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List of abbreviations

AA	Appropriate Assessment
ANRE	National Authority for Energy Regulation
ANRSC	National Authority for Community Services of Public Utility (Romanian acronym)
CEF	Connecting Europe Facility
CF	Cohesion Fund
CFR	National Railways Company (Romanian acronym)
CNADNR	National Company for Motorways and National Roads (Romanian acronym)
CPR	Common Provisions Regulation
CSF	Common Strategic Framework
DH	District heating
EARDF	European Agriculture and rural Development Fund
EC	European Commission
ECU	Evaluation Central Unit
EGO	Emergency Government Ordinance
ENV SOP	Environment Sectoral Operational Programme (2007-2013)
ERDF	European Regional Development Fund
ESC	Evaluation Steering Committee
ESIF	European Structural and Investment Funds
ER	Evaluation Report
EU	European Union
EUR	Euros
EUSDR	European Union Strategy for the Danube Region
FI	Financial Indicator
FR	Final Report
GHG	Green House Gases
GIES	General Inspectorate for Emergency Situations
GTMP	General Transport Master Plan
IB	Intermediary Body
ICT	Information and Communication Technology
IE	Interim Evaluation
IR	Inception Report

KAI	Key Area of Intervention
LIOP	Large Infrastructure Operational Programme
MA	Managing Authority
MEF	Ministry of European Funds
MS	Member States
NARW	National Administration Romanian Waters
NIS	National Institute for Statistics
NPRD	National Programme for Rural Development
NRP	National Reform Programme
NTM	National Transport Model
OI	Output Indicator
OP	Operational Programme
OP TA	Technical Assistance Operational Programme
p.e.	Person equivalents
PA	Partnership Agreement
PAF	Prioritised Action Frameworks
PPP	Private Public Partnership
RI	Result Indicator
ROP	Regional Operational Programme
SEA	Strategic Environmental Assessment
SI	Structural Instruments
SMIS	Single Management Information System
SO	Specific Objective
SOPT	Sectoral Operational Programme Transport (2007-2013)
TA	Technical Assistance
TEN-T	Trans-European Transport
TO	Thematic Objective
ToR	Terms of Reference

Preamble

The present document represents the **Draft Ex-Ante Evaluation Report for the Large Infrastructure Operational Programme** for the project “**Ex-ante evaluation of the Sectoral Operational Programme Large Infrastructure**”, under **Contract no. 12/23/11/27.01.2014** (Subsequent Contract No. 12 under Lot 1 of the Framework Agreement nr. 23/22.08.2011 “Evaluation of Structural Instruments, 2011-2015”) between the Ministry of European Funds (the ‘Contracting Authority’ and ‘the Beneficiary’) and the consortium formed of GEA Strategy & Consulting (leader), NTSN CONECT and CPD Ltd. (the ‘Consortium’ /the ‘Contractor’).

This is the first draft of the Report which provides an evaluation of the full version of the **Large Infrastructure Operational Programme**.

Background of the evaluation

This ex-ante evaluation is based upon The Large Infrastructure Operational Programme 2014 – 2020 (LIOP) Versions presented in September 2014. A subsequent revised version of the LIOP was issued on 7 October and the ex-ante evaluation report has been updated. The development of the Operation Programme has been a process of revision and refinement and the ex-ante evaluation has been part of this iterative process and at the same time the evaluation report has been constantly revised to keep abreast of the changes to the Operational Programme. It is anticipated that of the Operational Programme will be further revised over the coming period. It will only be at this stage that a final ex-ante evaluation report can be drafted. Therefore this ex-ante evaluation report is an interim report. Consequently there are some omissions – notably annexes - which will be included as and when the Operational Programme approaches finalisation.

Partial evaluations of earlier versions ‘iterations’ have been undertaken previously. As with earlier versions there are substantial changes and restructuring of the LIOP. There have been changes to the make up