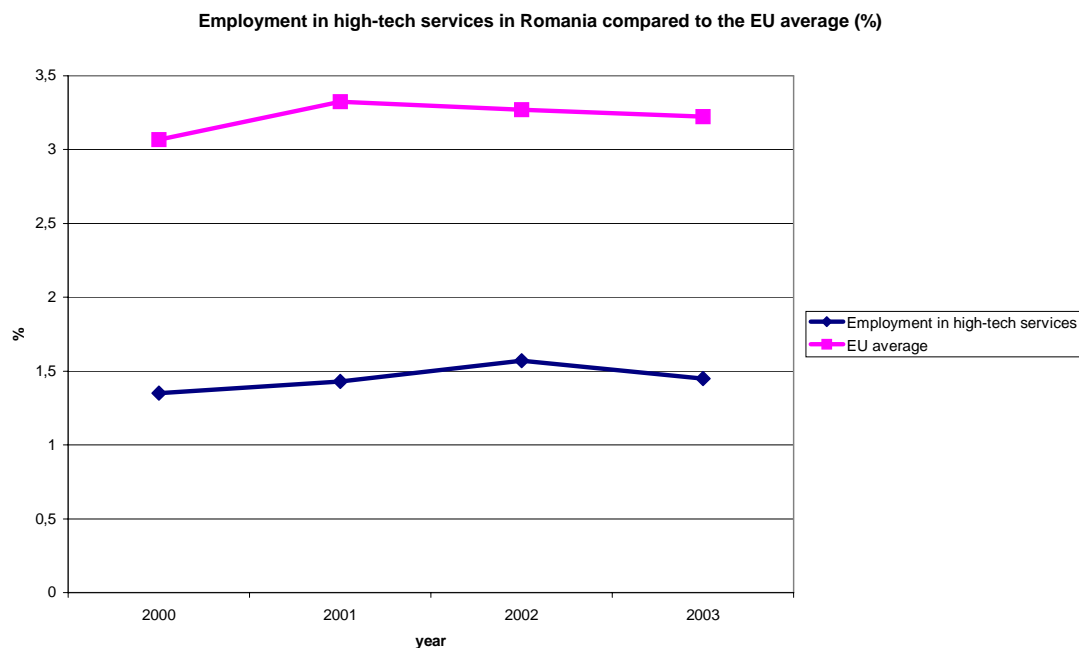
In conclusion, the overall financial effort to boost Romanian R&D is very low and can therefore be regarded as a major weakness of the economy.

3.4.3 R&D personnel

The research potential in 2004 was represented by a total personnel employed in R&D activities of 40,725 ("The Research activity in 2004", National Institute of Statistics 2005), out of which 9000 PhDs. Around 55% are active in the field of technical and engineering sciences, which could be a comparative advantage for responding to research demand coming from the economic environment.

As regards employment in medium and high-tech manufacturing, the percentage shares of the EU average and Romania reveal a converging trend until 2003, however the country is still lagging about 20 percentage points behind the EU average. As regards employment in high-tech services, Romania achieves only about 45% of the EU average.





Source: European Commission: EIS 2005

Low salaries, inadequate research infrastructure for high performance, as well as the opportunities offered by research programmes of other countries, led to a gradual increase in average age of R&D personnel, so that at present the persons older than 45 represent approximately 50% of the total number of researchers.

In conclusion it can be said that the low number of R&D staff, both in manufacturing as well as services and the unfavourable age structure make up another important weakness of the Romanian economy in terms of competitiveness.

3.4.4 Patents

The number of European patents is only about one percent of the EU average; as regards the US patents Romania's performance is even hardly measurable. The data rank Romania on the last place in the hierarchy, together with Turkey. The EU25 average is 107.7 patents/million inhabitants for EPO, respectively 59.9 patents/million inhabitants for USPT. In this field the country is lagging behind extremely. The intensity of patents is one of the central indicators of the capacity, quality and market maturity of R&D. As long as Romanian R&D fails in catching up in patents, the important structural change through innovation is at risk.

Table: Number of patents per one million inhabitants in Romania

	2000	2001	2002	2003
Patents EPO (Number)	0,81	1,32	1,35	0,33
Patents USPTO (Number)	0,09	0,31	0,13	0,01

Source: EIS survey 2005

Therefore, Romania exhibits a serious weakness in the applicability and utilisation of domestic R&D.

3.4.5 Innovative enterprises

At European level, 51% of productive enterprises are technologically innovative. In Romania the innovative enterprises weight is still low, but the tendency is to increase from 17% (2000-2002) innovation resulted from the survey according to EUROSTAT CIS 3 methodology) to 19.3% according to 2002-2004 survey (EUROSTAT CIS 4 methodology). At the same time, the activity structure changed as follows:

The innovation survey	Innovative enterprises in industry	Innovative enterprises in services
2000-2002	19%	13%
2002-2004	21%	17%

Source: Source: the innovation survey in industry and services, NIS

In 2002, the innovative enterprises' turnover accounted for 42% of the total turnover of enterprises subject to statistic research. A similar weight is reported in terms of employees number.

From the investigation carried out in 2003 by the National Institute of Statistics for 2000-2002, the structure of innovative enterprises was the following:

a) *by size*: 83.4% are SMEs (53.7% small and 29.7% medium sized) and 16.6% are large enterprises;
b) *by field of activity*: 73% are in industry and 27% in services (12% trade, 10% real-estate, 4.7% transport and communications).

The weight of sales of new or improved products (new for the company or new for the market) is an important indicator to characterize the innovation state. In this respect, Romania is better placed in terms of new products either for the company or for the market, both in manufacturing industry and in services (Annex 2, Table 1)⁴⁵. Here a possible potential is indicated.

A special importance is attached to high-tech products and services. The high-tech products export represents only 3.3% of total Romanian exports that is much lower than EU25 average (18%)⁴⁶. This might indicate another weakness in terms of competitiveness. Yet, the new EU member states registered comparable data to Romania's but meanwhile there are already emerging exporters of high-tech like Hungary (21.7%) and the Czech Republic (12.3%).

⁴⁵ However, according to the EIS survey, success on these indicators is probably due to a statistical base effect.

⁴⁶ The Romanian innovative enterprises' structure by size and NACE classification and the regional distribution of innovation expenditure are shown in Annex 2 (tables 2 and 3).

A legal framework and the financial instruments to stimulate research activity and the application of research results in economy (i.e. risk capital funds for high-tech start-ups, and spin-offs) are missing, as well as tax incentives to foster innovation activities in enterprises. This can be defined as another connected weakness in terms of competitiveness.

3.4.6 Partnership between R&D units and the productive sector

The partnership in R&D activities between enterprises and universities/R&D institutions is at a low level. The main cooperation framework between research and the productive sector consists of the national RDI programmes and direct orders (RDI procurement). The main national programmes which promote and support cooperation enhancement between research units and the productive sector are the National Plan for RDI (1999-2006), and the Programme "Research of Excellence" (2005-2008). Hence, co-operation is still a weakness, but reveals signs of a possible future potential as long as national RDI programmes are further enhanced.

3.4.7 R&D, and TT&I infrastructure

One of the new policies of the Romanian Ministry for Education and Research is the improvement of R&D infrastructure, in order to reduce the large gap between the Romanian R&D entities and similar ones in EU. This objective was approached in different steps, starting from the evaluation of available human resources and of its R&D performance and from the evaluation of the development perspectives of different scientific domains, both in the national economic context and the international one set by EU accession.

The technology-transfer and innovation infrastructure, namely the organisations specialised in the dissemination, transfer and valorisation of R&D results in economy is still poorly developed. The development and consolidation of TT&I infrastructure is an important objective of the R&D government policies and can ensure a very favourable framework for strengthening the partnership between enterprises, universities and R&D institutions, for stimulating the research demand, and the development of own R&D departments in enterprises, especially in high-tech, for increasing the number of innovative enterprises in advanced technologies and supporting their set-up and development.

The setting-up of TT&I entities shows a slight improvement after the approval of GD no. 406/2003 concerning the set-up, evaluation and certifying of TT&I entities: TT centres, centres for technological documentation, industrial liaison offices, technology incubators. At present there are 26 functional and certified entities. To stimulate the innovation based on R&D results absorption and to strengthen partnerships between research institutes, high-education institutions and industrial partners, the process of setting-up science and technology parks was also encouraged. (GO no. 14/2002 concerning the organization, and functioning of science and technology parks, approved by Law no. 50/2003). There are 7 science and technology parks with temporary certification in: Galati,

Braila, Slobozia, Brasov, Bucharest, Timisoara and Iasi. Three of them (Galati, Iasi, and Brasov) are already operational.

The National Programme "Development of TT&I Infrastructure – INFRATECH", approved by GD no.128/2004, is the main instrument which provides financial and logistical support to set-up and develop specialized TT&I institutions, including science and technology parks.

In conclusion it can be said that at present, technology transfer is still a major weakness in term of competitiveness, but recent national policies (as described above) suggest that there are future potentials to boost technology transfer and thus competitiveness.

3.4.8 Conclusion

In conclusion, R&D and innovation development is very poor in Romania. In terms of finance, employment, patents there are major weaknesses.

3.5 Information and Communication Technology

(Access to information infrastructure for large and SM enterprises in fields such as broadband coverage, PC penetration, Internet access, telephony, etc.; trend and comparison figures)

3.6 Energy and Energy Efficiency

(Energy production and consumption, low energy efficiency as a threat for competitiveness, trends of RES use, environmental impact)

3.7 Tourism in Romania

(Tourism as a competitiveness factor, attractions, the transformation of the tourism sector, structure of the tourism sector, trend/development of international tourists)

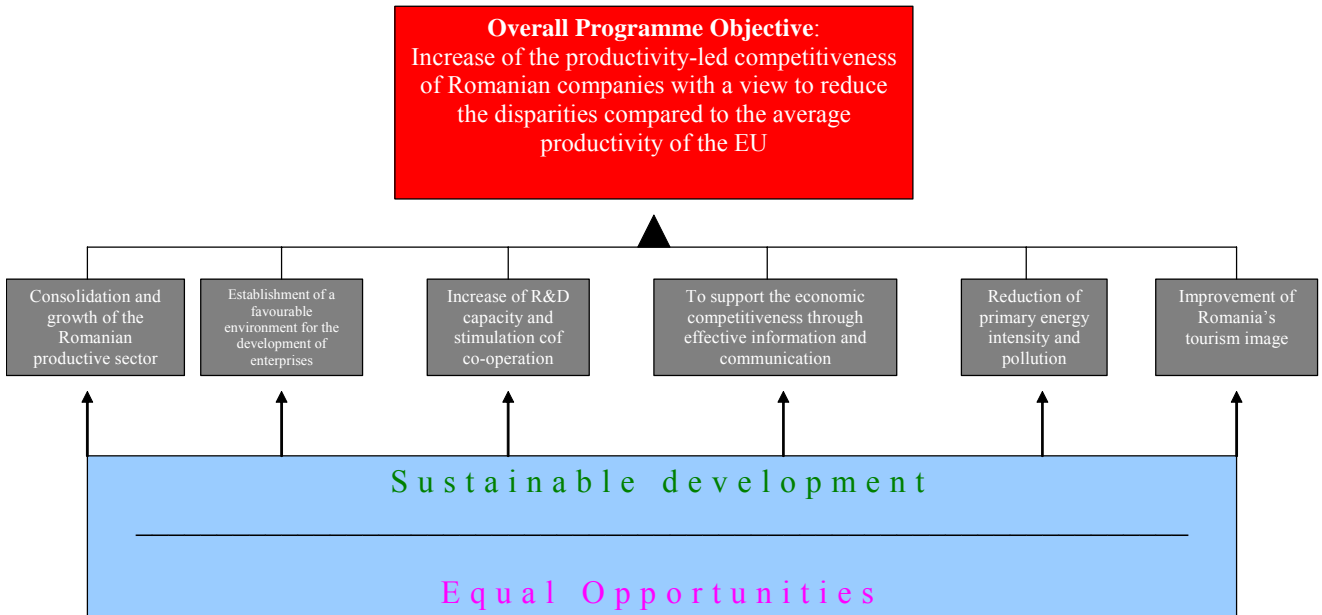
[all strength, weaknesses, opportunities and threats, underlined above in the text should be briefly repeated as a bullet point in the SWOT synopsis. In the strategy chapter one should only refer to the bullets; A reference to the baseline analysis with repetition of data would make the programme style redundant.]

[a final check against the *aide memoire* in terms of completeness should be carried out]

Strategy chapter:

Model chart: The evaluator's proposal for a graphical illustration of the interaction of strategic objectives of the SOP IEC:

SOP: Increase of Economic Competitiveness
System of Strategic and Specific Objectives



Annex 2: Concluding Quality Assessment of the Final Programme Version

1. Introduction

The ex-ante evaluation has addressed two preliminary programme versions (April and November 2006). Although the November version included some single improvements, most parts of the document remained unchanged (notably the economic baseline analysis). In general, the deficiencies of the April/November versions have not been very fundamental in terms of the problem analysis and the general strategic orientation; it has been rather a lack of clarity in analysis and focus, explicit consistency and intervention logic.

The newly accomplished final programme version almost all deficiencies addressed in the ex-ante evaluation report partly by informal feedback are removed.

2. Assessment of the Economic Baseline Analysis

The recommendations of the ex-ante evaluation to recast and to re-focus the chapter have been completely fulfilled. All specific ideas (including the proposed structure of contents) have been considered. The economic baseline analysis now presents a clear and systematic illustration of the issues of economic competitiveness of the Romanian economy, notably in connection with the important integration into the EU markets. The choice of data, its presentation and the analysis (showing a strong depth of focus) are excellent. The issue of economic competitiveness is recognisable as a 'red thread' throughout the chapter as it is viewed from several macro-economic and sectoral perspectives. In most aspects the Romanian situation is compared with the EU25, always revealing the gap to be bridged by economic growth and related adjustment and cohesion policies.

The macro-economic analysis includes growth and stability, nominal convergence, employment and foreign trade). The specific aspects of competitiveness are analysed sectorally (manufacturing industry and services) and cross-sectorally including (i) structure and trends of the SME segment (sectoral and regional distribution SME, structure of size, patterns of exporting, gross investments and business finance), (ii) the Romanian RTD capacities and prospects (R&D employment, expenditure, patents and patterns of networking), (iii) the capacity and geographical coverage of ICT (broadband penetration etc.), (iv) the energy production and consumption with special emphasis on efficiency and its impact on competitiveness (as a cost factor), weight of RES and environmental impact) and (v) the economic potentials of tourism as a sector with comparative advantages for Romania.

Where possible and convenient, the selected data are from Eurostat databanks (some of secondary EU sources like the 'Innovation Scoreboard'), the OECD and otherwise from the Romanian statistics authority. However, immediate issues of incompatibility between the different data sources are not visible. The single sub-chapters of the analysis conclude with a bullet-pointed summary of the corresponding main message, pointing out the specific strategy-relevant strengths and weaknesses identified. The high level of clarity and focus of the analysis facilitates the elaboration of a clear strategy and might contribute to the quality of the intervention logic.

The SWOT synopsis is fully geared towards the baseline analysis. It summarises the messages contained in the conclusions of the sub-chapters. The two-tier approach (with tirets and sub-tirets) illustrating the issue of causes and effects of SWOTs, instead of simply listing up SWOTs of different importance, is highly appreciated.

3. The Strategy

A major weakness of the strategy chapter of the former programme version has been the missing explicit link to the analysis and the SWOT. Effort of interpretation was needed in order to identify the relationship between strategy and analysis. The approach described was fuzzy and not well focussed on the identified needs. Moreover, parts of this chapter were highly redundant. Reading the strategy chapter of the new programme version leads to a very favourable assessment. The need for enhanced economic integration through lifting the level of technology and innovation is clearly determined. Objectives (general and specific) are also well determined from the strategy-relevant conclusions of the baseline analysis and the corresponding SWOTs.

The text clearly recurs to the SWOT identified and formulates central conclusions for policy intervention such as

'... Hence, improving competitiveness should not be seen as a process of taking advantage of short term opportunities (e.g. lower labour cost), but more as a process of building up an economic structure based on capital investments and on research, development and innovation. In other words, the prospect of convergence on medium and long term and the successful market integration of Romania imply a catching up in terms of knowledge-based economy...' (p.76)

Apart from that the way to address the policy objective is logically described (with a close reference to the analysis chapter):

'...To achieve this goal, the strategy will have to:
- address the weaknesses of existing industrial sectors and their outdated and often poorly ecofriendly and excessively energy-intensive technologies;
- further diversify the productive basis of the country to avoid overdependence on low value added products;
- bridge the gap between R&D activities and their industrial application and promote research-led innovative sectors;

- *foster the pervasive use of ICT technologies;*
- *increase the efficiency and sustainable development of the energy system as a factor of overall competitiveness, while addressing at the same time energy efficiency issues at the end users;*
- *improve Romania's image and increase her attractiveness by promoting the tourism opportunities...* (p.78)

These components of strategy are then further described in a way how policy intervention stimulating economic competitiveness could feasibly work (pp.78 ff.). This serves well as a basis for justification of the concrete policy intervention (priority axes including operations).

Then the general and specific objectives of the programme are described (including quantified targets). The figure, illustrating the system of programme objectives is very useful to capture the thrust of the programme in the overall policy context. Apart from 'technical assistance' as a vertical priority axis with horizontal impact it would have been important also to include the major horizontal objectives (equal opportunity, environment) which also constitute horizontal priority axes, even though these are not budgeted.

4. Description of the priority axes

The ex-ante evaluation report and also the informal feedback of the European Commission addressed some important formalities not well covered in the preliminary versions of the SOP. These have been the 'territorial dimension' of cohesion, the use of the flexibility facility according to Article 34 (Regulation 1083/2006), the use of JASPERS, JESSICA and JEREMIE and the demarcation regarding EAFRD, EFF and EIB/EIF. It has not so much a problem of inconsistency but only of formality. The context should have been made more explicit.

The new version of the programme has coped with the requirements: Ex-ante the programme pursues a territorial dimension for the so-called 'market failure' areas which lack broadband connection and the tourism destinations. The territorial dimension of the programme as such is purely national. This has been reasonably addressed as it e.g. says:

'...As the programme intervenes at national level, the thrust has not a deliberate ex-ante regional dimension, although there will be regional impacts as with any such programmes. Nevertheless, SOP IEC does address the territorial dimension through specific operations like broadband connection of underserved areas which will impact on the reduction of urban-rural gap or the balanced territorial distribution of tourism information centres in areas with high potential. However, if during the initial implementation period, the absorption of SOP IEC funds (particularly the direct support for productive investments) seems to indicate an excessive concentration in regions with a higher development level, appropriate corrective actions will be identified and applied in order to stop or potentially reverse this trend...'(p.79)

The use of the flexibility facility has now been described for every operation where it could be considered.

The same can be concluded for the reference to the auxiliary SF facilities JEREMIE and JASPERS. JEREMIE will be used for financial engineering instruments for SME support, JASPERS will be employed for preparation of projects in the energy sector. Although within the programme there is no direct relevance to urban issues (this is more addressed by the ROP), a brief corresponding statement on the non-use of JESSICA should have been made. The same can be said for the relationship/coherence of the SOP IEC with the EFF programme and operations of the EIB/EIF. Formally, the programme document should explicitly mention that, even though there might be no direct relevance.

Regarding the description of the priority axes and operations we only point out issues which in the November version still seemed not yet sufficiently addressed.

Recommendation	Sufficiently considered in the final programme document ?
It is recommended to further clarify that broadband coverage in 'market failure' areas is necessary for enhancing national competitiveness	✓
Public e-services. It is not clearly analysed why that is really needed in terms of economic competitiveness.	✓
Environmental protection in the energy systems: Still more clarity on justification of that operation is needed in the programme text.	✓

5. Coherence issues

Issues not yet sufficiently covered in the November version have been:

- (1) The environmental relevance of tourism policy
- (2) Minor coherence issues regarding the ROP
- (3) Minor coherence issues regarding the SOP HRD
- (4) Some more emphasis on eco-sensitive technologies
- (5) Equal opportunities

In the final programme version all raised issues have been sufficiently tackled. The missing environmental objective for tourism was also pointed out in the SEA report. Now, the programme includes this important horizontal objective clearly and explicitly.

The coherence issues regarding the ROP (apparent un-coordinated overlapping of the objective of competitiveness and economic integration) could be solved in the ROP rather than the SOP IEC.

Regarding the SOP HRD the minor mistake in the programme text has been removed. The importance and relevance of eco-sensitive technologies have been

made explicit and equal opportunities are now a uniform horizontal objective for all priority axes.

6. Indicators and objectives

Major recommendations have been:

- (1) An impact indicator genuinely measuring economic competitiveness should be added. It is recommended to include an operational indicator measuring market integration (e.g. the Grubel-Lloyd index). Alternatively a productivity-related indicator could be appropriate.
- (2) In some cases the definition of indicators should be more comprehensive. In priority axis 1 the number of enterprises targeted should be reviewed as the number appears too low.
- (3) For the quantification of objectives it is recommended to imagine typical projects (i.e. what for example is intended by the specific operations) and to calculate desired outputs and results against prevailing costs.
- (4) It is recommended to define 'Volume of venture capital shares: e.g. minimum 75 million Euro' replacing (or complementing) the indicator for the guarantees.

The overall impact indicator chosen is a simple productivity related measure based on dY/dL (as described in annex 6). Basically, this indicator is reasonable, but does not indicate the level of economic integration. An additional or alternative EU trade related indicator (e.e. Grubel-Lloyd) would have been superior.

The column for baseline values is empty and should have been deleted since baseline values for output and result indicators are irrelevant (always=0). The indicators have been revised and appear more consistent. E.g. the value for the gross employment effect for Priority Axis 1 is now increased to 5,000. Also the number of assisted enterprises has been doubled to a more realistic number of 2,000. Although not really necessary for the quantification of objectives, the writer would have appreciated to be more courageous in defining targets for innovative financial engineering (e.g. seed capital), as these instruments are supposed to be more and more relevant for innovative projects supporting the private sector than traditional grants, subsidised loans or guarantees. The priority axis 1 of the SOP IEC represents this kind of operations.

7. The implementation system

Major recommendations have been here:

- (1) There should be a clear definition of IBs and 'Implementing Agencies' and the respective difference between both types of institutions involved.
- (2) The programme monitoring (i.e. the monitoring committee and the electronic system) should be better described in its details.

- (3) Organising a genuine ongoing evaluation instead of mid-term or on-the-spot assessments
- (4) The description of the independent audit authority should be in accordance to the Regulation.
- (5) Establishing and observing clear, objective rules for communication and co-operation between MA and IBs.
- (6) Defining precise, effective working procedures for the Monitoring Committee to be established and getting in force soon.
- (7) A flexible employment (personnel) policy, focusing on the staff quality rather than strict quantity levels (including the provision of adequate working conditions, in terms of logistics and salaries).
- (8) Changes in training orientation, with much more emphasis on specialized knowledge, new work procedures, new guide for C-B analysis, etc.
- (9) Clear, effective support for project pipeline envisaging the funding of IBs information campaigns and communication in order to foster project ideas, qualified consulting for project elaboration and primary, formal appraisal of applications.

The originally confusing differentiation between Intermediate Bodies and Implementing Agencies is now removed. Implementing Agencies are not any more mentioned. The monitoring is now better described. The description of the membership of the monitoring committee is still too vague. Actually this committee should have been already formally established so that it would be easy to elaborate a list of member organisations and their representatives. The role and function of the independent audit authority is now well described. The idea to second an independent evaluator to the Monitoring Committee is to be appreciated. This could be considered as a cost-efficient quality control mechanism of the programme implementation. Recommendations 5 to 9 are related to the programme management rather than the technical approach and to be reviewed in the implementation process.

Rolf Bergs
Policy Research & Consultancy Partnership Co.
Bad Soden, Germany
13 February, 2007

Annex 3 SEA report for the SOP Increase of Economic Competitiveness

Environmental Report
*(strategic environmental
assessment report)*

**Sectoral Operational
Programme**

Increase of Economic Competitiveness

Romania

EuropeAid/121373/D/SV/RO

Reference

Bucharest, January 2007

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Acronyms and abbreviations

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)
GHG	Green house gases
GRDP Handbook	Handbook on SEA for Cohesion Policy 2007-2013 elaborated within the Interreg IIIC project "Greening Regional Development Programmes"
IT	Information technologies
KAI	Key area of intervention
LCP	Large combustion plant
NCCS	National Climate Change Strategy
NDP	National Development Plan
NGO	Non-governmental organization
PA	Priority Axes
PT	Public transport (which includes urban public transport (metro, tram, trolley, bus and micro-bus) as well as national public transport system of rail, bus, water public transport and air)
REC	Regional Environmental Center for Central and Eastern Europe
RES	Renewable energy sources (such as wind or solar energy)
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
SOP IEC	Sectoral operation programme for increasing of economic competitiveness 2007-2013
NRSF	National Strategic Reference Framework

Non-technical Summary

The Sectoral Operational Programme for Increase of Economic Competitiveness for the years 2007-2013 (hereinafter SOP IEC) is a document prepared to enable access and distribution of EU financial sources in the area of economic development. This SOP is being elaborated by the Ministry of Economy and Trade of Romania. It adheres to thematic priority identified in the National Strategic Reference Framework aimed at "increasing long-term economic competitiveness". The SOP IEC determines objectives, priority axes and key areas of intervention within which it will be possible to submit project applications for co-financing from the EU Structural Funds.

The SOP IEC was identified as one of 4 sectoral operational programmes screened for the strategic environmental assessment (hereinafter SEA) procedure, 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 DG1076/2004 on SEA). The content and scope of the assessment was determined during the consultation meeting with the Working Group established for the purpose of SEA by the Managing Authority (please see the list of invited institutions attached in the Annex 1). The scoping meeting took place on the 7th of September 2006, and minutes of the meeting are attached as Annex 2 to this report (in Romanian only).

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

All parts of the SOP IEC were assessed within SEA. Expert conclusions and recommendations were based on a number of national and international documents relevant to the SOP IEC including the draft programme complements 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 SOP IEC. 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 SOP IEC sections and proposed the following changes to the SOP IEC:

- to emphasize the link with sustainable development objectives identified in the EU Sustainable Development Strategy (Gothenburg 2001 and revised version of 2006 in Brussels) and Sustainable Development Strategy of Romania (1999);

- to amend the proposed interventions for tourism that may have potential impact on the natural and cultural heritage with regard to ensuring sustainable development of tourism;
- to complement SOP IEC descriptive part with environmental issues related to energy generation
- to supplement the SWOT analysis with environmental issues (provided);
- to complement and modify the global and specific objectives of the SOP IEC in order to advance the sustainable development.

The draft environmental report was completed on 20th of November and was prepared for the version SOP IEC dated April and included modifications of November versions of 2006. The SOP IEC 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 IEC was provided to the SEA team on 20th of January 2007. This version has been consequently still included in the final version of the environmental report.

The SOP IEC contains priority axes that are worked out in detailed key areas of intervention, which are the most important part of the SOP in terms of assessment of its possible negative impacts and potential environment benefits. Assessment was carried out for each separate key area of intervention 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.

On the basis of this assessment, the SEA team made proposals for implementing and modifying the focus of the areas of intervention and also suggested conditions for their implementation.

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

Major findings and recommendations of the analysis

Results of the assessments covered two versions of the SOP IEC: i) 2005 version of this SOP IEC and ii) April 2006 version of the SOP.

Both versions of the SOP IEC differ in a way that the later alternative proposed additional KAI under Priority Axis 4 "**Increased energy efficiency and sustainable development of the energy system**".

The April 2006 version of the SOP IEC includes under this priority a KAI 4.1 called "Improvement of energy efficiency". The 2005 version of the SOP IEC did not include such KAI and instead contained a KAI called "New power plant construction".

Assessment of the Key Area of Intervention "Improvement of energy efficiency" proposed in later SOP IEC version (April as well as November 2006) indicates that this intervention is likely to have significant positive environmental effects and its inclusion improves an overall balance of positive and adverse environmental impacts of the SOP IEC.

Comparison of both versions of the SOP thus leads to a conclusion that the latest version of SOP (November 2006) is likely to have more positive environmental effects than the previous (2005) version of the SOP, since

- the new KAI "Improvement of energy efficiency" is likely to have less negative and more positive effects than the originally proposed KAI "New power plant construction" under 2005 version of the SOP
- KAI "Improvement of energy efficiency" further corresponds to the priorities provided in the guidelines for SF
- it enables better integration of sustainable development and environment to the SOP IEC.

SEA recommended to add sustainability concept into the global objective of the SOP by specifying that the productivity increase as the major objective has to be achieved taking into account sustainability. The following formulation was developed during a round of consultations between SEA team and the Managing Authority: The increase of Romanian companies' productivity, **in compliance with the principles of sustainable development**, and reducing the disparities compared to the average productivity of EU.

It was recommended to amend and modify the Objectives 1, 2, 3 and 6 as follows:

Objective 1: Consolidation and **environmentally friendly development** of the Romanian productive sectors

Objective 2: Establishment of a favourable environment for **sustainable** enterprises' development

Objective 3: Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the **producers**

Objective 6: Promotion of **sustainable** tourism **development in Romania**

Specific recommendations for the formulation of Priority axis 1 and 5 were as follows:

Priority Axis 1: An innovative **and eco-efficient production** system

Priority Axis 5: Romania, an attractive destination **for sustainable** tourism and business **development**

Specific recommendations for the formulation of key area of intervention were as follows:

KAI 1.1: Productive **and environmental friendly** investments and preparation for market competition, especially of SMEs

KAI 1.3: Development of **sustainable** entrepreneurship

KAI: 5.1: Promotion of **sustainable tourism in Romania**

Reformulations of the KAI 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.2, 4.1, 4.2 and 4.3 were not proposed

The implementation of the objectives and priority axes of the SOP IEC will have some significant environmental effects on the environment. Mostly neutral and positive effects are expected from implementation of the measures to be carried out under SOP IEC. Negative effects may occur if:

- Natura 2000 protected sites will be identified in the locations or near to the developments to be funded from the SOP;
- If EIA procedures are not carried out or they are not carried out properly (e.g. the relevant stakeholders and the public are not consulted prior to the developments that are likely to have significant environmental effects);

Key mitigation measures proposed for SOP IEC are proposed as follow:

- projects have to be screen for EIA and if EIAs area carried out, special focus should be given on alternatives to reduce impact on Natura 2000, landscape fragmentation and green-field developments;
- priority support should be given to the investments that promote BAT technologies and presence of sound environmental management practices (EMAS, ISO EN 14001) in the supported facilities;
- priority support should be given to the investments that promote minimization of energy consumption, increase energy efficiency, lesser energy demand (e.g. oil and gas), reduction of environmental emissions (especially air) and promote sustainable use of the natural resources;
- priority support should be given to the projects enabling PT use (e.g. rail versus road and measures aimed at PT promotion);
- projects that will be selected using the proposed environmental section system should take should priority in the overall SOP IEC funding;
- projects that help to fulfil Romania's environmental obligations assumed by international agreements and treaties.

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 environmental indicators proposed into the overall system of monitoring the SOP IEC implementation impacts
- To connect the monitoring system to the system of evaluating and selecting the projects, using environmental criteria, where applicable;
- To publish the results of monitoring regularly;
- To ensure sufficient personnel and professional capacities for environmental areas within the SOP IEC monitoring;
- To involve the Ministry of Environment and Water into 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 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 ROP implementation impacts
- To connect the monitoring system to the system of evaluating and selecting the projects, using environmental criteria;
- To publish the results of monitoring regularly (at least once a year);
- To ensure sufficient personnel and professional capacities for environmental areas within the ROP monitoring;
- To involve the Ministry of Environment and Water Management into 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.

Consultation process

In order to consult the public in the preparation and assessment of the SOP IEC, the SEA team initiated the establishment of the web-page within the Managing Authority where the SEA working documents and other relevant information was gradually posted. Visitors to the site will also be able to comment on the draft documents in writing and register to take part in the public debate which will take place at the end of the SEA process.

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 draft documents of the SEAs of 4 Operational Programmes assessed under this contract. Comments on the draft environmental report for SOP IEC could 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 SOP IEC including this environmental report to the Ministry of Environment and Water and the open consultation phase of 45 days with other relevant stakeholders and the public as required by the national law. Minutes of the public debate as well as the list of participants are attached to the Annex 6. The comments and suggestions raised during this consultation phase and the public debate have been considered within the final version of the SOP EIC.

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 GD1076/2004 on SEA.

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 success¹ 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 GD1076/2004. 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 makers 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 SOP IEC 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 SOP IEC.
- Assessment of the descriptive part of SOP IEC – whether it properly reflects the main relevant environmental issues for the SOP IEC.
- Environmental assessment of the SOP IEC strategy (objectives and priority axis).
- Environmental assessment of the priority axes and areas of intervention.
- Proposals for changes in the SOP IEC text, based on the evaluations carried out.
- Proposal for environmental indicators to monitor environmental impacts of the SOP IEC implementation
- Proposal for environmental criteria for selection of projects.
- Compilation of the draft environmental report.

2 Sectoral Operational Programme – Increasing Economic Competitiveness content and context

2.1 Introduction

The Sectoral Operational Programme – Increasing Economic Competitiveness is a document concerning the use of the EU financial and national co-financing sources in several sectors of economy of Romania. The programme is being developed by the Ministry of Economy and Trade of Romania. The SOP IEC is being elaborated upon the objectives of the National Strategic Reference Framework (hereinafter NRSF), in particular on its development objective as set “the increase of Romanian companies’ productivity by reducing the disparities compared to the average productivity of EU”. The SOP as well adheres to the priority of the National Development Plan (NDP) “Increasing Economic competitiveness and development of knowledge-based economy”.

The SOP IEC 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. SOP will be financed from European Regional Development Fund (ERDF).

2.2 Summary of main chapters

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

- Introduction
- 1. Analysis of the current situation
 - o Competitiveness Factors;
 - o Manufacturing industry;
 - o SMEs sector;
 - o Scientific research, technological development and innovation;
 - o Information and communication technology market;
 - o Energy;
 - o Tourism;
- 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
 - o Management;
 - o Monitoring and Evaluation.
 - o Financial management and control,

- Information and publicity
 - Single Management Information System
6. Partnership
 7. Annexes

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 IEC.

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

The objective of the SOP IEC is “the increase of Romanian companies’ productivity by reducing the disparities compared to the average productivity of EU”. 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 SOP IEC will be concentrated on defined priority axes which are aimed at implementing 6 specific objectives of the SOP IEC. Specific objectives of the programme are as follows:

- Consolidation and growth of the Romanian productive sector
- Establishment of a favourable environment for enterprises’ development
- Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the productive sector
- Valorization of the ICT potential and its application to the public (administration) and private sector (enterprises, citizens)
- Increased energy efficiency and sustainable development of the energy system.
- Promotion of Romanian tourism potential.

Priority areas (PA) identified for the purpose of SOP IEC are as follows:

PA1: An innovative productive system

PA2: Research, technological development and innovation for competitiveness

PA3: ICT for private and public sectors

PA4: Increased energy efficiency and sustainable development of the energy system

PA5: Romania as an attractive destination for tourists and businesses

PA6: Technical Assistance

PA6 was not assessed during the SEA.

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

The SOP IEC specific objectives are in correspondence with the strategic part of the Romanian NRSF (draft 2006) that is under finalization and National Development Plan (NDP). The SOP IEC is linked to national and international (mainly European) strategic programming and legal documents. In the sub-chapter 3.3 “Coherence and compliance with Community and national policies” the SOP IEC references relevant provisions of EU and national development policies in relation to priority axes.

It is identified that the SOP is largely based on a number of EU documents referring to support of growth and jobs (e.g. Community Strategic Guidelines - Cohesion Policy in Support of Growth and Jobs, 2007-2013), enterprises and entrepreneurship development (e.g. 2000/819/CE Decision concerning „Multi-annual programme for enterprise and entrepreneurship“), Competitiveness and Innovation (Proposal for „Competitiveness and innovation framework programme (2007-2013)“ with specific: „The Entrepreneurship and Innovation Programme“), renewable energy sources (EC White paper on Energy for the future: renewable energy sources) and reduction of pollution from industrial sources (e.g. Directive no. 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants)

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

- Law no.271/2003 for ratifying the Gothenburg Protocol
- The Road Map for Energy in Romania - GD no.890/2003
- National Sustainable Development Strategy (1999)
- National Strategy for Energy Efficiency - GD no.163/2004 and Law No.199/2000, amended by the Law 56/2006;
- 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
- Draft GD for approval of the National Energy Policy Document 2005-2008
- MO of Waters and Environmental Protection no. 860/2002 (Of.J.no.52/03.01.2003) on the approval of the procedure for environmental impact assessment and issue of the environmental agreement;
- 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)

Direct link is drawn in the SOP IEC to the international strategic framework which references European strategies for growth, jobs (Lisbon Agenda, 2000) and the Green Paper for “A European Strategy for Sustainable, Competitive and Secure Energy”. It was recommended to emphasize the objectives of sustainable development as drawn in the European strategy for Sustainable Development (Gothenburg, 2001).

EU Strategy for Sustainable Development (Gothenburg 2001)

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 EU SDS 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 EU SDS posed new targets to European countries, with some of them directly or indirectly linked to the economic development. Key issues and objectives presented in the EU SDS are directly linked with the economic development and Climate Change and clean energy, Sustainable Production and Consumption, Conservation and management of natural resources and sustainable development challenges.

Complete list of relevant national and European strategic documents 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 (alternatives) examined and issues related to collection of data required

3.1 Choosing the options to be examined

Relevant legislation – both SEA Directive (2001/42/EC) and GD1076/2004 on SEA – 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 SOP IEC. The SEA team assessed the **alternative objectives, priority axes and priority areas of interventions** contained in the draft working version of SOP IEC, 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 SOP IEC is being submitted as a "one-option" document which fully takes into account main environmental concerns in Romania.

SEA team is well aware that many real alternatives for implementation of the programme will be developed when the specific projects will seek support from the SOP IEC. 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 recommended environmental indicators and projects selection criteria that should be included into the implementation and monitoring system of SOP IEC.

3.2 Assessment of the SOP IEC alternative versions

Results of the assessments covered two versions of the SOP IEC: i) 2005 version of this SOP IEC and ii) April 2006 version of the SOP.

Both versions of the SOP IEC differ in a way that the later alternative proposed additional KAI under Priority Axis 4 "Increased energy efficiency and sustainable development of the energy".

The April 2006 version of the SOP IEC includes under this priority a KAI called "Improvement of energy efficiency". The 2005 version of the SOP IEC did not include such KAI and instead contained a KAI called "New power plant construction".

Assessment of the Key Area of Intervention "Improvement of energy efficiency" proposed in later SOP IEC version (April as well as November 2006) indicates that this intervention is likely to have significant positive environmental effects

and its inclusion improves an overall balance of positive and adverse environmental impacts of the SOP IEC.

Comparison of both versions of the SOP thus leads to a conclusion that the latest version of SOP (November 2006) is likely to have more positive environmental effects than the previous (2005) version of the SOP, since

- the new KAI "Improvement of energy efficiency" is likely to have less negative and more positive effects than the originally proposed KAI "New power plant construction" under 2005 version of the SOP
- KAI "Improvement of energy efficiency" further corresponds to the priorities provided in the guidelines for SF
- it enables better integration of sustainable development and environment to the SOP IEC.

3.3 Issues related to collecting of required data and other

The Ministry of Public Finance, i.e. the Contracting Authority responsible for ex-ante project, has provided to the SEA team sufficient amount of relevant documents to work out the assessment. To date the April (second) draft of SOP IEC assessed for significant environmental effects.

Considering that the SEA started in a moment when the complete already second draft of the SOP IEC 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 it's 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 SOP IEC from the environmental point of view and would have facilitated deeper mutual cooperation among the Managing Authority and SEA team.

The analysis, recommendations and observations of the environmental effects of the SOP IEC presented in this report were elaborated during the period between of September and October 2006. This period which was very short, However 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 scope 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 SOP IEC

4.1 Current state of the environment and the likely evolution of thereof without implementation of the SOP IEC

In this section of the report presents 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 project. The issues are as follow: 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 and sustainable tourism.

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

Env. issues	Current state of the env.	Likely future trends
Air	<p>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.</p> <p>Combustion in the activities of energy and processing industries 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 (maximum allowed concentrations) of SO₂ were exceeded, though annual MAC in Romania were not observed. NO_x emissions are largely caused by combustion processes for energy generation (39.24%), transport (31.58%) and manufacturing industries (11.39%).</p>	<p>The energy demand is likely to grow in Romania, therefore if no action is taken the pollution from LCPs will continue causing as well as from district heating systems. II reactor of Cernovoda Nuclear Power Plant (NPP) is almost completed, and it is expected to enter into commercial operation during the spring 2007. The contribution of the NPP may only satisfy the grown energy demand by then and no reduction in production of other units can be expected therefore no reduction in air pollution can be expert from LCPs, if no action is taken.</p> <p>Air pollution is exacerbated by illegal and accidental burnings of municipal and industrial waste, which will unlikely go down even if waste management practices are improved due to a lack of safer alternatives.</p>

Env. issues	Current state of the env.	Likely future trends
	<p>Since 1999, the NOx emissions decreased from about 407 kilotons in 1995 to about 326 kilotons in 2004, which slightly peaked in 2002. In 2004, annual average NOx concentrations were under the annual MAC (0.060 mg/m³).</p> <p>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.</p>	
Water	<p>Water quality improvement in the different water basins was observed during the recent years in Romania due to reduction of animal farms and closure different polluting industries during the last 16 years. During 2005 the overall quality of surface water was assessed by 781 surveillance sections. 12.9% of them identified the Ist, 38.5% identified the IInd, 26.1% identified the IIIrd, 15% identified the IVth and 7.4% identified the Vth category of water quality.</p> <p>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 only 37,6% of them have operated in appropriate manner. The insufficiently treated water discharges contain mainly with organic substances, suspended solids, mineral salts and ammonia.</p> <p>Diffuse pollution sources are agriculture activities (nitrates and solid sediments), from the consumption of products/ raw materials from industrial activities and waste.</p> <p>Pond tails from the mining industry is yet another sources of pollution with heavy metals due to situation caused by the lack of investments into maintenance of the infrastructure and dam consolidation measures in the major mining industries especially uranium and gold mining.</p> <p>The Black sea water quality The Romanian Black Sea shore is affected by pollution coming with the Danube water, by direct discharges of insufficient treated wastewaters and by water transport and activities from harbours. In 2005 the quality of water used for bathing was not significantly exceeding (physical-chemical and microbiologi-</p>	<p>Surface water contamination will continue to increase if the discharge of wastewater without pre-treatment from municipal and industrial activities, as well as disposal of solid wastes and hazardous substances from industrial and mining activities will not be improved.</p> <p>Tail ponds from the mining industry will continue to be a threat 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.</p> <p>The Black sea water quality Due to overall water quality in the surface waters of Romania and with lack of investments into the wastewater treatment and waste management, the Black Sea water quality on the Romanian coast may continue to deteriorate. Pollution from water transport and activities from harbours may have a direct negative effect if investments are not done to improve the infrastructure, the operation standards and the fleet. Big threat is the direct oil discharges from ships and industrial activities on the Black Sea side, which affect not only an overall water quality, but also water used for bathing and attractiveness of the sea coast for tourism.</p> <p>Ground water The critical situation of the quality of aquifer waters will continue to exacerbate due to continuity of pollution if no measures are taken to improve the surface water quality as well as leakage of leachate from industrial, municipal and mining</p>

Env. issues	Current state of the env.	Likely future trends
	<p>cal parameters). In the last 10 years there was noticed a constant decrease of pollution level in the Black Sea on Romanian side.</p> <p>Ground water 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 a non-appropriate underground water quality.</p>	<p>waste into the grown water layers.</p>
Soil	<p>Acidification is an issue largely caused by emissions from LCPs and thermal municipal units. The outcome of it is soil acidification and pollution of open water bodies, impact on eco-systems, as well as erosion of buildings, degradation of archaeological and cultural sites.</p> <p>Second important issues related to quality of soil in Romania is hydro-erosion affecting the mechanical stability of tailings dams through the creation of breaches in dam walls. This causes an increasing leaching of heavy metals to the soil, surface and underground waters. The problem has been exacerbated during the last years due to lack of investments in maintaining the tailing ponds and intensification of precipitation periods.</p>	<p>If no investments are done into reduction and removal of acidic emissions from LCPs and thermal power units, the soil erosion due to acidification will continue and significant land losses may be experienced especially in the areas about such emission sources.</p> <p>Insufficient waste collection systems will continue to impact soil and waters by accumulating amounts of waste generated and improperly disposed. This situation will require new areas of land. Illegal dumping will continue the land loss due to land contamination with waste (some time of unknown origin and with unknown damage to the soil and the environment) if poor waste services (insufficient capacities) and illegal dumpings will continue unmonitored and unrestricted.</p> <p>Hazardous industrial waste will continue to accumulate increasing risk to human health and further causing and increasing soil contamination if no support in this area is done.</p>
Climate change	<p>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 policies.</p>	<p>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 reverse the trend by implementing emission reduction measures. NCCS 2005 argues that no additional activities are needed to meet a specific objective for national GHG emission reduction target, though trends show that with the growth of the national economy, GHG emissions are increasing already. Beyond 2012, industrial and LCP emissions of GHG threaten the Romania's international com-</p>

Env. issues	Current state of the env.	Likely future trends
		<p>mitments if no actions are taken. 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.</p>
<p>Biodiversity</p>	<p>There are 5 out of 11 European biogeographic region in Romania, which is the highest number found within a single EU Member State. Forest in Romania covers 6,362 thousand hectares (2004). From 2000, the national forest increased by about 16,000 hectares until 2004 (around 0.25%), 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 covered by 34.8% of the forests, and the plains only have 6.7% of the forests. (MAFRD 2004). An important national issues if an intensive loss of valuable forests and biodiversity due to extensive logging for national and foreign industrial production. Natura 2000 network 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 activities have had negative effects on the conservation of wild species. Increasing number of protected areas bring 'tension' to economic development stakeholders in the proximity of resources/buffer zones they were used to freely exploit before, turned into protected resources. Habitat fragmentation Romania still enjoying the smallest habitat and landscape fragmentation effects among the new EU members states. This is largely due to its natural landscape and presence of mountains which have not been so easily explored due to difficult access and particular natural re-</p>	<p>Even if large forest areas will be preserved given the selective extraction, the area of forests could reduce both in natural species quality and compositions, without a proper management and protection practices. Lack of forest management (no integrated management plans) 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 applied. Natura 2000 network Lack of understanding of management regimes and increased of the number of protected areas due to Natura 2000 might bring 'tension' with the industry and the population living in the proximity of resources/buffer zones, economic development actors and tourist infrastructure. Habitat fragmentation Intensification of investments into the economic development with no measures taken to reduce the impacts on biodiversity, forest and habitats (due to development of energy and communication infrastructure, business and production development, etc.) will lead to further habitat fragmentation and biodiversity loss. The loss will be accelerated by intensification of production sector development linked with the forest references and large scale forest cuttings.</p>

Env. issues	Current state of the env.	Likely future trends
	<p>sources. Average size of non fragmented land parcels in 2002 in Romania was more than 300 km³ (EEA-ETC/TE, 2002). Average size of non fragmented forest patches was above 25km³, which was the third largest among the New Member after Slovakia and Slovenia. The largest non-fragmented forest areas are found in Romania too (up 3 400 km²) according to the same data source, which is an important national and international treasure.</p>	
Human health	<p>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, railway and road traffic (in and outside the cities), however the next largest source of noise and vibration are construction activities in relation to private and business developments.</p> <p>Old ecological burdens Old industrial sites are the abandoned land factories, existing storages of industrial waste and industrial waste landfills as well as industrial sites (including closed mines and quarries) that were closed due to economic changes or closed because resources have been used up. Those sites, due to accumulation of industrial waste on the locations or improperly closed exploitations, constitute health hazards.</p> <p>The scale of the issue is not known due to the lack of data regarding those sites, but the biggest issue is the lack of knowledge about the dangerous substances which are accumulated and left in those areas which cause threat to the human health and eco-systems</p>	<p>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.</p> <p>Old ecological burdens If no investments will be done to treat and properly close or find environmentally friendly solutions for safekeeping waste related to closed industrial sites, the threat to health and eco-systems will continue to persist, which can growth into health issues if the hazardous materials found in such places are dispersed in the vicinity or in the country due to lack of awareness about the danger they pose to the human health. The problems may grow in the future due to leakage of the dangerous materials into soil and eventually ground waters.</p>
Environmental risk management	<p>During the last 2 decades an increase in the frequency and intensity of precipitation periods has been observed, which resulted in floods, bringing not only socio-economic damage to some parts of Romania, but also human life loss. The negative impact of floods has been intensified by unauthorized constructions in the areas prone to flooding, diminishing flood planes, and deforestation.</p> <p>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.</p>	<p>High environmental risks are related to oil pipes breaking, illegal waste deposits, leakages of detergents and organic pollutants, the use of obsolete and old industrial technologies that cause fires, terror attacks and theft of oil from pipes without constant monitoring, control and punishment measures, risk reduction measures on the hot spots and cyanide circuits closure or monitoring, effective operating measures of the existing waste water plants and more facilities for alternative measures.</p>

Env. issues	Current state of the env.	Likely future trends
<p>Resource efficiency and conservation/ sustainable resource management</p>	<p>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.</p> <p>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, institutions or even commerce.</p>	<p>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.</p> <p>With no action to initiate and facilitate waste reduction by minimization, sorting, reuse and recycling, waste quantities will continue to grow and important resources will be lost with no sorting and recovery applied increasing the issue of soil, water and air pollution and landscape degradation.</p>
<p>Landscape and cultural heritage</p>	<p>Romania is rich in the diversity of landscapes starting from sea side beaches and ending with mountain areas. Landscape as well as the cultural objects is one a natural resources that contributes to the attractiveness of the country to tourists as well as business development. Due to state planned developments of the last century as well as fast development of the economy of the last decade, the natural and cultural landscape is being overexploited with little attention paid to the visual and cultural aspects. Green fields are being extensively used for the developments (for industrial and social purposes) as well as redevelopments are entering areas that for centuries were considered pristine and dedicated to cultural purposes.</p> <p>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.</p> <p>Brownfields</p>	<p>With the current tendencies of giving priorities to the developments in the greenfields and no incentives to clean up and utilize abundant areas within existing boundaries of urban and rural developments, the natural and cultural areas close to the urban areas as well as in the country, will continue to shrink and suffer from industrial and economic intrusions that will hardly contribute to the preservation and enrichment of the Romania's cultural heritage.</p> <p>Brownfields</p> <p>Current situation and past trends with little efforts to revitalize brownfield 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 re-</p>

Env. issues	Current state of the env.	Likely future trends
	<p>After economic and social changes of the last decade of XX c., Romania has accumulated many abandoned infrastructure areas, sites with unfinished constructions and dilapidating abandoned housing units. Data on the area covered with brownfields is not available. Brownfields constitute environmental as well as health hazard as well as reduce the attractiveness of the country even having in mind rich natural and cultural resources.</p> <p>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 sites and therefore they are a major environmental issue. The area and the risk associated with the issue is not being monitored in Romania to-date.</p>	<p>lated 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.</p>
<p>Energy efficiency and renewable energy sources</p>	<p>Industry 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 restructuring 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.</p> <p>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.</p> <p>In 2005 the value of the primary energy intensity in Romania was 0.511 toe/1,000 Euro, and the final energy intensity was 0.358 toe/1,000 Euro, according to the statistical data from the National Energy Observer. In 2001, the final energy intensity in Romania was around 3 times higher than in the EU (0.109 toe/1000 EUR). During 1999-2004, the energy efficiency increased by 1% yearly, due to the closure of activities of inefficient economic units, as well as creation of new energy efficient companies.</p> <p>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</p>	<p>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 recovery and boost of energy consumption.</p> <p>Around 9.3% of energy generated comes from Cernovoda NPP and the rest 34% from hydropower and the rest (56.7%) from non-renewable resources (gas, coal and oil). Without energy efficiency measures, the growth in energy demand and consumption of non-renewable resources will grow and escalate depletion of natural energy sources. It is already estimated that by the time second NPP reactor will be launched it will only compensate the growing demand for energy in the country and will not contribute to energy production reduction from conventional power plants. Since many power plants have problems with costs recovery from their clients and they can not afford to improve efficiency in production.</p> <p>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).</p> <p>Situation with electivity may be a bit different since new equip-</p>

Env. issues	Current state of the env.	Likely future trends
	<p>the energy 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 years old</p> <p>At present, approximately 57% of the electricity is produced from fossil fuel (coal, natural gas), with very high production costs. At present, 29% of the total energy consumed is produced in high output hydro-electro plants and 10% of total is produced in Cernavoda nuclear plant, the rest being sourced from fossil fuels. Other forms of renewable sources of energy are under exploited and conducted in low output units.</p> <p>Renewable energy Biomass energy potential in the country is assessed at about 7,594 thousand toe/year (318 x10⁹ MJ/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 panels. Usage of geothermal energy for district heating in Oradea and Beius represent also a new technology for Romania.</p>	<p>ment 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.</p> <p>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.</p> <p>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 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.</p>
<p>Awareness raising on environmental issues</p>	<p>NSRF 2007-2013 points out to a low level of environmental awareness, wasteful use of energy and an under managed natural environment. Awareness raising is needed in the fields of waste generation and management, conservation of natural resources such as water (risks associate with waste generation and management), air (through usage of public and other means of ecological transport and energy savings), biodiversity (protection of</p>	<p>There are very few initiatives on public awareness and mostly coming from the NGO sector. There are limited funds available for NGOs and small governmental resources allocated to such activities. Unless public awareness efficiently moves to the level of interactive information and involvement of the public, environmental awareness will take</p>

Env. issues	Current state of the env.	Likely future trends
	<p>forest and habitats), climate change (responsible construction and soil management), transport (shifting from road to rail and PT means), and other sustainable actions.</p>	<p>more time to overcome other priorities existing currently in society. The shift to the sustainable development of the society is possible only if the shift happens in the behaviour of the public. unaware public can not support actions planned by the government towards this direction and if no support is given to spread awareness among population, no shift will happen in the society in the long run.</p>
<p>Sustainable transport</p>	<p>Public transport (PT) including railways (both freight and passenger) is considered the main sustainable transport means, accompanied by individual efforts the main of which are cycling and walking. Lack of investment during 1990-2004 and a poor service quality has led to a fall in the public transport use. Strong increase in the number of road vehicles and particularly passenger cars (from 1.29mln in 1990 to 3.23mln in 2001, i.e. from 55.7 passenger cars per 1,000 inhabitants in 1990 to 144.3 in 2001 was observed in the past. Freight motor vehicles grew from 258,701 in 1990 to 597,047 in 2001 that is an increase of about 230%. The freight and passenger railway transport (in tons-km/year and respectively passengers-km/year) has been characterised by a sharp decline between 1990 and 2001: -71.8% and -64.1% respectively. Increase in road traffic resulted in congestion not only in the cities but in the narrow rural and international roads. During the same period, a similar situation was in the freight transport (in tons-km) and passenger transport (in passengers-km) on the other transport means: road transport (-36%, respectively -70%), inland waterways transport (-16%, respectively -67%), maritime transport (-98%) and air transport (-79%, respectively -41%). Significant decrease in bus (3.5 times) and mini-bus passenger transport (2.5 times) usage over 1990 – 2004. Compared with the EU countries, the interurban bus and mini-bus passenger-km per inhabitant per year are by far the lowest in Romania. The average in the EU is around 1,000 passenger-km, compared with just 242 passenger-km in Romania. After a decrease between 1990 and 1999, the traffic in the port of Constanta reached 33 millions tons in 2001 (compared with 42.4 mil. tones in 1990). From 2000 to 2005 number of the air passengers grew 1.77 times.</p>	<p>Transport is not a direct subject of the SOP IEC, but it is linked with overall economic development due dependency of the economy on the transport infrastructure and use. Due to economic development, the rapid growth in car ownership will be experienced over the next 10 years. If the status of rail and PT in general will continue to deteriorate, the usage of it will continue to drop putting further pressure on the roads and on the environment. It is estimated that overall freight transport (in tons-km) will increase by 5.3% per year from 2006, with higher rates for road transport and lower rates for rail transport, which is to the disadvantage to the sustainable transport means. Unless the public transport will become more attractive or is being promoted by economic actors (e.g. compensating for and promoting PT among employees), the number of private and business cars will continue to grow or at least will not help decrease the traffic in towns. Frequency, journey time, level of comfort and higher accessibility to more areas of the country, need a lot of improvement otherwise is unlikely that railway transport will play a significant role in transport, in the detriment of other means. If there will be no measures to justify the price it is unlikely that trains will become a favourite mean of transportation, but rather necessary, therefore not contributing too much to the option of increasing the environmentally friendly transport options in Romania. The SOP IEC is not contributing</p>

Env. issues	Current state of the env.	Likely future trends
	<p>Railway transportation is an ecological transportation and one of the most effective measures in order to reduce pollution, with positive results both on the short and medium run. The poor condition of the rail infrastructure has triggered a reduction of the operational speed while the level of comfort is affected by the ageing passenger fleet. The deterioration of PT and rail transport lead to the shift towards the road transportation, which is the main air polluter in the cities. Economic actors in Romania gave their preference in using the road transportation, though unfortunately due to roads and streets unable to cope with such a drastic shift the economy is suffering because of the traffic congestion and indirectly due to pollution exacerbated by the multiplying fleet of road vehicles.</p>	<p>to promote the PT through their actions, the freight transportation will continue to use road and shift towards rail and water transport will be slow and unsustainable in the long run.</p>
<p>Sustainable tourism</p>	<p>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. 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.</p>	<p>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 integral part of, will irreversibly lose their unique value.</p>

4.2 Proposed amendments of the SOP IEC SWOT analysis with environmental issues

Based on the environmental analysis, the SEA team proposed amendment to the SWOT table below.

Table 2. Proposed amendments to the SWOT table of SOP IEC

Strengths	Weaknesses
<ul style="list-style-type: none"> - SEA and EIA as the basic legislative tools to support sustainable development - Existing potential for renewable resources use in the country 	<ul style="list-style-type: none"> - Low promotion of usage of renewable energy resources other than hydro-energy; - Poor infrastructure (including environmental infrastructure) in the regions does not allow for fast growth of SMEs;
Opportunities	Threats
<ul style="list-style-type: none"> - Further support of implementing global environmental standards (ISO and EMS) and eco-labelling; - Inflow of foreign investment into newer technologies (not always the BATs) in the industry and energy sectors (eco-effective innovations); 	<ul style="list-style-type: none"> - n/a

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

The SOP IEC is prepared for the whole territory of the Romania. Since its not possible to identify the territorial locations of the priorities and activities planned within the SOP IEC (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 item of the content, as required by the national law and the EC Directive.

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

- 6 Any existing environmental problems which are relevant to the SOP IEC 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 SOP IEC

This chapter point out to the key environmental problems in the economy sector which have been identified from SOP IEC 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 SOP IEC.

Table 3. Key environmental problems related to the SOP IEC

Env. issues	Key environmental problems related to the SOP
Air	Intensification of energy production Increased energy demand and consumption
Water	Water pollution from industrial activities
Soil	Soil pollution due to the increase of waste generation (industrial waste, electronic equipment waste, laboratory and research waste) Soil pollution due to acidification caused by energy production and extraction industry processes
Climate change	Increase in GHG emission due to increased energy production and consumption
Biodiversity	Impact on terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation due to new industrial, energy and IT infrastructure developments
	Impact on biodiversity and habitats in protected areas and potential Natura 2000 sites due to new industrial, energy and IT infrastructure developments

Env. issues	Key environmental problems related to the SOP
Human health	Improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. mining waste, old industrial sites, etc.) Noise and vibration pollution from industrial and business sector
Environmental risk management	Increasing risk associated with natural and industrial disasters
Resource efficiency and conservation/ sustainable resource management	Intensification of the use of depleting natural resources Waste generation, increase in waste recovery, and recycling of industrial waste
Landscape and cultural heritage	Protection of natural and cultural landscape (e.g. by revitalization of brownfields) Threat to natural and cultural heritage and the Romanian coastal zone of the Black Sea by economic developments
Energy efficiency and renewable energy sources	Low energy efficiency and use of energy resources Low support and incentives to energy generation from renewable resources
Awareness raising on environmental issues	Lack of awareness and insufficient environmentally-responsible behaviour of governmental, private and public sectors
Sustainable transport	Shrinking share of public and rail transport exacerbating air pollution and transport congestion issues in the urban and rural areas
Sustainable tourism	Shrinking share of tourism development as well as uncontrolled tourism dispersal leading to environmental degradation and loss of cultural heritage and natural habitats

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.

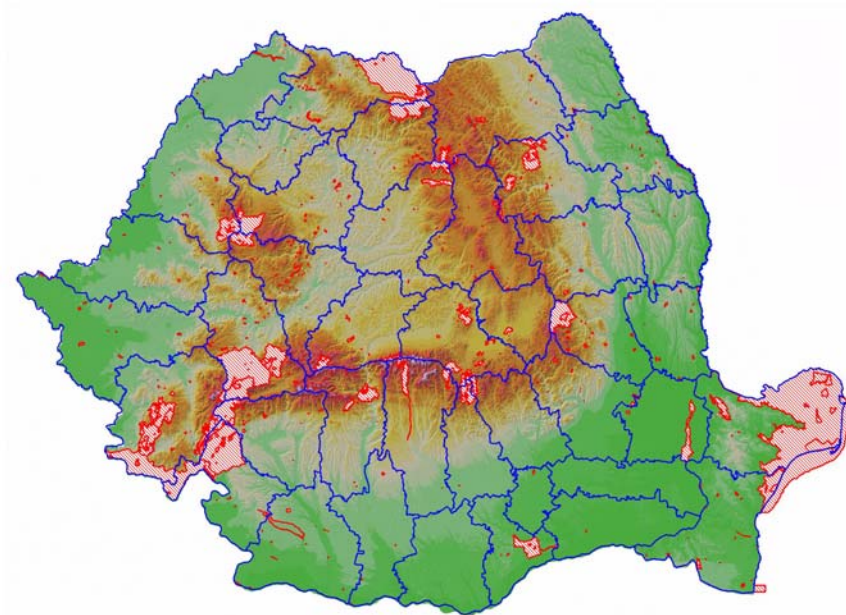


Figure 1: Network of protected areas in Romania

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 Ministry of Environment and Water Management, 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 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 and NGOs to provide inputs into the mitigation of possible negative impacts of the projects (please, see more Chapter 9 and 10 under management 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 SOP IEC, 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.

Proposed set of relevant environmental issues and objectives for the purpose of assessment of the SOP IEC have been presented to the working group established for the purpose of SEA by the Managing Authority (Ministry of Economy and Trade) 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 below presents the proposed final framework of the environmental issues and objectives for the purpose of SEA of SOP IEC.

Table 4. Relevant environmental objectives for the strategic assessment of the SOP IEC

Env. 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
Soil	Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion
Climate change	Decrease emissions causing climate change

Env. issues	Relevant environmental objectives
Biodiversity	Protect and improve the conditions and functions of terrestrial, aquatic and marine 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. brownfields, mining waste, etc.)
	Protect and improve the condition of settlements with respect to transport noxes, particularly noise and vibration
Environmental risk management	Increase population protection from risks associated with natural disasters and industrial accidents
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 by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors
	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 the public by involving the public into the solution of environmental issues
Sustainable transport	Support of environmentally friendly transport and promote development and usage of public transport
Sustainable tourism	Promote tourism that would ensure high degree of environment protection and nature conservation

7.2 The evaluation of general and specific objectives and priority axes

The general objective of SOP is **the increase of Romanian companies' productivity and reducing the disparities compared to the average productivity of EU**. The target is an average annual growth of GDP per employed person by about 5.5%. This will allow Romania to reach approx. 55% of the EU average productivity by 2015.

Based on the analysis of the environmental status in Romania, focusing on links between economic development and environment, and based on the assessment of specific objectives, the SEA experts and the Managing Authority came up with the following reformulation of the global objective: The increase of Romanian companies' productivity, **in compliance with the principles of sustainable development**, and reducing the disparities compared to the average productivity of EU

The assessment of specific objectives was focused on the likely environmental effects of the SOP 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.

Table 5. Proposed reformulation of specific objectives the SOP IEC

Original specific objectives	Proposed reformulation of specific objectives
Consolidation and growth of the Romanian productive sector	Consolidation and environmentally friendly development of the Romanian productive sectors
Establishment of a favourable environment for enterprises' development	Establishment of a favourable environment for sustainable enterprises' development
Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the productive sector	Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the producers
Valorisation of the ICT potential and its application to the public administration) and private sector (citizens, enterprises)	n/a
Increased energy efficiency and sustainable development of the energy system	n/a
Promotion of Romanian tourism potential	Promotion of sustainable tourism development in Romania

Suggestions for modifications of priority axes were as follows:

Priority Axis 1: An innovative **and eco-efficient production** system

Priority Axis 2: Research, Technological Development, and Innovation for Competitiveness

Priority Axis 3: ICT for private and public sectors

Priority Axis 4: Increased energy efficiency and sustainable development of the energy system

Priority Axis 5: Romania, an attractive destination **for sustainable** tourism and business **development**

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

8 The likely significant effects¹ on the environment

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

After assessment focusing on whether the SOP IEC 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.

The evaluation was carried out in two phases.

In the first phase, the single areas of support were evaluated according to the following scale:

- + 2: substantial positive effect of the area of support on the given reference goal
- + 1: positive effect of the area of support on the given reference goal
- 0: no impact
- 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 each SEA team expert (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 less than 1 (substantial evaluation differences among the team members) the evaluation was discussed within the team and modified accordingly.

The first phase aimed at identification of potentially important negative conflicts of the SOP IEC 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 SOP IEC implementation.

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

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

Table 6. Key Areas of Intervention of the SOP IEC that will have significant effects on the environment

Priority axis 1 - "An innovative productive system"

Key area of intervention 1.1: Productive investments and preparation for market competition, especially of SMEs		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Maintain and improve the quality of ambient air within the limits set by the legal norms	1	Development support through investments in plants, equipment, machineries will contribute to air pollution in the future. Improvement of air quality will be obtained if the investments will be focused on production systems with less pollutant technologies. Due to increased production capacity there will be a significant negative impact. Where applicable, large investment projects must have estimations of possible emissions from using new equipment or of reduction of emissions given the upgrading of the technologies and equipment.
Minimize the impacts on the air quality	0	Development support through investments in plants, equipment, machineries will contribute to ambient air pollution. Improvement of air quality will be obtained if the investments will be focused on production systems with less pollutant technologies. A significant negative impact is likely, therefore priority should be given to projects that lead to reductions of air emissions as well as to less polluting production processes, that could also replace the old polluting technologies. Impacts will be likely minimized through EIA procedure.
Limit water pollution from point and diffuse pollution sources	0	The expansion of production capacity as well as the increased number of SMEs will contribute to water pollution (depending on the profile of the activity). Limitation of water pollution will be obtained if the investments will be focused on production systems with less pollutant technologies. There is possibly significant negative impact therefore priority should be given to projects that lead to reductions of air emissions as well as to less polluting production processes. Impacts will be likely minimized through EIA procedure.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	0	The expansion of production capacity as well as an increased number of SMEs will contribute to soil's pollution (depending of the activity profile) by producing waste and wastewater. Those goals will be obtained if the investments will be focused on production systems with less pollutant technologies. There is possibly significant negative impact therefore priority should be given to projects that lead to reductions of soil pollution as well as to less polluting production processes. Impacts will be likely minimized through EIA procedure.

Key area of intervention 1.1: Productive investments and preparation for market competition, especially of SMEs		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Decrease emissions causing climate change	0	Development support through investments in plants, equipment, machineries will contribute to GHG emissions. Improvement of air quality and the decrease of GHG emissions will be obtained if the investments will be focused on production systems with less pollutant technologies (implementing/investing in BATs agreed with EPAs within the IPPC evaluation and permitting processes). There is possibly significant negative impact, therefore priority should be given to projects that lead to reductions of air emissions as well as to less polluting production processes, by stimulating GHG emissions admitted trading mechanisms within the Kyoto protocol (like NAP – National Allocation Plan functioning, JI projects etc). Impacts will be likely minimized through EIA procedure.
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	0	There will be indirect negative effect on terrestrial and aquatic eco-systems due to increased emission to the air, water and soil with irreversible consequences. Priority should be given to projects that lead to reductions of air emissions as well as to less polluting production processes. Impacts will be likely minimized through EIA procedure.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	0	Depending on the production processes supported there will be indirect negative effect on protected areas due to increased emissions to the air, water and soil with irreversible consequences. Priority should be given to projects that lead to reductions of air emissions as well as to less polluting production processes. Potential effects if any on the Natura 2000 areas will be compulsory regulated via EIA procedures
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	0.5	Improvement of the environment quality and human health can be obtained if the investments will be focused on production systems with less pollutant technologies. Due to the aim to increase production capacities there will be additional emissions to the air, water and soil, therefore negative impacts' mitigation measures should be proposed and priority should be given to less polluting technologies and equipment.
Protect and improve the condition of settlements with respect to noise	0.5	Improvement of settlements' life conditions can be obtained if the investments will be focused on production systems with less pollutant technologies, especially less noise. There will be some negative impact due to increased production capacities (by implementing BATs this inconvenient could be minimised within the accepted limits).
Increase population protection from risk associated with industrial accidents	1	Investments in more secure productive technologies and in staff's training will limit the number of industrial accidents. There will be some negative impact related to the increased production capacities. Where applicable, for larger investment projects, if it is an investment with high risk for industrial accidents, the risk prevention and intervention draft programmes must be developed.

Key area of intervention 1.1: Productive investments and preparation for market competition, especially of SMEs		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Limit use of depleting natural resources	1	Increasing the number of companies and production capacities will increase the use of natural resources. Production and technologies using renewable resources and aimed at the reduction in the use of depleting natural resources should have a priority.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	The enlargement and support of the new production capacities will contribute to waste generation. Waste recovery and waste recycling must be promoted and projects aimed at reusing the waste as well as aiming at non-waste technologies must be preferred.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	1	New technologies and new developments will have some negative impact on the natural and cultural landscapes and therefore mitigation measures should be proposed if such impacts occur (e.g. due to plants' modernization). Companies should be encouraged to develop expansions on brownfields.
Improve energy efficiency and use of energy resources	1	SMEs will be promoted to ensure energy efficiency and energy resources' saving given the availability of investments into new technologies. There will be a positive effect due to KAI.
Facilitate energy generation from renewable resources	0.5	There will be some positive effect due to new investments.
Support introduction of eco-effective innovations	2	There will be some positive effect due to new investments and the upgrading of technologies used in production. Projects with eco-effective innovations should have priority.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	Projects which support strong environmental aspects such as the reuse and recycling of waste, energy generation from renewable resources and the promotion of eco-efficient innovations will have some positive effect and will promote the environmentally responsible behaviour of the public and private sectors.
Proposed reformulation of key area of intervention (if any):		
Productive and environmental friendly investments and preparation for market competition, especially of SMEs		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.):		
Due to increased production capacity there will be significant negative impacts on the environment. Where applicable, the projects must have estimations of possible emissions after using new equipment or reductions of emissions due to the upgrading of the technologies and equipment. Priority should be given to projects aiming at emissions' reduction, waste recovery, recycling and reuse as well as aiming at non-waste technologies. Support to the developments aiming at EMAS and ISO certification must have a priority. Where applicable, for larger investment projects, if it is an investment with high risk for industrial accidents, the risk prevention and intervention draft programmes must be developed.		

Key area of intervention 1.2: Access to credit and financing instruments for SMEs		
Relevant env. objectives	Evaluation	Comments on likely environmental effects

Key area of intervention 1.2: Access to credit and financing instruments for SMEs		
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	0	Better access to credits and financial instruments will increase the productivity and also the environmental impacts of the SMEs' productive activities. Priorities to grantees have to be given for activities that have stronger positive environmental, economic and social effects in the same time. Environmental selection criteria have to be used to determine the priority projects.
Minimize the impacts on the air quality	0.5	As above
Limit water pollution from point and diffuse pollution sources	0.5	As above
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	0.5	As above
Decrease emissions causing climate change	0.5	As above
Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation	0	As above
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	0	As above
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	1	As above
Protect and improve the condition of settlements with respect to noise	0.5	As above
Increase population protection from risk associated with industrial accidents	1	As above
Limit use of depleting natural resources	0.5	As above
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	As above

Key area of intervention 1.2: Access to credit and financing instruments for SMEs		
Relevant env. objectives	Evaluation	Comments on likely environmental effects
Ensure protection of natural and cultural landscape (e.g. by revitalization of brown-fields)	-1	As above
Improve energy efficiency and use of energy resources	1	As above
Facilitate energy generation from renewable resources	1	As above
Support introduction of eco-effective innovations	1	As above
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	0.5	As above
Proposed reformulation of key area of intervention (if any): n/a		
<p>SEA recommendations (e.g. conditions for implementation, selection criteria etc.): Better access to credits and financial instruments will increase the productivity and also the environmental impacts of the SMEs' productive activities. Positive effect for environment can be increased if the credits will be granted with priority for the measures with strong economic, environmental protection and social (e.g. measures associated with emissions' reduction, energy saving and the saving of natural resources). Environmental selection criteria are recommended to determine the priority projects.</p>		

Key area of intervention 1.3: Entrepreneurship development		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Maintain and improve the quality of ambient air within the limits set by the legal norms	0	Actions supported under entrepreneurship development will have significant positive or negative effect on the quality of ambient air. If no actions will be adopted for the environmental protection the development of business incubators will indirectly impact the air quality. Environmental protection selection criteria have to be used to ensure a positive effect of the implementation of this operation.
Minimize the impacts on the air quality	0	Actions supported under entrepreneurship development will have a potential to minimize impacts on the air, although support for start up activities may have some negative effect. Environmental protection selection criteria must be used to ensure a positive effect of the implementation of this operation.
Limit water pollution from point and diffuse pollution sources	0	If no measures will be adopted for the environmental actions supported under entrepreneurship development with a potential to minimize impacts on water, start up activities will have a significant negative impact. Environmental protection selection criteria must be used to ensure positive effects of the implementation of this operation. Preference should be given to incubators in brownfields.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	0	If no environmental protection measures will be adopted for the development of business incubators there may be a negative impact on soil. Environmental protection selection criteria must be used to ensure a positive effect of the implementation of this operation. Preference should be given to incubators in brownfields.
Decrease emissions causing climate change	0	If no environmental protection measures will be adopted for the development of business incubators the GHG emissions may increase. Environmental protection selection criteria have to be used to ensure positive effect of the implementation of this operation.
Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation	0	Entrepreneurship developments may have negative impact on the terrestrial and aquatic eco-systems, due to the negative environmental effects of the production processes used. Environmental protection selection criteria must be used to ensure positive effects of the implementation of this KAI. Preference should be given to incubators in brownfields.

Key area of intervention 1.3: Entrepreneurship development		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	0	Entrepreneurship developments may have negative impact on the biodiversity and habitats in protected areas and potential Natura 2000 sites, due to the negative environmental effects of the production processes used. Environmental protection selection criteria must be used to ensure positive effects of the implementation of this operation. Preference should be given to incubators in brownfields.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	0	If measures aimed at pollution prevention and more efficient energy consuming technologies are supported, they will lead to the improvement of the human health. Creating new enterprises in the brownfields will have positive effect due to the minimization of pollution burdens. Environmental protection selection criteria must be used to ensure a positive effect of the implementation of this operation.
Protect and improve the condition of settlements with respect to noise	0	New developments will lead to more activities and there will be some negative effects on noise levels throughout the settlements. Environmental protection selection criteria must be used to ensure positive effects of the implementation of this operation.
Increase population protection from risk associated with industrial accidents	0	Increased industrial activities will increase the risk for more accidents and therefore there will be a negative impact. Environmental protection selection criteria must be used to ensure positive effects of the implementation of this operation.
Limit use of depleting natural resources	0	Business incubators may increase the use of natural resources. Environmental protection selection criteria must be used to ensure positive effects of the implementation of this operation.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	0	Business incubators will increase the waste generation. Promoting sustainable entrepreneurship will help reduce the negative impact. Projects and activities aimed at waste reduction, waste recovery and recycling must have priority.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	0	Business incubators will affect the natural and cultural landscapes. Entrepreneurship in the old industrial sites and those that will have least impact on the natural and cultural landscape must have a priority. Environmental protection selection criteria have to be used to ensure a positive effect of the implementation of this operation.
Improve energy efficiency and use of energy resources	0.5	Business incubators will improve the energy efficiency because they must be developed in an efficient economic environment. There will be significant positive effect.
Facilitate energy generation from renewable resources	0.5	There will be significant positive effects if developments aimed or indirectly linked to renewable energy generation will be encouraged supporting the necessary specialized expertise.

Key area of intervention 1.3: Entrepreneurship development		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Support introduction of eco-effective innovations	1	Developments of entrepreneurship that will promote or will introduce eco-effective innovations will have positive long term effects.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	There will be long term positive effects if projects supported lead to pollution reduction or will introduce more energy saving facilities, less resources demanding and eco-effective activities.
Proposed reformulation of key area of intervention (if any): Development of sustainable entrepreneurship		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): In order to increase the positive environmental effect of the KAI, it is recommended to support the development of sustainable enterprises. Environmental protection selection criteria must be used to ensure positive effects of the implementation of this KAI. There will be long term positive effects if projects supported will lead to pollution reduction and the introduction of eco-efficient technologies and activities. Location of incubators in brownfield areas shall be preferred (in terms of score in the assessment process). The other operations under this KAI will be neutral in terms of environment.		

Priority axis 2 - "Research, Technological Development, and Innovation for Competitiveness"

Key area of intervention 2.1: R&D partnerships between universities/research institutes and enterprises for generating results directly applicable in economy		
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	0	There will be some positive indirect effect on air quality due to research activities supported by the KAI.
Minimize the impacts on the air quality	0	Positive indirect effect will be achieved if R&D partnerships will address air quality issues in the industry aimed research.
Limit water pollution from point and diffuse pollution sources	0	Some positive effect will be expected if the KAI will support R&D aimed at direct and indirect water pollution reduction from technological processes.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	1	Stimulating the transfer of modern technologies, adapted to the European environmental standards, will lead to the improvement of the Romanian enterprises' competitiveness as well as to improved soil protection against water and wind erosion.
Decrease emissions causing climate change	0	If environmental criteria are applied for the selection and support of the projects awarded under the KAI, there will be long term positive effects regarding the GHG emissions from production and energy generation processes in Romania. Environmental criteria should be used to increase the positive effect.

Key area of intervention 2.1: R&D partnerships between universities/research institutes and enterprises for generating results directly applicable in economy		
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.)	1	Stimulating the transfer of modern technologies, adapted to the European environmental standards, will lead to an improvement in the competitiveness of Romanian enterprises and will also help reach better quality of the human health.
Protect and improve the condition of settlements with respect to noise	0	There will be some indirect long term positive effects due to technologies and process development and to improvements with respect to noise.
Increase population protection from risk associated with industrial accidents	0	There will be some positive effect on the reduction of risk associated with industrial accidents due to R&D if safety and security projects are supported.
Limit use of depleting natural resources	0	R&D as well as the support from partnerships with research institution will have a long term positive effect if activities are aimed at reducing the use of depleting natural resources in the technologies and processes applicable in Romanian economy
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	Stimulating the transfer of modern technologies, adapted to the European environmental standards, will lead to an improvement in the competitiveness of Romanian enterprises but also in the waste recycling process. Positive effects will be expected if such improvements are developed and introduced.
Improve energy efficiency and use of energy resources	0	There will be long term positive effects if energy efficiency and the use of energy resources are addressed by the R&D partnerships and made available to the national producers.
Facilitate energy generation from renewable resources	1	Stimulating the transfer of modern technologies, adapted to the European environmental standards, will lead to an improvement in the competitiveness of Romanian enterprises but also to increased use of eco technologies based on renewable resources.
Support introduction of eco-effective innovations	2	Stimulating the transfer of modern technologies, adapted to the European environmental standards, will facilitate better implementation of the eco innovations in practice.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	There will be long term positive effects on the environmentally responsible behaviour of public and private sectors given the technologies developed, aimed at environmental impacts' reduction and eco-efficient solutions.
Proposed reformulation of key area of intervention (if any): n/a		

Key area of intervention 2.1: R&D partnerships between universities/research institutes and enterprises for generating results directly applicable in economy		
Relevant Environmental Objectives	Evaluation	Comments on likely environmental effects
<p>SEA recommendations (e.g. conditions for implementation, selection criteria etc.): Overall positive long term effect will take place if environmental selection criteria, such as waste generation reduction, production of energy from renewable resources, reduction of the use of natural resources, etc. will be used to select and support the activities and if projects resulting in environmentally friendly products and technologies will be stimulated in the project selection process.</p>		

Key area of intervention 2.2: Investments in RDI 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	There will be some indirect negative impact from the use of new equipment and more energy by the laboratories and other research institutions supported under the KAI. Energy saving and promotion of energy conservation will have a positive effect.
Minimize the impacts on the air quality	1	There may be some indirect negative impacts due to new electronic equipment supported and used for RDI in universities, research institutions and others.
Limit water pollution from point and diffuse pollution sources	1	Due to the activation of laboratory activities and research there will be some negative effects which will be mitigated through ISO and EMAS certification, promoted among the applicants, and from support to environmental measures.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	1	Indirect small scale soil pollution will occur due to increased energy use and increased water use by the institutions supported. No direct impact on water and wind erosion can be assessed.
Decrease emissions causing climate change	1	There will be some indirect impact on GHG emissions due to increased energy consumption by the research industry.
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 significant positive effect on human health from the measures and activities related to improved laboratory research, improved data collection (through accreditation and certification) as well as due to pollution reduction from activities such as the refurbishment and modernisation of R&D premises (for ensuring the proper functioning conditions for the procured equipment - ambient conditions, power sources, etc).
Protect and improve the condition of settlements with respect to noise	0	Insignificant effect on noise levels maybe expected.

Key area of intervention 2.2: Investments in RDI infrastructure		
Relevant Environmental Objectives	Evaluation	Comments on likely environmental effects
Increase population protection from risk associated with industrial accidents	0	There will be indirect effect on the reduction of risk associated with industrial accidents due to improved monitoring systems offered by the KAI through such activities aimed at technology transfer and innovation.
Limit use of depleting natural resources	0	There will be long term positive indirect effect regarding the use of the depleting natural resources due to innovations developed through the activities supported (research and innovations, modernized technologies).
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	There will be long term positive effects regarding the waste and waste generation due to innovations developed through the supported activities (research and innovations, modernization of technologies). Projects or activities aimed at waste reduction should have priority in the selection strategy.
Improve energy efficiency and use of energy resources	1	There will be long term positive effects due to the acquisition of more energy efficient technologies and equipment. Projects supporting more energy efficient tools under KAI must have priority.
Facilitate energy generation from renewable resources	1	There will be indirect long term positive effect.
Support introduction of eco-effective innovations	1	Stimulating the development of national research and laboratory services will have a significant positive long term effect in the development of innovations aimed at environmental solutions.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	0.5	R&D activities will have positive long term effects in solving the environmental issues and promoting the environmentally responsible behaviour of public and private sectors.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): The KAI should promote RDI infrastructure that complies with Goteborg strategy. Projects supporting more energy efficient tools under KAI must have priority. Environmental selection criteria will increase the positive effect of the activities under the KAI.		

Key area of intervention 2.3: RDI support for enterprises		
Relevant env. objectives	Evaluation	Comments on likely environmental effects

Key area of intervention 2.3: RDI support for enterprises		
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	1	There will be long term positive effects from activities such as the procurement of R&D know-how, if applied to reach the standards of the air quality set in the environmental norms. Projects aimed at the development of or procurement of R&D services aimed at reducing environmental emissions and especially air emissions should be promoted to achieve significant positive effects.
Minimize the impacts on the air quality	1	There will be long term positive effects due to activities such as the procurement of R&D know how, the development of or procurement of R&D services aimed at reduction of environmental emissions and especially air emissions should be promoted to achieve significant positive effects.
Limit water pollution from point and diffuse pollution sources	1	Significant positive effects will be reached if R&D procurement and results will be used to address water pollution from emissions resulting due to operations and production. Projects aimed at the development or procurement of R&D services aimed at reducing environmental emissions and especially water pollution reduction should be promoted to achieve significant positive effects.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	1	Stimulating the transfer of R&D results and modern technologies developed in or outside Romania to the national economy will lead to an improvement in the competitiveness of Romanian enterprises but also of soil protection against water and wind erosion. Significant positive effect will be increased if R&D is aimed at the reduction of pollution/emissions and waste minimization.
Decrease emissions causing climate change	1	Significant positive effect will be increased if R&D is aimed at the reduction of emissions causing climate change.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	1	Significant positive effects will take place if R&D support will contribute to pollution reduction and waste minimization.
Protect and improve the condition of settlements with respect to noise	0	Significant positive effects will take place if noise issues will be addressed by the projects targeted within KAI.
Increase population protection from risk associated with industrial accidents	1	There will be significant positive effects when support will be given to the projects aimed at population's protection against risk associated with industrial accidents.
Limit use of depleting natural resources	1	There will be significant positive effects when support will be given to projects aimed at the reduction of depleting natural resources.

Key area of intervention 2.3: RDI support for enterprises		
Relevant env. objectives	Evaluation	Comments on likely environmental effects
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	There will be significant positive effects when support will be given to the projects aimed at reducing waste generation, increasing waste recovery and recycling. There will be some negative direct and indirect effects due to waste generation from the R&D services.
Improve energy efficiency and use of energy resources	1	There will be significant positive effects when support will be given to the projects aimed at energy efficiency and reduction in the use of energy resources. Some negative effect will be expected due to the R&D activities themselves.
Facilitate energy generation from renewable resources	1	There will be some direct positive effect if energy generation from renewable resources will be stimulated through the R&D technology transfer to enterprises.
Support introduction of eco-effective innovations	2	There will be significant direct positive effects when eco-efficient innovations will be supported via KAI.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	0.5	There will be indirect positive effects on the public and their environmentally responsible behaviour thanks to new technologies being acquired by the companies and the additional measures and some direct effect on the business sector due to enabling innovations aimed at solving environmental issues in the production and research processes.
Proposed reformulation of key area of intervention (if any):		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.):		
It is recommended that RDI support will be promoted with compliance to the Gothenburg strategy and for projects aimed at the development or procurement of R&D services aimed at reducing emissions harmful for the environment and human health. Stimulation of the transfer of R&D results and modern technologies developed in or outside Romania to the national economy will lead to an improvement in the competitiveness of Romanian enterprises and should enable a significant positive effect on the environment.		

Priority axis 3 - "ICT for private and public sectors"

Key area of intervention 3.1: Supporting the Information Technology use		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Maintain and improve the quality of ambient air within the limits set by the legal norms	1	Supporting the IT use will contribute to the reduction of travels and therefore there will be positive indirect effect. By implementing control and monitoring software in the air polluting industry there will be additional positive effects. Some negative impact will result from the increased energy consumption by the IT equipment and therefore there may be some increase in the air pollution in some locations (LCPs).
Decrease emissions causing climate change	1	Supporting Internet and connected services will increase the use of equipment and will have some negative effect on the emissions of GHGs, but there will be some positive effect in relation to the reduction of transport use if home office and remote services are enabled by the KAI.

Key area of intervention 3.1: Supporting the Information Technology use		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation	1	There will be insignificant indirect impact on the terrestrial and aquatic eco-systems due to increased energy use, but positive effect is expected from the reduction of transport related emissions.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	There is no direct effect
Limit use of depleting natural resources	1	There may be minor negative effects due to purchasing new equipment and installations necessary to enable IT use
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	There will be a negative impact due to the upgrading and extension of IT networks in the long run. Electronic waste recycling measures should be developed in order to reduce a long term effect
Ensure protection of natural and cultural landscape (e.g. by revitalization of brown-fields)	0	There will be some negative impact on cultural and natural landscapes due to the new infrastructure (broadcasting towers, networks, etc.). Mitigation measures should be proposed if significant changes are expected from the use of new installations and the expansion of networks.
Improve energy efficiency and use of energy resources	0	There will be positive effects due to new technologies being used in support of the ICT, which are more energy efficient, but because the total consumption of energy will rise there may be minor negative long term impact
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	Using new information technologies will improve the public environmentally responsible behaviour regarding the solving of the environmental issues and will help raise the awareness of public concerning environmental issues. IT networks, in the long run, will contribute to the reduction of travels (indirectly) and the development of distant services and work from home, therefore there will be a long term positive effect
Proposed reformulation of key area of intervention (if any):		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.):		
There will be a small negative impact due to the upgrading and extension of IT networks in the long run. Electronic waste recycling measures should be developed in order to reduce a long term impact. There will be some negative impacts on cultural and natural landscapes due to new infrastructure (broadcasting towers, networks, etc.). Mitigation measures should be proposed if significant changes are expected due to the new installations and expansion of networks.		

Key area of intervention 3.2: Developing and increasing the efficiency of modern electronic public services (E-Government, E-Education and E-Health)		
Relevant env. objectives	Evaluation	Comments on likely env. effects

Key area of intervention 3.2: Developing and increasing the efficiency of modern electronic public services (E-Government, E-Education and E-Health)		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Maintain and improve the quality of ambient air within the limits set by the legal norms	0	There will be indirect effects due to reduced travels (national and international) caused by increased online communication between governmental institutions and public, on line information access as well as information system development.
Decrease emissions causing climate change	0	There will be indirect negative effects due to increased energy use and therefore the GHG emissions from energy plants will increase.
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	There will be an indirect impact on terrestrial and aquatic eco-systems due to energy demand increase, although there will be a positive effect due to better management and better information availability regarding the anthropogenic degradation, habitat fragmentation and deforestation through the GIS and other information databases.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	There will be an indirect positive effect on the biodiversity and protected areas due to more information availability about sites and to the protection measures in place.
Limit use of depleting natural resources	0.5	There may be a negative effect due to increased resources used to produce the electronic equipment needed to access the information developed under the KAI. Depleting natural resources used in production, such as metals, will be affected.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	There is likely a minor negative effect due to waste generation from outdated and obsolete equipment, which must be replaced, or new equipment needed to access the information developed under operation.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	1	No direct effect.
Improve energy efficiency and use of energy resources	0.5	New equipment used and procured to implement the objectives of KAI will offer better energy efficiency, but in total there will be slightly more energy used, therefore there is likely some negative impact
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	2	Using IT and increasing the efficiency of e-services, will improve the public awareness and will promote the environmentally responsible behaviour of public and private sectors on the national and international environmental issues. It is recommended to support NGO portals aimed at environmental awareness raising and portals related to environmental information, environmentally responsible behaviour and environmental education.
Proposed reformulation of key area of intervention (if any):		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.):		
Using IT and increasing the efficiency of e-services will improve public awareness and will promote an environmentally responsible behaviour of the public and private sectors regarding the national and international environmental issues.		

Key area of intervention 3.3: Sustaining the E-Economy		
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	0	There will be indirect positive effects due to reduced travels (national and international) caused by increased online communication among businesses, information access on line as well as information system development.
Decrease emissions causing climate change	0	There will be indirect small negative effects due to increased energy use and therefore there will be enhanced GHGs emissions from energy plants.
Protect and improve the conditions and functions of aquatic and terrestrial eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	0	No direct impact
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	0	No direct impact
Limit use of depleting natural resources	0	There may be a minor negative effect due to increased resources used to produce the electronic equipment needed to access the information developed under the KAI. Depleting natural resources used in production, such as metals, will be affected.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	0	There may be a minor negative effect due to waste generation from outdated and obsolete equipment, which needs to be replaced or from new equipment needed to access the information developed under KAI.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	0	No direct effect.
Improve energy efficiency and use of energy resources	0	New equipment used and procured to implement the objectives of KAI will offer better energy efficiency, but in total there will be more energy used and therefore there is some negative impact
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	Using IT and increasing the efficiency of e-business will promote the environmentally responsible behaviour of private sectors regarding the national and international environmental issues. It will increase possibilities for distant work and commuting travels will decrease in relative terms. Development of this KAI has to be accompanied by the promotion of distant and home-office work to reduce the transport impacts.
Proposed reformulation of key area of intervention (if any): n/a		

Key area of intervention 3.3: Sustaining the E-Economy		
Relevant Environmental Objectives	Evaluation	Comments on likely environmental effects
<p>SEA recommendations (e.g. conditions for implementation, selection criteria etc.): Using IT and increasing the efficiency of e-business will promote the environmentally responsible behaviour of private sectors regarding the national and international environmental issues. It will increase possibilities for distant work and commuting activities will decrease in relative terms. Development of this KAI has to be accompanied by the promotion of distant and home-office work to reduce the transport impacts.</p>		

Priority axis 4 - "Increased energy efficiency and sustainable development of the energy system"

Key area of intervention 4.1: Improvement of energy efficiency		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Maintain and improve the quality of ambient air within the limits set by the legal norms	1	Improvement in energy efficiency due to the rehabilitation of the existing generation capacities will likely contribute to increased resource efficiency as well as to the reduction of emissions generated by the old equipment. Priority has to be given to gas, generating units and to the upgrading of the exiting ones for increased efficiency.
Minimize the impacts on the air quality	1	Improvement of energy efficiency will contribute to reduced fuel consumption and the emissions generated by this. Improving energy efficiency and increasing the use of renewable resources will contribute to the improvement of air quality.
Limit water pollution from point and diffuse pollution sources	1	Reducing fuel consumption for thermal and power plants will reduce also the acid rains that pollute the water and the soil. Improving energy efficiency and increasing the use of renewable resources will contribute to limiting water pollution, especially from power plants.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	1	Power generation capacities pollute soil due with generated residues, emissions and waste. Improving fuel efficiency will reduce relative emissions, which will increase positive effect.
Decrease emissions causing climate change	2	Improvement of energy efficiency will contribute to reduced fuel consumption and GHGs emissions.
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	Increases of energy efficiency will partly compensate the negative impact of the current pollution resulting from old and inefficient energy and heat generation units.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	Increased energy efficiency will partly compensate the negative impact of the current pollution resulting from old and inefficient energy and heat generation units.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	1	Energy efficiency improvement will contribute to the relative reduction of fuel consumption and emissions generated by these renovated and upgraded plants, which will improve human health.
Protect and improve the condition of settlements with respect to noise	0.5	Adopting new technologies that aim at increasing the energy efficiency will improve the living conditions of settlements, especially regarding noise and vibration.
Increase population protection from risk associated with industrial accidents	1	Improvement of technologies and machinery used in energy and heat generation will have a positive effect.

Key area of intervention 4.1: Improvement of energy efficiency		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Limit use of depleting natural resources	1	Energy efficiency is a way to reduce the use of natural energy resources, to contribute to the mitigation of the green-house effect and to reduce the use of depleting natural resources,. It is recommended to support the conversion of technologies as well as the generation of energy from gas.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	Reducing fuel will also contribute to reducing waste generation in the energy sector.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	0.5	There will be some indirect positive effect due to reduced fuel consumption in some units from the energy sector.
Improve energy efficiency and use of energy resources	2	The KAI will have a positive effect related to the improved energy efficiency of the sector (heat and electricity).
Facilitate energy generation from renewable resources	2	There may be some positive effect due to conversion of power facilities enabling use of renewable resources (wood, gas).
Support introduction of eco-effective innovations	2	Investments into energy efficiency will enable eco-efficiency for the energy system in Romania and will have a positive effect.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	Supporting energy efficient innovations in the sector will contribute to the environmentally responsible behaviour of the public and private sector although it will have a negative impact due to new energy and heat capacities generated under the KAI. It is recommended to provide information and promote energy saving on personal basis to enable positive effects.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.):		
Investments into energy efficiency will enable the eco-efficiency of the energy system in Romania and will have a positive effect, which can be strengthened by supporting the technological modernization of installations and equipment for industrial consumers aimed at energy saving. Priority must be given to gas and to the upgrading of the existing energy generation units.		

Key area of intervention 4.2: Valorisation of renewable energy sources (RES)		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Maintain and improve the quality of ambient air within the limits set by the legal norms	2	The use of RES (such as wind, hydro, solar, biomass, geothermal and other) will decrease the demand for the traditional fuel and decrease the pollution, therefore it will have a positive effect on the quality of ambient air.
Minimize the impacts on the air quality	2	RES are less (e.g. biomass) or non air polluting (wind and solar) resources for energy generation therefore there will be a significant positive effect on air quality.

Key area of intervention 4.2: Valorisation of renewable energy sources (RES)		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Limit water pollution from point and diffuse pollution sources	1	There will be a positive effect from this KAI, since RES (except for hydro power) have no direct impact on water pollution. If new hydro dams will be supported, negative effect is likely, which have to be reduced through EIA procedure
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	1	RES do not have a significant negative impact on soil unless hydro energy processes result in land flooding, which can be used for agricultural purposes, and increase the erosion effect on the new reservoirs created for this purpose. RES is generally a less waste generating source and waste from bio fuel can be reused. Soil will be polluted during the construction time and new areas of land will be occupied by equipment and transformer stations.
Decrease emissions causing climate change	2	Use of RES have no direct emissions causing climate change (except during the production units' production phase) therefore this source of energy is considered GHG friendly. If significant quantities of energy will be produced there will be significant positive effect, although those new energy quantities will not respond to the total energy demand and will not have as result the closure of the old power plants.
Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation	1	Locations of wind farms and hydro power plants will impact the settlements and ecosystems and will have some negative effect on habitat fragmentation and deforestation (especially due to hydro power). Environmental assessment tools must be used to enable the best environmentally friendly solutions. EIA is mandatory
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	Locations of wind farms and hydro power plants will impact protected areas and potential Natura 2000 sites therefore an environmental assessment must be conducted in each case on the proposed location and capacity. EIA is mandatory.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	2	RES are by far less polluting energy sources and they are human health friendly, although there will be some negative impact due to the construction of new water reservoirs. To mitigate the impacts it is proposed to promote the use of brownfields and to combine the measures with rehabilitation activities for the older industrial burdens.
Protect and improve the condition of settlements with respect to noise	1	In the case of wind energy generation there is a potential negative impact related to noise. Mitigation measures and locations' proposals have to be proposed and assessed by EIA.
Increase population protection from risk associated with industrial accidents	1	Risk of industrial accidents will increase due to new energy generation units being constructed, such as wind and hydro power units. There may be minor negative impact.

Key area of intervention 4.2: Valorisation of renewable energy sources (RES)		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Limit use of depleting natural resources	2	RES are producing energy from renewable energy resources therefore a positive effect is expected, although during the preparations for the use of those resources some depleting natural resources are being used and therefore some negative impacts will take place. If sufficient quantities are produced by the RES supported by KAI there will be some reduction of the energy production from conventional sources, but it is unlikely.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	There will be some impact regarding waste generation.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	1	There will be some negative impact on natural and cultural landscapes using RES, such as wind and hydro energy. There is a need to propose mitigation measures.
Improve energy efficiency and use of energy resources	2	Use of the latest technologies in RES will enable the energy efficiency; therefore there will be some positive effect.
Facilitate energy generation from renewable resources	2	This KAI has a direct long term positive effect on this env. Objective.
Support introduction of eco-effective innovations	2	Promotion of the RES enables the eco-efficient solutions therefore a long term positive effect is expected.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	Energy generation from RES promotes the environmentally friendly behaviour of public and private sector although new energy sources have a negative impact occurring from an increased availability.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): Locations of wind farms and hydro power plants will impact on the settlements and ecosystems and will have negative effect regarding habitat fragmentation, deforestation (especially due to hydro power), noise and will have negative impact on protected areas and potential Natura 2000 sites therefore environmental assessments must be conducted in each case on the proposed location and capacity. Environmental assessment tools must be used to enable the best environmentally friendly solutions. Energy generation from RES promotes the environmentally friendly behaviour of public and private sectors, although increased availability of new energy sources will have a negative impact.		

Key area of intervention 4.3: Reducing the negative environmental impact of the energy system		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Maintain and improve the quality of ambient air within the limits set by the legal norms	2	Investments in flue gas desulphurization installations, burners with reduced NOx and filters for large combustion plants will improve air quality and will have a significant positive effect in the locations where the norms of ambient air pollution are exceeded.

Key area of intervention 4.3: Reducing the negative environmental impact of the energy system		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Minimize the impacts on the air quality	2	Investments in emissions' reduction technologies will have a positive effect on the air quality.
Limit water pollution from point and diffuse pollution sources	1	Installations for gas emission desulphurization will enable the reduction of input to acid rain phenomenon from the energy sector therefore positive effect is expected.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	1	Reduction in emissions and making them less harmful will have a significant positive effect on the soil quality and soil erosion.
Decrease emissions causing climate change	2	A long term positive effect will take place.
Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation	1	There will be a positive effect on terrestrial and aquatic eco-systems due to reduced pollution.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	1	There will be a positive effect on protected areas and potential Natura 2000 sites due to emissions' reduction.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	1	Investments in flue gas desulphurization installations, burners with reduced NOx and filters for large combustion plants will improve air quality and human health therefore a long term positive effect is anticipated.
Protect and improve the condition of settlements with respect to noise	1	There will be some positive effect in the locations of the rehabilitated power plants.
Increase population protection from risk associated with industrial accidents	1	There will be some positive effect due to the use of new technologies and the modernization of equipment.
Limit use of depleting natural resources	2	There will be no direct impact due to the implementation of BAT, but there will be some effect given the improved efficiency in energy generation.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	1	There will be some positive effect due to BAT use in emissions' reduction and to the development of the energy production plants' capacity.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brown-fields)	1	There will be some indirect positive effect due to decreased pollution.
Improve energy efficiency and use of energy resources	2	There will be some positive effect due to the enabling of BAT in the energy sector and to the access to efficient technologies and equipments.
Facilitate energy generation from renewable resources	2	No direct impact

Key area of intervention 4.3: Reducing the negative environmental impact of the energy system		
Relevant env. objectives	Evaluation	Comments on likely env. effects
Support introduction of eco-effective innovations	1	There will be significant positive effect due to the enabling of BAT and access to efficient technologies and equipments aimed at pollution reduction.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	There will be some indirect positive effect due to cleaner technologies and BAT's availability in the energy sector, which will increase public awareness regarding the environmental friendly behaviour.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): Investments in emission reduction technologies will have a positive effect on the air quality. It is recommended to support only eco-friendly solutions and old installations aimed at more efficient and less polluting energy generation. No new units are to be supported under the KAI to achieve it's maximum positive effect.		

Priority axis 5 - "Romania, an attractive destination for tourism and business"

Key area of intervention 5.1: Promotion of Romanian tourism potential		
Relevant Environmental Objectives	Evaluation	Comments on likely environmental effects
Limit water pollution from point and diffuse pollution sources	0.5	No direct effect of this KAI can be assessed. Promotion of tourism as a whole will lead to increased tourism and will have an indirect long term impact on water pollution.
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	Waste generation will increase due to attracting more tourists and therefore there will be an indirect negative effect on eco-systems. It is recommended that along with the promotion of national and international tourism to provide information on potential negative impacts of tourism on habitats and deforestation (such as forest fires, water pollution). Sustainable tourism's incentives should be promoted/encouraged in order to use some of the tourism resulted funds in achieving this objective.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-1	Tourism's attraction to the protected areas and potential Natura 2000 sites will have some negative effects if no protection measures are established. The natural biodiversity of Romania will represent one of the tourism's directions that must be developed, but it has to be accompanied by proper campaigns regarding the natural conservation and environmentally friendly behaviour of tourists in such places. Sustainable tourism incentives should be promoted/encouraged in order to use some of the tourism resulted funds in achieving this objective.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	Support and promotion of sustainable tourism with measures aimed at nature conservation and protection will improve the environmentally responsible behaviour of the public therefore significant positive effect is expected.

Key area of intervention 5.1: Promotion of Romanian tourism potential		
Relevant Environmental Objectives	Evaluation	Comments on likely environmental effects
Support of environmentally friendly transport and promote development and usage of public transport	1	Supporting environmental tourism which promotes the use of public transport will have a significant positive effect. It is important to enable the access and information regarding the public transport to national and international tourists as well as to promote other environmentally friendly transport modes (such as carriages, cycling and walking) by developing appropriate maps and brochures
Promote tourism that would ensure high degree of environment protection and nature conservation	2	Promoting the sustainable tourism using sustainable means (through internet, brochures on PT, activities enabling nature conservation as well as reduction of energy and transport use) will have a significant positive effect. Intensification of tourism due to the availability of promotion products and underdeveloped services and systems will have negative impacts on the environment.
Proposed reformulation of key area of intervention (if any): Promotion of sustainable tourism in Romania		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.):		
<p>Support and promotion of sustainable tourism with measures aimed at nature conservation and protection will improve the environmentally responsible behaviour of the public therefore significant positive effect is expected. It is important to enable access and information on the public transport to national and international tourists as well as to promote other environmentally friendly transport modes (such as carriages, cycling and walking) by developing appropriate maps and brochures and investing in this type of env. friendly travel resources.</p> <p>Promoting the tourism using sustainable means (such as internet, brochures on PT, activities enabling nature conservation as well as the reduction of energy and transport use) will have a significant positive effect. Intensification of the tourism based on the availability of promotion products and underdeveloped services (such as wastewater and waste management) and systems (infrastructure such as paths and PT) will have negative impact on the environment.</p> <p>It is recommended that along with the promotion of national and international tourism to provide information on potential negative impacts of tourism on habitats (protected areas and potential Natura 2000 sites) and deforestation (such as forest fires). The natural biodiversity of Romania will represent one of the tourism directions that must be developed, but it has to be accompanied by proper campaigns on natural conservation and environmentally friendly behaviour of tourists in such places.</p>		

Key area of intervention 5.2: Development of the national network of Tourism Information and Promotion Centres		
Relevant Environmental Objectives	Evaluation	Comments on likely environmental effects
Limit water pollution from point and diffuse pollution sources	0	Indirect minor negative effect may take place due to tourism intensification in Romania.
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	1	There will be some positive effect if the information centres will provide information on what is allowed and what is forbidden for the conservation of those areas, to the public and tourists. The right and correct tourism information sources and promotion would have a key role in reaching this objective.

Key area of intervention 5.2: Development of the national network of Tourism Information and Promotion Centres		
Relevant Environmental 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	Public and tourists' awareness plays a key role in the conservation of those protected areas and potential Natura 2000 sites. If information on the actions and activities allowed in those areas are spread via the centres there will be a significant positive effect.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	1	Positive effect is expected due to new information centres, which can be used to educate tourists about the environmentally responsible behaviour.
Support of environmentally friendly transport and promote development and usage of public transport	1	The information will support the development of environmentally friendly transport by encouraging the tourists to use these modes.
Promote tourism that would ensure high degree of environment protection and nature conservation	2	Public information will promote the sustainable tourism by encouraging the tourists to be involved in such activities. Positive effect will take place if sustainable tourism awareness raising and information are made available and action plans and strategies are developed by those centres.
Proposed reformulation of key area of intervention (if any): n/a		
SEA recommendations (e.g. conditions for implementation, selection criteria etc.): There may be minor negative effects due to increased tourism activity throughout the country due to the information centres' role in promoting the national natural and cultural values and locations. Positive effect will be achieved if the information centres will provide to the public and tourists information on what is allowed and what is not for the conservation of those areas. The right and correct tourism information sources and promotion would have a key role in reaching this objective. Positive effect is due to the new information centres, which can be used to inform tourists about the environmentally responsible behaviour.		

8.2 Evaluation of cumulative effects of the SOP IEC on the relevant environmental objectives

Cumulative environmental effects arising from implementation of SOP IEC were analyzed using simplified approach proposed in the Methodology of the SEA Handbook. The assessment is presented for each relevant environmental objective summarizing positive and negative effects.

Table 7. Summary of likely cumulative environmental effects of the SOP IEC

Relevant env. objective	Environmental effects	Overall cumulative impact
Maintain and improve the quality of ambient air within the limits set by the legal norms	Positive effect: <ul style="list-style-type: none"> o Energy saving and promotion of energy conservation will reduce air emissions; o R&D and know-how applied to minimize the air pollution will have a positive effect on the air quality. o Supporting IT will likely contribute to the reduction of travels, caused by increased online communication between governmental institutions and the public, information access on line as well as information system development, there for the indirect positive effect can be expected; o Use of RES (such as wind, hydro, solar, biomass, geothermal and other) will decrease the demand for the traditional fuels and this will indirectly decrease air pollution o Investments in flue gas de-sulphurization installations, burners with reduced NOx and filters for large combustion plants will improve air quality Negative impact: Increase of production capacity and productivity through investments in plants, equipment, machineries may lead to negative impacts on ambient air quality unless BAT technologies are used and sound environmental management practices (EMAS, ISO EN 14001) are put in place	The SOP is likely to lead to overall improvements in the ambient air quality

Relevant env. objective	Environmental effects	Overall cumulative impact
<p>Minimize the impacts on the air quality</p>	<p>Positive effect:</p> <ul style="list-style-type: none"> o Improvement of air quality is likely to take place due to investments focused on production systems with less pollutant technologies; o A long term positive effect due to activities such as procurement of R&D know how applied to reduction of air emissions; o Promotion of RES will have a positive effect. o Reducing fuel consumption of thermal and power plants and installations of gas emission desulphurization will also reduce the air emissions <p>Negative impact:</p> <ul style="list-style-type: none"> o Increase of production capacity and productivity (through investments in plants, equipment, machineries and better access to credits and financial instruments) may have negative impact on air quality due to raised energy demand 	<p>The SOP may have either positive or negative impact on the air quality – depending on the extent of the actual use of the BAT technologies and presence of sound environmental management practices (EMAS, ISO EN 14001) in the supported facilities</p>
<p>Limit water pollution from point and diffuse pollution sources</p>	<p>Positive:</p> <ul style="list-style-type: none"> o R&D aimed at direct and indirect water pollution reduction from technological processes o Reducing fuel consumption of thermal and power plants and installations of gas emission desulphurization will reduce the acid rains that pollute the water. <p>Negative:</p> <ul style="list-style-type: none"> o Expansion of production capacities due to access to credits and financial instruments as well as increased number of SMEs are likely to contribute to water pollution (depending of the profile of activity) o Due to activation of laboratory activities and research, there may be indirect negative impact on the air pollution. o New hydro dams may have significant negative impacts on water quality; o Tourism intensification in Romania will likely some negative effect on water quality 	<p>The SOP may lead to neutral or negative impact on the water quality. The scale, character and significance of this impact cannot be determined at this point as it will depend on (i) the quality of waste-water treatment facilities that serve the supported enterprises and on (ii) location of new hydro-power dams (only small ones) and tourism facilities</p>
<p>Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion</p>	<p>Positive:</p> <ul style="list-style-type: none"> o Stimulating of the transfer of R&D results and modern technologies developed in or outside Romania to the national economy will lead to an improvement in the competitiveness of Romanian enterprises but also in soil protection from water and wind erosion o Reduction in air emissions causing acidification will have a significant positive effect on the soil quality and soil erosion <p>Negative:</p> <ul style="list-style-type: none"> o Expansion of production capacity as well as increased number of SMEs due to credits and financial instruments may contribute soil pollution (depending of the profile of activity) by production waste and waste water o Development of green-field facilities will lead to land-take and soil degradation 	<p>The SOP may result in either positive or neutral impact on the soil. The character and significance of this impact will depend on location of green-field investments and environmental management practices in the supported facilities. EIA compulsory for investment projects</p>

Relevant env. objective	Environmental effects	Overall cumulative impact
<p>Decrease emissions causing climate change</p>	<p>Positive:</p> <ul style="list-style-type: none"> - Improvement of energy efficiency will reduce green house gas emissions - Use of RES (except hydro) will have no emissions causing climate change <p>Negative: Increased demand for energy due to increased production capacity will have a long-term effect on the GHG emissions</p>	<p>The SOP is likely to result in neutral impact on greenhouse gases. The actual impact will depend on the overall balance of energy savings versus overall increase in demand for energy supply due to intensified industrial production</p>
<p>Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation</p>	<p>Positive:</p> <ul style="list-style-type: none"> - Reduction of emission related to transport. - Better management and better information availability on the anthropogenic degradation, habitat fragmentation and deforestation through the GIS and other information databases - Positive effect on terrestrial and aquatic eco-systems due to reduced pollution from energy systems <p>Negative:</p> <ul style="list-style-type: none"> - Increased emission to the air, water and soil caused by increased energy demand - Some negative impact due to development of tourism facilities - Locations of wind farms and hydro power plants (small dams) will likely have negative impact on habitat fragmentation 	<p>The SOP may result in either neutral or negative impact on conditions and functions of terrestrial and aquatic eco-systems. The character and significance of this impact will depend on wind farms and hydro power plants</p>
<p>Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites</p>	<p>Positive: There will be a positive effect on protected areas and potential Natura 2000 sites due to emission reduction</p> <p>Negative:</p> <ul style="list-style-type: none"> - Depending on the production processes supported there may be indirect negative effect on protected areas due to increased emission to the air, water and soil; - Locations of wind farms and hydro power plants are likely to have negative impact on protected areas and potential Natura 2000 sites since some of the most favourable areas for RES overlap with protected areas in Romania as well, as there is a potential overlap with Natura 2000 sites. - Tourism developments near the protected areas and potential Natura 2000 sites may have negative effect 	<p>The SOP may lead to some negative impact on protected areas and potential Natura 2000 sites. The scale, character and significance will depend on i) siting of the RES projects and on ii) tourism promotion and development locations. Regulation is underway for Natura 2000 sites.</p>

Relevant env. objective	Environmental effects	Overall cumulative impact
<p>Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)</p>	<p>Positive:</p> <ul style="list-style-type: none"> - The reduction in a relative fuel consumption as well as emissions generated by renovated and upgraded plants will improve human health. - Support to RES will have a significant positive effect; - Stimulating the transfer of modern technologies, adapted to the European environmental standards, will lead to an improvement in the competitiveness of Romanian enterprises and also to obtain a better quality of the human health; - There will be an indirect significant positive effect on human health by the measures and activities related to improved laboratory research, improved data collection (through accreditation and certification) as well as due to pollution reduction by activities such as refurbishment and modernisation of R&D premises for ensuring the proper functioning conditions for the procured equipment (ambient conditions, power sources, etc). - Significant positive effect will take place if R&D support will contribute to pollution reduction and waste minimization <p>Negative:</p> <ul style="list-style-type: none"> - Due to increased production capacities facilitated by better access to credits and financial instruments there will be additional emission to the air, water and soil.. 	<p>The SOP is likely to lead to a positive effect on human health. The effect can be strengthened if clean up activities are supported in relation to old burdens and hazardous waste management of industries.</p>
<p>Protect and improve the condition of settlements with respect to noise</p>	<p>Positive:</p> <ul style="list-style-type: none"> - There will be some indirect long term positive effect due to technology and process development and improvement with respect to noise - Adopting new technologies that aim to rise the energy efficiency will improve the settlements living conditions, especially in respect to noise and vibration; - There will be some positive effect in the locations of the power plants rehabilitated <p>Negative:</p> <ul style="list-style-type: none"> - Better access to credits and financial instruments will increase the productivity and also the environmental impacts (including noise) of the SMEs' productive activities - New developments will lead to more activities and there will be some negative effect on noise levels - In case of wind energy generation there is a potential negative impact related to noise 	<p>The SOP may lead to neutral or negative impact on the conditions of settlements with respect to noise. The scale, character and significance of this impact cannot be determined at this point as it will depend on the extent of the actual use of the BAT technologies and presence of sound environmental management practices (EMAS, ISO EN 14001) in the supported facilities</p>

Relevant env. objective	Environmental effects	Overall cumulative impact
Increase population protection from risk associated with industrial accidents	<p>Positive: Investments in more secure productive technologies, new equipment, R&D and in training of workers will limit the number of industrial accidents</p> <p>Negative: Risk of industrial accidents may increase due to increased industrial activities</p>	<p>The SOP may lead to neutral or negative effect in respect to protection from industrial accidents. The scale, character and significance of this impact cannot be determined at this point as it will depend on the extent of the actual use of the BAT technologies and presence of sound environmental management practices (EMAS, ISO EN 14001) in the supported facilities</p>
Limit use of depleting natural resources	<p>Positive:</p> <ul style="list-style-type: none"> - R&D as well as research institution partnership support will have a long term positive effect; - Enabling the use of renewable energy resources will reduce pressure on the depleting natural resources; - RES are producing energy from renewable energy resources. <p>Negative:</p> <ul style="list-style-type: none"> - Increasing number of companies and production capacity will increase the use of natural resources - Better access to credits and financial instruments will increase the productivity and also the environmental impacts of the SMEs' productive activities - New equipment to be purchased and installations necessary to enable IT use 	<p>The SOP may lead to neutral or negative effect in respect to the use of depleting natural resources. The scale, character and significance of this impact cannot be determined at this point as it will depend on the extent of the actual use of the BAT technologies and presence of sound environmental management practices (EMAS, ISO EN 14001) in the supported facilities</p>
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	<p>Positive:</p> <ul style="list-style-type: none"> - Stimulating the transfer of modern technologies, adapted to the European environmental standards, will lead to an improvement in the competitiveness of Romanian enterprises but also in waste recycling process. - There will be long term positive effect on the waste and waste generation due to innovations developed through the activities supported such as research and innovations and modernization of technologies - Reducing fuel will also contribute to reducing waste generation in the energy sector; - There will be some positive effect due to BAT use in emission reduction and developing the capacity of energy production plants <p>Negative:</p> <ul style="list-style-type: none"> - Better access to credits and financial instruments as well as business support will increase the productivity, which will indirectly affect the waste generation - There will be a minor negative impact due to upgrade and extension of IT networks and waste generation from outdated and obsolete equipment 	<p>The SOP may lead to neutral or negative effect in respect to waste generation, recovery and recycling. The scale, character and significance of this impact cannot be determined at this point as it will depend on the extent of the actual use of the BAT technologies and presence of sound environmental management practices (EMAS, ISO EN 14001) in the supported facilities</p>

Relevant env. objective	Environmental effects	Overall cumulative impact
<p>Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)</p>	<p>Positive:</p> <ul style="list-style-type: none"> - There will be some indirect positive effect due to reduced fuel consumption in some units of the energy sector and decreased pollution; <p>Negative:</p> <ul style="list-style-type: none"> - Better access to credits and financial instruments will increase the development of the SMEs' and may have a minor indirect impact on cultural and natural landscape; - There may be some negative impact due to construction and new infrastructure (broadcasting towers, networks, etc.) - There will be some negative impact on natural and cultural landscape from RES such as wind and hydro energy 	<p>The SOP may lead a negative impact in respect to protection of natural and cultural landscape. The impacts can be minimized and mitigated if developments are promoted in brownfields. EIA should be used to mitigate the likely negative effects</p>
<p>Improve energy efficiency and use of energy resources</p>	<p>Positive:</p> <ul style="list-style-type: none"> - SMEs will be promoted to ensure energy efficiency and saving energy resources due to availability of investments into new technologies; - There will be long term positive effect due to acquisition of more energy efficient technologies and equipment; - Enabling of BAT in energy sector and access to efficient technologies and equipments 	<p>The SOP is likely to lead to a significant positive effect in energy efficiency and energy resources</p>
<p>Facilitate energy generation from renewable resources</p>	<p>Positive: Energy generation from renewable energy sources will be enabled</p>	<p>The SOP is likely to lead a significant positive effect in to energy generation from renewable resources</p>
<p>Support introduction of eco-effective innovations</p>	<p>Positive:</p> <ul style="list-style-type: none"> - There will be positive effect due to new investments and upgrade of technologies used in production - Stimulating the transfer of modern technologies, adapted to the European environmental standards, will facilitate a better implementation in practice of the eco innovations - Investments into energy efficiency will enable eco-efficiency of the energy system in Romania - Promotion of the RES enables the eco-efficient solutions - There will be significant positive effect due to the enabling of BAT and access to efficient technologies and equipments aimed at pollution reduction 	<p>The SOP is likely to lead a significant positive effect in to the support of the introduction of eco-effective innovations</p>

Relevant env. objective	Environmental effects	Overall cumulative impact
<p>Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors</p>	<p>Positive:</p> <ul style="list-style-type: none"> - Support to the projects which have strong environmental aspects such as reuse and recycling of waste, generation of energy from renewable resources and having eco-efficient innovations; - R&D activities will have positive long term effect; - There will be indirect effect to the public and their environmentally responsible behaviour due to new technologies being acquired by the companies, due to the measures and some direct effect on the business sector due to enabling of the innovations aimed at solving environmental issues in the production and research; - Using new information technologies will improve the public environmentally responsible behaviour into the solving of the environmental issues and will rise the awareness of public concerning environmental issues - Using IT and increasing the efficiency of e-business, will promote environmentally responsible behaviour of private sectors on the national and international environmental issues. It will increase possibilities for distant work and commuting will decrease in relative terms. 	<p>The SOP is likely to lead a significant positive effect into public involvement in solving the environmental issues and promoting environmentally responsible behaviour of public and private sectors. The significant positive effect can be strengthened if information about the projects supported and their impacts are widely shared with the public</p>
<p>Support of environmentally friendly transport and promote development and usage of public transport</p>	<p>Positive: Information will support the development of environmentally friendly transport by encouraging the tourists to use these modes</p>	<p>The SOP is likely have a positive effect on supporting environmentally friendly transport and promotion of PT. Positive effect can be strengthened if locations of new economic activities will be served by the PT infrastructure and means</p>
<p>Promote tourism that would ensure high degree of environment protection and nature conservation</p>	<p>Positive: Information will promote the sustainable tourism by encouraging the tourists to be involved in such activities</p>	<p>The SOP is likely have a positive effect to sustainable tourism promotion if environment protection and nature conservation measures are promoted along with tourism</p>

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

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

Assessment tables of each 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.

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 SOP, under selected operations.

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

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 or those which will have the biggest environmental benefits. The aim of this system is to ensure that the SOP IEC will give preference to 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 SOP IEC.

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

Where applicable, 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 SOP IEC, i.e. evaluation as for environmental criteria should be a part of the summarising evaluation of the project submitted.

It is recommended that the environmental evaluation should be applied selectively (in consultation with environmental authority) and conducted in two stages:

- Pre-project environmental evaluation during project preparation, elaborated by the applicant;
- 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, where applicable, by the project applicant as an integral part of their project application.

Table 8. Proposed scoring table for the projects submitted with environmental criteria

Project name/ref.:	Impacts of the project on relevant environmental objectives for the SOP IEC			
	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				
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion				
Decrease emissions causing climate change				
Protect and improve the conditions and functions of terrestrial, aquatic and marine 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				
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. brownfields, mining waste, etc.)				
Protect and improve the condition of settlements with respect to transport noxes,				

Project name/ref.:	Impacts of the project on relevant environmental objectives for the SOP IEC			
	Positive	Neutral or not applicable	Negative	Short explanation of scale and nature of the impact
particularly noise and vibration				
Increase population protection from risks associated with natural disasters and industrial accidents				
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 by revitalization of brownfields and protection of natural habitats from fragmentation due to traffic corridors				
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 the public by involving the public into the solution of environmental issues				
Support of environmentally friendly transport and promote development and usage of public transport				
Promote tourism that would ensure high degree of environment protection and nature conservation				

Formal review of environmental evaluations during project selection

The formal environmental evaluation of project applications may be carried out as an integral part of the selection procedures concerning granting of support within the SOP IEC.

In-filled 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).

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 may determine, inter alia, obligatory conditions for granting funds from the SOP IEC.

For operations, where environmental prioritization method proposed above is not applicable, preference environmental criteria, adapted from the list above (based on the relevant environmental objectives), should be used in the project appraisal process.

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

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-chapters 9.1 and 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 should not be seen 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 selected operations 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, where applicable.
- 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 SOP IEC.

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 SOP IEC environmental impacts from impacts of other activities /interventions (e.g. projects financed from sources other than the SOP IEC).

The SEA team also presumes that the proposal below will possibly be modified to accommodate the way of implementing the SOP IEC 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 SOP IEC 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 influenced by the SOP IEC implementation, i.e. the environmental impacts of the SOP IEC 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 SOP IEC has on the environment, the SEA team proposed environmental indicators for each of the relevant environmental objectives (relevant to SOP IEC). The SEA team proposes to selectively use monitoring indicators to monitor environmental effects based on the characteristics of the projects selected for funding. By monitoring and summarising the single projects' evaluations, it will then be possible to estimate the overall environmental effect on the relevant environmental objectives in other words, on the SOP IEC.

The proposed environmental indicators have to be incorporated into the overall system of monitoring the SOP IEC. This monitoring should be carried out during the whole programming period (one a year or at least interim report after 6 months from the project start and at the end of the project, if it takes) and the results should be published regularly, ideally in electronic form (Internet).

The proposed monitoring indicators to assess effects of the programme on the environment are provided in the table below.

Table 9. Proposed environmental monitoring indicators

Relevant Environmental Objectives	Indicators	Description
Maintain and improve the quality of ambient air within the limits set by the legal norms	<ul style="list-style-type: none"> - Emissions of NO_x (mg/Nm³) - Emissions of SO₂ (mg/Nm³) - Emissions of dust (mg/Nm³) 	Data from the project monitoring for the projects financed under KAI 3 of PA 4
Minimize the impacts on the air quality	<i>The same as for indicators for the objective "Maintain and improve the quality of ambient air within the limits set by the legal norms"</i>	Data from the project monitoring for the projects financed under KAI 3 of PA 4
Limit water pollution from point and diffuse pollution sources	- number of properly functioning industrial wastewater treatment facilities (in 2004 59.2% of all industrial WWTP were working improperly)	National Environmental Agency
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	- hazardous production waste generated (in tons)	Data from the project monitoring or National Statistics
Decrease emissions causing climate change	- CO ₂ equivalent release into the atmosphere (kTons of CO ₂ equivalent)	Data from project monitoring for the projects involved in energy generation under PA 4.
Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation	<ul style="list-style-type: none"> - Number of projects in brownfields (No and Mil EUR) - Number of projects in greenfields (no and Mil EUR) 	Data from project monitoring, where applicable
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	Number of (potential) Natura 2000 sites affected due to projects	Data from project monitoring, where applicable
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	<i>The same indicators as for the relevant environmental objective "Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation"</i>	Data from project monitoring, where applicable
Protect and improve the condition of settlements with respect to noise	-Number of inhabitants living in the areas with noise limits exceeded	Data from national statistics
Increase population protection from risk associated with industrial accidents	-Number of projects aimed at reduction of risk of industrial accidents	Data from project monitoring.

Relevant Environmental Objectives	Indicators	Description
Limit use of depleting natural resources	- Reduction in water consumption in production processes (million m3 and %).	In 2004 industry sector consumed 3.93 million m3, which was the largest consumer of water. Data from National statistics
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	- Industrial waste recycled (in Mil. tons)	National statistics
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	<i>The same indicators as for the relevant environmental objective "Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation "</i>	Data from project monitoring, where applicable
Improve energy efficiency and use of energy resources	Reduction of primary energy intensity in assisted beneficiaries (%)	Data from project monitoring, under KAI 1 of PA 4
Facilitate energy generation from renewable resources	Energy produced from renewable resources in assisted beneficiaries (MWh/ year)	Data from project monitoring, under KAI 2 of PA 4
Support introduction of eco-effective innovations	Number of beneficiaries that implemented: <ul style="list-style-type: none"> o EMAS o ISO EN 14001. 	Data from project monitoring
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	Number of products for touristic information (leaflets, brochures, etc.) that promote the environmentally responsible behaviour and the principles of the sustainable tourism	Data from project monitoring, where applicable
Support of environmentally friendly transport and promote development and usage of public transport	The same indicators as for the relevant environmental objective "Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors"	Data from project monitoring, where applicable
Promote tourism that would ensure high degree of environment protection and nature conservation	The same indicators as for the relevant environmental objective "Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors"	Data from project monitoring where applicable

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 SOP IEC 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 SOP IEC implementation impacts
- To connect the monitoring system to the system of evaluating and selecting the projects, using environmental criteria, where applicable;
- To publish the results of monitoring regularly;
- To ensure sufficient personnel and professional capacities for environmental areas within the SOP IEC monitoring;
- To involve the Ministry of Environment and Water into 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

The whole monitoring system includes the following activities:

- Evaluation of the projects submitted using environmental criteria, adapted to the situation and operations
- Monitoring of environmental indicators (especially on the basis of aggregation of data from the project level) adapted to the situation and operations
- Examination of the monitoring results, i.e. revision of changes in environmental indicators
- Initiation of respective steps in case the SOP IEC negative environmental impacts were found
- Publishing of the results of monitoring
- Modifications of environmental indicators and criteria with respect to the character of the projects submitted
- Communication with the respective assessment authority (Ministry of Environment and Water) as well as other authorities/bodies working in environmental protection
- Providing environmental consulting to people working in the SOP IEC implementation structure, i.e. especially to the members of evaluation and selection commissions for selected operations
- Providing advisory services to entities submitting projects in the environmental field
- Providing information on environmental issues related to the SOP IEC 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 criteria for projects selection and evaluation and of related environmental indicators that were proposed within the SEA on the basis of contents of the single SOP IEC areas of intervention, and also in the context of the single projects submitted.

Annexes

Annex 1. Institutions invited to the Working Group for SEA for the SOP IEC

- Ministry of Environment and Water Management
- National Authority for Tourism
- Ministry of Public Finance
- Ministry of Economy and Commerce
- Ministry of Communications and Information Technology
- Ministry of Education and Research
- Ministry of Public Health
- National Agency for Small and Medium Enterprises
- Ministry of Administration and Interior

Annex 2. Minutes of the scoping meeting for the SOP

MINISTERUL ECONOMIEI SI COMERTULUI Directia Programe cu Organizatii Internationale

Proces Verbal

privind intalnirea Grupului de Lucru pentru Evaluarea Strategica de Mediu (SEA), incheiat astazi 7 septembrie 2006

In data de 7 septembrie 2006 a avut loc la sediul Ministerului Economiei si Comertului prima intalnire a Grupului de lucru pentru Evaluarea Strategica de Mediu pentru Programul Operational Sectorial „Cresterea Competitivitatii Economice (POS CCE)”, a carui componenta, realizata conform art. 10 alin.3, din HG 1076/2004 privind stabilirea procedurii de realizare a evaluarii de mediu pentru planuri si programe, este prezentata anexat.

La intalnire au participat si expertii SEA angajati in cadrul contractului privind evaluarea ex-ante al carei beneficiar este Ministerul Finantelor Publice in calitate de Autoritate de Management pentru Cadrul de Sprijin Comunitar : Ausra Jurkeviciute si Martin Smutny.

Sedinta a fost deschisa de d-na Director Steluta Goanta, in calitate de coordonator al Autoritatii de Management a Programului Operational „Cresterea Competitivitatii Economice” (POS CCE), care a salutat inceputul activitatii de evaluare strategica de mediu, considerandu-l un factor important pentru imbunatatirea POS CCE.

Martin Smutny a prezentat motivatia realizarii procedurii Evaluarii Strategice de Mediu pentru programele operationale finantate prin Fonduri Structurale si rezultatele asteptate in urma acestei evaluari.

Ausra Jurkeviciute a prezentat manualul privind implementarea SEA (Handbook on SEA) realizat de GRDP (Greening Regional Development Programmes) pe baza experientei acumulate prin realizarea de evaluari de mediu pentru programe realizate in cadrul Politicii de Coeziune. A fost subliniat faptul ca procedura SEA este parte integranta a procesului de programare, cu toate ca pentru asigurarea transparentei rezultatele vor fi raportate separat in raportul de mediu.

S-a convenit ca in aceasta prima sedinta sa se discute probleme legate de primele doua etape ale procedurii SEA (conform metodologiei oferite in Handbook on SEA) :

Etapa I: **Determinarea problemelor relevante de mediu pentru SEA**, care consta in determinarea:

- > problemelor de mediu care intervin in POS CCE
- > obiectivelor de mediu relevante
- > indicatorilor sau intrebarilor cheie care ghideaza evaluarea.

Etapa II: **Evaluarea contextului de mediu pentru POS CCE**

-> analiza evolutiei fiecarui indicator sau intrebari cheie stabilite anterior;

- > evolutia acestora in situatia in care POS CCE nu ar fi implementat ;

In vederea identificarii problemelor relevante de mediu pentru POS CCE, expertii straini au realizat o grila in care au prezentat impactul (pozitiv sau negativ) al fiecarei axe prioritare asupra problemelor de mediu, grila care a fost

analizata si modificata la sugestia membrilor grupului de lucru. Forma finala, conform discutiilor, va fi transmisa in cel mai scurt timp membrilor grupului de lucru prin mail.

Dupa identificarea problemelor de mediu, expertii au prezentat materialul intitulat „Obiectivele relevante de mediu pentru SEA” realizat pe baza analizei raportului privind starea mediului pe anul 2004, Cadrul Strategic National de Referinta si a altor documente strategice relevante. S-a convenit ca este necesara completarea acestuia si transmiterea de observatii de catre membrii Grupului de Lucru , prin mail.

De asemenea expertii au solicitat analiza si completarea tabelului care cuprinde legislatia relevanta de mediu din UE si Romania.

In ceea ce priveste modalitatea de lucru cu Grupul de Lucru, s-a convenit ca in principal aceasta sa se realizeze prin mail, intalnirile comune vor fi stabilite de comun acord. Reprezentantilor Grupului de Lucru le vor fi transmise materialele elaborate pentru analiza si propuneri.

S-a convenit de asemenea postarea pe pagina de Internet a MEC a informatiilor relevante privind derularea procedurii SEA.

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	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 (NO_x), powders (PM₁₀) and lead (Pb)); • 2000/3/EC concerning the ozone air pollution (O₃) • 2000/69/EC concerning the limit values for benzene (C₆H₆) and carbon dioxide (CO). • Stockholm Convention on POPs • Gothenburg Protocol 1999 • 96/61/EC (IPPC) 	<ul style="list-style-type: none"> • 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 • 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 ap-

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Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
		<p>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);</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 • 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) 	<ul style="list-style-type: none"> • 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.no86/26.01.2005). • 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	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 92/43/EEC (Habitats) • 79/409/EEC (Birds) 	<ul style="list-style-type: none"> • Law no.5/2000 regarding the national system of protected areas (Of.J.no.152/12.04.2000).

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
	<ul style="list-style-type: none"> • 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 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) 	<ul style="list-style-type: none"> • 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 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.no756/29.10.2003). • 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; • GD 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.no732/13.08.2004). • 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.no1097/6.12.2005). • GD 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 for Natura 2000 (Of.J.no284/29.03.2006).
Human health	<ul style="list-style-type: none"> • 98/83/EC (Quality of water intended for human consumption) • 80/68/EEC (protection of ground water against pollution caused by certain dangerous substances) 	<ul style="list-style-type: none"> • 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).

Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 • Annually report national synthesis of healthcare waste management 2005
<p style="text-align: center;">Environmental risk management</p>	<ul style="list-style-type: none"> • 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, protection 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) 	<ul style="list-style-type: none"> • 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) • Draft master plan and the programme for Black Sea Coast protection (to be completed in 2006)
<p style="text-align: center;">Resource efficiency and conservation/sustainable resource management</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • GO no 78/2000 (Of.J.no.283 /22.07.2000) on regime of waste approved by the Law no 426/2001(Of.J.no411 /25.07.2001), with further amendments • Law 6/1991 (Of.J.no18 /26.01.1991), for adhering of Romania to Basel convention, amended by Law 256/2002 (Of.J.no352 /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)

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Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
	<ul style="list-style-type: none"> • COM(2005)670 final) • 96/61/EC (IPPC) 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • European Landscape Convention 	<p>National Spatial Plan (NSP):</p> <ul style="list-style-type: none"> • 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 renewable energy sources	<ul style="list-style-type: none"> • COM(2005)265 (Green Paper on energy efficiency) • 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 	<ul style="list-style-type: none"> • The Road Map for Energy in Romania - GD no.890/2003 • National Strategy for Energy Efficiency - GD no.163/2004 and Law 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	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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 in-

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Environmental issues	Relevant EU Legislation and Policies	Relevant Romanian Legislation and Policies
		terest; • GD no.878/2005 (Of.J.no.760/22.08.2005) on the free access to environmental information; • 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 transport	• the Cardiff conclusions of the European Council (1998) • the European Strategy for Sustainable Development (Gothenburg 2001)	• National Sustainable Development Strategy (1999)
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)

Reference objectives also respect the requirements of the following documents:

- COM(2001)31 - 6th Environment Action Programme;
- 97/11/EC (EIA)
- MO of Waters and Environmental Protection no. 860/2002 (Of.J.no.52/03.01.2003) on the approval of the procedure for environmental impact assessment and issue of the environmental agreement;
- 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)

Annex 4. Full tables with the evaluation of specific objectives of SOP IEC

The assessment was focused on the likely environmental effects of the SOP IEC specific objectives to the relevant environmental objectives. The evaluation was done in a form of comments, explaining what effects (both positive and negative effects) might be caused by the implementation of the SOPs' specific objectives. The analysis resulted in a possible re-formulation of specific objectives and priority axes.

Specific objective 1: Consolidation and growth of the Romanian productive sector		
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 projects aimed at the reduction of air pollution and the improvement of air quality be supported? -Will projects reduce air pollution in urban areas with regard to limit values of SO ₂ , NO _x and PM ₁₀ or the target values (for ozone) defined in the air quality framework directive and its daughter directives? -Use of BATs -EMAS -ISO	Positive effect is expected if new machinery and technologies aimed at reduced air pollution and energy use will be supported. Support for environmental certification will bring a positive effect. It is impossible to say if activities will have direct impact on air pollution limits, but indirect impact may be expected due to increased productivity and increased energy use, if it will come from non-renewable resources from LCPs. Implementing certification systems and BATs may have significant minimizing effects.
Minimize the impacts on the air quality	-Will air pollution in the urban and rural areas be reduced? -Air quality	There may be a positive effect from BAT and certification systems introduced with the support of the measures provided in the SOP.
Limit water pollution from point and diffuse pollution sources	-Water quality	There may be positive effect on the general water quality if projects will be aimed at water consumption reduction in industry and services sectors. BATs and the introduction of certification may positively contribute to pollution reduction.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	-Soil quality	It is difficult to estimate the direct impact on soil quality, but certification and BATs may ensure that the negative effects are minimized.
Decrease emissions causing climate change	-Reduction in emission causing Climate change	GHG emissions may be reduced due to access to BATs and certification. Indirect positive effect may be achieved if measures under this objective will aim at energy efficiency.
Protect and improve the conditions and functions of terrestrial and aquatic eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	No direct link	No direct link

Specific objective 1: Consolidation and growth of the Romanian productive sector		
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	Will Natura 2000 sites be affected?	Developments of the productive sectors on abandoned lands will lead to a potential conflict situation with the SPAs (special bird areas) included in 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.)	Will human health be improved due to activities supported?	There may be significant positive effect if measures aimed at pollution prevention and reduction in the production sector will be supported.
Protect and improve the condition of settlements with respect to noise	-Noise level	Positive effect is expected from measures that will reduce noise during processing and production as well as noise from external sources such as transport and construction.
Increase population protection from risk associated with industrial accidents	-Industrial accidents	There will be significant positive effect following an inflow of BATs and the development of new technologies supported by the measures aimed at industrial safety and human health protection.
Limit use of depleting natural resources	-Use of depleting energy resources -Use of non-renewable raw materials	New technologies, which are less natural resources consumptive, may be developed or acquired and therefore there could be a significant positive effect. Negative impact may arise due to production increase in general and the need for more resources. Projects aimed at reusing depleting resources and recycling may minimize the negative effect.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	-Will it reduce waste generation? -Will it increase waste recovery?	Due to increased productivity it is important to know types of new waste generated (hazardous and non hazardous), which would determine the need for specific management schemes. If measures will support waste reduction and recovery there will be a significant positive effect, although there may be negative impact due to increased waste from projects, which may be minimized using BAT and certification.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	-Will revitalization of brownfields be supported -Will new technologies for clean up be developed or acquired?	Support to developments of production centres in brownfields may have positive effect.
Improve energy efficiency and use of energy resources	-Will energy efficiency schemes and technologies be supported? -Will use of energy resources be reduced?	Significant positive effects may be expected if new and more efficient technologies could be used and purchased for production. Certification and acquisition of BATs may contribute to positive effects, although the intensification of production will likely increase the total energy consumption.

Specific objective 1: Consolidation and growth of the Romanian productive sector		
Relevant Environmental Objectives	Relevant indicators/guiding questions	Comments on likely environmental effects
Facilitate energy generation from renewable resources	-Increase of renewable fuel production and use -Increase in energy generation from renewable resources	There may be a positive effect if the introduction of energy generation from renewable resources, such as wind technologies and bio-fuel, will be supported.
Support introduction of eco-effective innovations		There may be significant positive effect if eco-effective innovations will be supported, aimed at reduced use of energy and raw materials, recycling, etc.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	-Will it promote public and private involvement in solving environmental issues?	Introduction, acquisition and development of eco-efficient and energy saving technologies will contribute to the environmentally responsible behaviour of public and private sectors, although increased production may facilitate a consumption increase (considered negative from an env. perspective due to potential waste increase).
Support of environmentally friendly transport and promote development and usage of public transport		If some measures will facilitate the use of alternative transport modes or support distant work without commuting, it may have positive effect.
Promote tourism that would ensure high degree of environment protection and nature conservation	No direct link	No direct link
Proposed reformulation of proposed specific objectives: Consolidation and environmentally friendly development of the Romanian productive sectors		

Specific objective 2: Establishment of a favourable environment for enterprises' development		
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 facilitate emissions' reduction? -Will it facilitate reduction in air pollutants (SO ₂ , NO _x and PM ₁₀) or the achievement of air quality target values (for ozone)?	Investments into enterprises and facilitation of production growth may have a negative effect on air pollution due to increased energy demand, causing air pollution and increase of energy related emissions. It may be mitigated through BATs and the certification of developers, if promoted.
Minimize the impacts on the air quality	-Air quality	Investments into enterprises and facilitation of production growth will have negative impact on general air quality due to increased energy consumption and transportation, which may be partially mitigated if rail transport is promoted for use by enterprises.
Limit water pollution from point and diffuse pollution sources	-Water quality	Establishment and support to enterprises' growth will increase water consumption and water pollution in the long run, but impacts may be reduced with BATs' application.

Specific objective 2: Establishment of a favourable environment for enterprises' development		
Relevant Environmental Objectives	Relevant indicators/guiding questions	Comments on likely environmental effects
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	-Soil quality	Establishment and support for enterprises' growth will increase waste generation, but developments aimed at waste recycling and reuse may have a long term positive effect.
Decrease emissions causing climate change	-Emissions of GHGs	Establishment and support for enterprises may have a negative effect through increased GHG emissions.
Protect and improve the conditions and functions of terrestrial, aquatic and marine eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	No direct link	No direct link
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Management plans for protected areas and Natura 2000 sites	The enterprises development will be evaluated and included in management plans for 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.)		Development and establishment of new enterprises in brownfields may have significant positive effect.
Protect and improve the condition of settlements with respect to noise		Support to new developments and enterprises may have short and long term negative effects due to construction and production processes, though application of BATs may have mitigation effect.
Increase population protection from risk associated with industrial accidents		Supporting new developments and enterprises may increase risk of industrial accidents.
Limit use of depleting natural resources		New developments and enterprises may have a negative effect on depleting natural resources due to increased production and construction.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	-Will it reduce waste generation? -Will waste recovery and recycling be supported?	Enterprise development support will cause production increase and therefore waste generation increase. New technologies may help increase waste reuse and recovery as well as reduce waste generation, and they must be associated to and promoted among new developers. Projects aimed at waste reduction and waste sorting and minimization must have a priority
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	No direct link	No direct link

Specific objective 2: Establishment of a favourable environment for enterprises' development		
Relevant Environmental Objectives	Relevant indicators/guiding questions	Comments on likely environmental effects
Improve energy efficiency and use of energy resources		There will be positive effect if energy efficiency and reduction in energy use will be promoted via new technologies and research, but total energy consumption will be increased due to new developments and production growth. Enterprises that will demonstrate energy efficiency measures and energy resource savings must have priority.
Facilitate energy generation from renewable resources		If support to energy generation from renewable resources is provided, there will be a positive effect.
Support introduction of eco-effective innovations	Number of eco-effective innovations	Support to enterprises promoting eco-effective innovations will bring a positive effect. Ideas on eco-efficiency provided via business incubators may facilitate this effect.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors	-Public awareness on environmentally responsible behaviour; EMAS	Support to enterprise development applying newest BATs will have a positive effect on the environmentally responsible behaviour of private sectors and may extend to the public sector too.
Support of environmentally friendly transport and promote development and usage of public transport	-Increase in use of PT	Private sector development with links to public transport development may have a positive effect, e.g. through the development of technologies to improve PT's efficiency as well as through the promotion of PT use by private sector based on various incentives.
Promote tourism that would ensure high degree of environment protection and nature conservation	No direct link	No direct link
Proposed reformulation of proposed specific objectives: Establishment of a favourable environment for sustainable enterprises' development		

Specific objective 3: Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the productive sector		
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	-Areas with air pollution norms exceeding the limits	Development of new technologies may facilitate in the long run a decrease of air pollution, especially in the areas where standards are exceeded.
Minimize the impacts on the air quality	-Air quality	New technologies and RDI may indirectly facilitate the decrease of general air pollution by shifting labour from production sectors into science and research.
Limit water pollution from point and diffuse pollution sources		Development of technologies aimed at reduced water consumption and water pollution may have a long term positive effect.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion		Development of technologies facilitating reduced waste generation, waste recycling and reuse as well as general indirect reduction of soil pollution may have a long term positive effect.

Specific objective 3: Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the productive sector		
Relevant Environmental Objectives	Relevant indicators/guiding questions	Comments on likely environmental effects
Decrease emissions causing climate change		Facilitating the development of technologies aimed at using ozone friendly products as well as GHG emissions reduction may have long term positive effect.
Protect and improve the conditions and functions of terrestrial, aquatic and marine eco-systems against anthropogenic degradation, habitat fragmentation and deforestation		Increase of the R&D capacity will contribute to the better understanding of all eco-systems' functions in connection with human activities.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Development of the adequate set of indicators	Development of the R&D capacity will increase the support for biodiversity indicators implementation
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)		There may be positive effect due to development of less polluting technologies and clean up of old burdens
Protect and improve the condition of settlements with respect to noise		Newly developed technologies, aimed to protect humans from noise, may have a positive effect.
Increase population protection from risk associated with industrial accidents		Investments into RDI and research may have a significant positive effect on the reduction of risk associated with industrial accidents
Limit use of depleting natural resources		Investments into RDI and research may have a significant positive effect if technologies and processes developed will enable the reduction of depleting natural resources use.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste		New technologies may help increase waste reuse and recovery as well as reduce waste generation.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brown-fields)	No direct link	No direct link
Improve energy efficiency and use of energy resources		There will be positive effect if energy efficiency and reduction in energy use will be promoted via new technologies and research.
Facilitate energy generation from renewable resources		If support to energy generation from renewable resources is provided, it will have positive effect.
Support introduction of eco-effective innovations		Support to the development and promotion of eco-effective innovations will have a positive effect. Ideas on eco-efficiency provided via business incubators may facilitate the effect.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors		Support to enterprise development applying newest BAT will have a positive effect on the environmentally responsible behaviour of private sectors and may extend to the public sector too

Specific objective 3: Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the productive sector		
Relevant Environmental Objectives	Relevant indicators/guiding questions	Comments on likely environmental effects
Support of environmentally friendly transport and promote development and usage of public transport		Projects aimed at public transport development and improvement may have a positive impact, e.g. through the development of technologies that improve the efficiency of PT as well as through the promotion of PT use by private sector based on various incentives
Promote tourism that would ensure high degree of environment protection and nature conservation	No direct link	No direct link
Proposed reformulation of proposed specific objectives: Increase of the R&D capacity and stimulation of the cooperation between RDI institutions and the producers		

Specific objective 4: Valorisation of the ICT potential and its application to the public administration) and private sector (citizens, enterprises)		
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	-Reduction of air pollution 'hot spots'	Development of ICT will reduce transportation and contribute to fuel consumption reduction in the long run due to enabling distant work, improvements in the communication sector and of public and private services. There will be a long term positive effect, although it will cause increases in energy consumption which will contribute to air pollution from energy generation facilities.
Minimize the impacts on the air quality	-Urban and rural air quality	ICT development will reduce commuting and the need for travel in the long run and will have a positive effect.
Limit water pollution from point and diffuse pollution sources	No direct link	No direct link
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	No direct link	No direct link
Decrease emissions causing climate change	-Emissions of GHGs	There may be some negative impact on GHG emission due to increased energy needs.
Protect and improve the conditions and functions of terrestrial, aquatic and marine eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	-Development of new energy and communication installations	Development of ICT networks may require new high voltage power and communication lines as well as wireless communication infrastructure which may have negative effect on habitats and forests. Projects have to be accompanied by EIAs in order to ensure the minimization of the negative effects.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Which Natura2000 sites will be affected?	New or renovated old ICT networks may impact on protected and future Natura 2000 sites. Projects have to be accompanied by EIAs in order to ensure the minimization of the negative effects.

Specific objective 4: Valorisation of the ICT potential and its application to the public administration) and private sector (citizens, enterprises)		
Relevant Environmental Objectives	Relevant indicators/guiding questions	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.)	-Reduction of brownfields	The promotion and use of old facilities (brownfields) for the development of new ICT centres and networks may have some positive impact.
Protect and improve the condition of settlements with respect to noise	-Reduction of noise	Construction related to ICT may have short term negative effect due to the noise produced.
Increase population protection from risk associated with industrial accidents	-Reduction in the risks associated with industrial accidents	ICT developments may have positive effect on the reduction of risks associated with industrial disasters.
Limit use of depleting natural resources	-Reduction in use of depleting natural resources	Development of ICT may increase the use of depleting natural resources given the increased use of electronic equipment and infrastructure development.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	-Waste recovery	Development of ICT may increase electronic and laboratory waste production.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)		ICT may require the expansion and development of communication infrastructure which may have direct negative effect on natural and cultural landscape (wires, dishes, antennas, towers, poles, etc.). Mitigation measures must be required and implemented for each of the developments as well as for wider programmes. EIAs or SEAs procedures are required to ensure the minimization of effects.
Improve energy efficiency and use of energy resources		Energy efficiency may be increased due to the use of newest technologies, the elimination of paper transactions as well as indirectly from enabling public and private electronic services.
Facilitate energy generation from renewable resources	-Increase in energy generation from renewable resources	The increased energy need for ICT may enable and promote energy generation from renewable resources.
Support introduction of eco-effective innovations		There may be some positive effect due to the reduction of paper use and transport and enabling distant services.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors		ICT support may have a positive effect on the environmentally responsible behaviour of public and private sectors by promoting resource efficiency and waste minimization (except electronic waste).
Support of environmentally friendly transport and promote development and usage of public transport		There may be an effect on the reduction of transportation needs in general.
Promote tourism that would ensure high degree of environment protection and nature conservation	No direct link	No direct link
Proposed reformulation of proposed specific objectives: n/a		

Specific objective 5: Increased energy efficiency and sustainable development of the energy system.		
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	-Reduction of air pollution pressure in the areas with limits exceeding norms	The rehabilitation of old power plants will have a positive effect.
Minimize the impacts on the air quality	-Urban and rural air quality	The development of renewable energy sources could lead to a positive long term effect on air quality.
Limit water pollution from point and diffuse pollution sources		If new water dams will be built they may significantly impact the water quality of the respective areas.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion		Support to renewable energy generation may have small positive effect on soil quality, but precautionary measures should be taken against water and wind erosion
Decrease emissions causing climate change		Renewable energy use will have a significant positive effect.
Protect and improve the conditions and functions of terrestrial, aquatic and marine eco-systems against anthropogenic degradation, habitat fragmentation and deforestation	-Will there be measures to protect the natural diversity of fauna and flora against the impact of RES usage and new power plants location (e.g. building wind turbine)?	The biggest wind potential is identified in Danube Delta and coastal zone. Those areas have also the highest biodiversity potential. Measures are needed to preserve biodiversity potential in order to ensure the minimum impacts and reduce risk associated with habitat loss and fragmentation.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Which Natura 2000 sites and protected areas will be affected?	There may be a negative effect on the protected areas and Natura 2000 sites if new facilities are supported in new locations, However such projects have to be accompanied by EIA to assess any negative impacts and suggest mitigation measures.
Facilitate improvement of human health by implementing measures aimed at pollution prevention and mitigation of old burdens (e.g. pesticides, mining waste, etc.)	-Respiratory diseases	Improving energy efficiency and the use of RES will decrease pollution and will have a positive effect on human health.
Protect and improve the condition of settlements with respect to noise	- Noise levels	Wind farms' locations could impact the settlements; therefore the SEAs/EIAs have to be prepared to ensure mitigation measures in this case.
Increase population protection from risk associated with industrial accidents		If nuclear energy is considered, the risk will increase. Energy efficiency measures may reduce the need for new energy generation facilities and may reduce the risks.
Limit use of depleting natural resources		RES contributes to reduced use of natural resources and reduced waste generation, although support of conventional energy plans will have a significant long term impact on the depleting natural resources
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste		New technologies developed and introduced to reduce waste from energy generation (e.g. new ways of re-utilization of ashes and residues) are likely to have a positive effect.

Specific objective 5: Increased energy efficiency and sustainable development of the energy system.		
Relevant Environmental Objectives	Relevant indicators/guiding questions	Comments on likely environmental effects
Ensure protection of natural and cultural landscape (e.g. by revitalization of brownfields)	-Will there be measures to protect natural and cultural landscape?	There may be significant negative effect due to construction of wind mill farms.
Improve energy efficiency and use of energy resources		It will have long term significant positive effect since energy efficiency measures will be promoted.
Facilitate energy generation from renewable resources		It will have long term significant positive effect since energy generation from RES will be supported.
Support introduction of eco-effective innovations		Energy efficiency is one of the forms of eco-efficiency and this objective will have a positive long term effect.
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors		Promotion of energy efficiency will contribute to the environmentally responsible behaviour of public and private sectors.
Support of environmentally friendly transport and promote development and usage of public transport	No direct link	No direct link
Promote tourism that would ensure high degree of environment protection and nature conservation	No direct link	No direct link
Proposed reformulation of proposed specific objectives: n/a		

Specific objective 6: Promotion of Romanian tourism potential		
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	-Locations with air pollution exceeding the limits	Tourism development may have some negative effect on air pollution in the areas with exceeding air pollution due to increased energy consumption
Minimize the impacts on the air quality	-Ambient air quality -Air quality in cities	Tourism promotion will increase movement of people and goods and may have indirect negative effect on energy consumption and ambient air pollution. Promotion and facilitation of PT use for tourists will have positive effect on the air quality.
Limit water pollution from point and diffuse pollution sources	-Water quality	Water pollution may increase due to increases in water consumption from growing tourism sector, which can be mitigated by improving services and the monitoring of water quality.
Limit point and diffused pollution of soil and facilitate soil protection from water and wind erosion	-Soil quality	Soil pollution may be indirectly impacted by increased energy demand and transport use. Development of new tourist infrastructure may have a negative impact and increase the soil erosion.
Decrease emissions causing climate change	-GHG emissions	Increased use of transport and movement of goods will lead to increased emissions of GHGs.
Protect and improve the conditions and functions of terrestrial and aquatic ecosystems against anthropogenic degradation, habitat fragmentation and deforestation		Promotion of tourism in rural areas may have an impact through the anthropogenic degradation of eco-systems. Organized tourism development and promotion may reduce the negative effect.
Preserve the natural diversity of fauna, flora, and habitats in protected areas and potential Natura 2000 sites	-Management plans for protected areas and Natura 2000 sites	Promotion of tourism in protected areas and potential Natura 2000 sites may have a negative impact. Development of management plans for protected areas and enabling organized tourism development and control may reduce the negative effect.

Specific objective 6: Promotion of Romanian tourism potential		
Relevant Environmental Objectives	Relevant indicators/guiding questions	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.)	No direct link	No direct link
Protect and improve the condition of settlements with respect to noise		There may be a slight impact due to increased traffic in certain areas.
Increase population protection from risk associated with industrial accidents	No direct link	No direct link
Limit use of depleting natural resources		Increased use of transportation may have negative effect, although if public transport and railway transport is promoted and the use of those transport means is facilitated through projects, they will have a positive effect.
Reduce waste generation, increase waste recovery, and facilitate recycling of all waste	-Waste sorting -Waste reuse and recovery	Waste generation will increase due to the inflow of tourists into the country or promotion of tourism in already affected sites. Establishment of viable and integrated waste management systems in the areas with significant tourism potential and development will reduce the negative effect.
Ensure protection of natural and cultural landscape (e.g. by revitalization of brown-fields)		Tourism attraction to the sites of natural and cultural heritage may have a negative effect if no protection measures are established.
Improve energy efficiency and use of energy resources		Negative effect can be expected due to increased energy demand from tourism sector.
Facilitate energy generation from renewable resources	No direct link	No direct link
Support introduction of eco-effective innovations	No direct link	No direct link
Involve public into the solving of the environmental issues and promote environmentally responsible behaviour of public and private sectors		Tourism promotion may be linked with the promotion of environmentally responsible behaviour. There is a strong tourism potential and projects aimed at solving also environmental issues should be a priority

Specific objective 6: Promotion of Romanian tourism potential		
Relevant Environmental Objectives	Relevant indicators/guiding questions	Comments on likely environmental effects
Support of environmentally friendly transport and promote development and usage of public transport	-Will it promote the use of public transport for tourism?	Promotion of PT usage in tourism sector may have a significant positive effect. Such projects aimed at PT use (and rail way use) for tourism purpose should be a priority e.g. revitalization of old railways (narrow railways) for tourism purpose, developing PT maps for tourism with set of special sites, etc..
Promote tourism that would ensure high degree of environment protection and nature conservation	-Will it promote tourism that ensures a high degree of environmental protection and nature conservation?	There is a potential significant impact on the development of sustainable tourism, although its development has to be environmentally sound and aimed in the same time at human well being, nature protection and biodiversity conservation
Proposed reformulation of proposed specific objectives:		
Promotion of sustainable tourism development in Romania		

Annex 5. Monitoring programme

TEMPLATE (general suggestions regarding set up and implementation)

Introduction and monitoring purpose

Environmental monitoring programme is a vital process of any management plan. 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 transport
- 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 form of either posted EIAs or database.

Annex 6. Minutes of the public debate on SOP IEC and environmental report that took place on the 19th of January 2007 and the list of participants

On the date of 19th of January 2007, at the Ministry of Economy and Commerce, the public debate for the environmental report of the Environmental Strategic Assessment for the Sectoral Operational program "Increasing Economic Competitiveness (SOP IEC)".

The meeting was attended by the key - expert appointed for the strategic environmental assessment, Ms. Ausra Jurkeviciute, REC representative Oana Boingeanu, representatives of Ministry of Environment and Water Management, MA CSC, MA SOP IEC, I.B. as well as representatives of diverse groups of interested stakeholders (Institute of Public Health, Bucharest, Terra Mileniul III Foundation, WWF-DCP, Wieser Consult SRL).

MA SOP IEC representatives were:

Catalina Melita	General Director
Steluta Goanta	Deputy General Director
Aneta Stoica	Counsellor
Mihaela Manolescu	Chief of department
Razvan Otel	Counsellor
Aurel Moise	Expert

The meeting was open by Mr. Constantin Pulbere, representing MOEWM, followed by Ms. Steluta Goanta, as Deputy General Director within the Managing Authority for the Sectoral Operational program "Increasing Economic Competitiveness (SOP IEC) who emphasized the importance of the public debate for discussing the environmental report, presented the agenda of the meeting and invited the participants to actively take part in the meeting.

Ms. Aneta Stoica, counsellor, representing MA SOP IEC, presented shortly the Operational Program , highlighting the following aspects:

- Strategic objective of SOP;
- Structure of the program: priority axes, major key areas of intervention, specific objectives;
- The organizational structure for SOP implementation: the role of the MA and of Intermediate Bodies;
- The scope of evaluating SOP IEC environmental impact on environmental objectives.

In the second part of the meeting, Ms. Ausra Jurkeviciute delivered a short presentation of the environmental report, including the following themes:

- Methodology used for evaluation
- Issues and difficulties of the evaluation process
- General effects of SOP IEC on the relevant environmental objectives
- The proposed selection and evaluation system for projects from environmental point of view
- Suggested monitoring system for projects from environmental point of view.

The next part of the meeting was open for questions and answers on the two subjects previously presented.

The representative of Terra Mileniul III Foundation, Ms. Claudia Jianu, asked for clarifications regarding the next aspects:

- Selection procedure for projects within SOP IEC will be done on the principle “first come, first served”, or how?
Mrs. Steluta Goanta answered that the selection will not be done on this principle, but according to the criteria that will be specified in the Applicants Guide, which will be shortly available.
- To what extent, the existence of a pre-feasibility study is a condition to obtain finances through SOP IEC
Mrs. Ana Badarau and Mr. George Guran (IB Energy) answered that as it concerns the energy sector projects, a feasibility study is usually required. For other situations it will be decided, on a case to case situation.
- To what extent the objectives of SOP IEC overlap with the objectives of other OPs, especially with the objectives of ROP?
Mrs. Steluta Goanta clarified that, as far as they know (because they do not have access to the last version of ROP) there are no overlaps between ROP and SOP IEC, and that there should not be such overlaps in general.
- Are there other means to promote investments in renewable resources, except the “green certificates”?
Mrs. Steluta Goanta answered that these are the only modalities projected.
- Regarding the energy efficiency, is the SOP promoting the fuel fossils from now on?
Mrs. Ana Badarau (IB energy) clarified that the use of fuel fossils ensures currently the independence of the energetic system, and RES is expected to become soon (hopefully) one reliable source too.
- To what extent the national strategies for energy efficiency are reflected in SOP IEC?
Mrs. Ana Badarau clarified that the SOP strategy was built on the basis of the national strategies for energy.
- Radioactive waste: to what extent there are funds foreseen for dismantling nuclear power plants and radioactive waste?
Mrs. Ana Badarau clarified that this is not an eligible field for REDF.
- With regards to the MA structure – is there already established a monitoring committee? To what extent the NGOs are accepted to take part in this committee?
Mrs. Mihaela Manolescu (MA) answered that in there is not established a committee already, until the SOP is not approved. There is already a concept with regards to the institutions to be included, but the committee will be established only after the approval of the SOP. .
- The representative of the National Agency for Tourism clarified that the environmental report includes a suggestion of re-naming the KAI 5.1. (Promoting a sustainable tourism in Romania), which modifies completely the scope/sense of this KAI.
Mrs. Ausra Jurkeviciute specified the fact that the intention of the report is to suggest the promotion of those tourist areas that benefit of infrastructure, to protect also the environment through this approach. In this direction it was suggested also a correlation of ROP objectives on infra-

structure development. NTA representative specified that will send to the MA, in the shortest time possible, a counter-offer for re-naming the PA 5. It was emphasized that through this PA there are not promoted investments in tourism but the promotion of the country brand, and Ms. Mihaela Manolescu suggested for NTA to prepare a written document where the activities that could be financed will be explained better, document that will be sent to the SEA expert.

- The representative of the National Public Health Institute of Bucharest wanted to highlight that neither in the SOP or in the SEA report there is offered little information on the impact of the operations financed on the population health state.

The SEA expert specified the fact that the aspects related to health are very important and will be taken into account into the new project evaluation criteria, together with the analysis of the environmental impact. It was also emphasized that there are not too many examples in the world to evaluate this impact and that the contribution of the NPPI is welcome in establishing a better model for monitoring the impact of the SOP IEC operations on health.

- NAMSE (ANIMMC) representative raised the issue of the Romanian formulation of the KAI 1.3. in the presentation, where the term "entrepreneurship" was replaced with "business environment" and a concordance between the SOP formulation and the SEA one. Mrs. Ausra Jurkeviciute explained that this is the result of working on two different versions of SOP (the 2006 April and the November ones) and it is possible that some omissions appeared given the short time allocated for preparing the report.

- The representative of Terra Millennium III Foundation continued with the following comments regarding the environmental report:

- The report is appreciated as good, because it brought to attention the concept of sustainability, which is a transversal priority to UE level.
- To what extent the environmental indicators will be used for projects monitoring?

Mrs. Ausra Jurkeviciute explained that the list of indicators is a preliminary one, and this list will still be revised by the MA with representatives of MOWEM. She suggested that these indicators be included in the general monitoring system, and the monitoring report must include also environmental conclusions.

- Will the evaluation of the projects be externalised or not?

Mrs. Catalina Melita –MA General Director – specified that the evaluation will be done internally, either hiring experts in that field, depending the degree of complexity of the project.

- Till when comments on the environmental report can still be made in the next period of time?

Mr. Constantin Pulbere (MOWEM) reminded that the consultation process has started 3-4 months ago, and the current meeting is the last phase of this process, so the last occasion to discuss on this theme.

- When will the SOP be sent for approval to the EC?

Mrs. Catalina Melita estimated that this thing will happen in February 2007.

- When will the Applicant's Guide be ready and what will it include?

Mrs. Catalina Melita explained that, after the Monitoring Committee will be established (after the approval of the SOP), this will adopt the selection criteria for projects. These criteria, once being approved, will be included in the Applicant's Guide, near the selection procedure and other forms necessary in the selection procedure.

- Where do you see the place and the role of NGOs in SOP? And within the Monitoring Committee?

Mrs. Catalina Melita answered that NGOs can apply within PA (IT&R) and for diverse activities that will be financed through TA. With regard to NGOs participation in the Monitoring Committee, she specified that this possibility will be taken into account, but a larger organism needs to be addressed, coordinating the activity of all NGOs, which is in an initial stage currently.

- The representative of IB Energy wanted to clarify an aspect related to one of the indicators for PA 4 (Equivalent of CO2 emissions in atmosphere), and particularly the fact that these indicators cannot be monitored for all the operations within the Axe, but only for the first one 1.

Mrs. Ausra Jurkeviciute accepted, specifying that the indicators must be selectively used, for specific operations where they are relevant.

The meeting was declared closed when there were no more issues to be clarified or additional comments regarding SOP IEC.

Prepared,

19.01.2007

Stoica Aneta

List of participants in the public debate for SOP IEC

NAME	Institution
1. Catalina Melita	General Director, MET, MA SOP ICE
2. Steluta Goanta	Deputy General Director, MET, MA SOP ICE
3. Mihaela Manolesu	Head of Department, MET, MA SOP ICE
4. Ivona Stan	National Authority for Tourism
5. Petru Paduraru	National Authority for Tourism
6. Simona Uglea	NASMEC
7. Fulga Mihaela	Institute for Public Health
8. Constanta Barjoveanu	Ministry of Administration and Interior
9. Laura Trofin	MFP
10 Ioana Ciocoiu	MFP
11 Iordache Olguta	National Authority for Scientific Research
12 Irina Motronea	Ministry of Communication and IT
13 Constantin Pulbere	Ministry of Environment
14 Ana Badarau	MET, General Directorate for Energy Policies, Intermediate Body for Energy
15 Guran George	MET, General Directorate for Energy Policies, Intermediate Body for Energy
16 Doina Constantinescu	MET, General Directorate for Industrial Policy
17 Stoica Aneta	MET, MA SOP IEC
18 Moise Aurel	MET, MA SOP IEC
19 Otel Razvan	MET, MA SOP IEC
20 Susanu Georgeta	MET, MA SOP IEC
21 Claudia Jianu	Terra Mileniul III, Foundation
22 Iulia Puiu	WWF-DCP Romania
23 Oana Boingeanu	REC Romania
24 Cristina Calin	Wieser Consult SRL
25 Irina Cruceru	Wieser Consult SRL
26 Ausra Jurkeviciute	REC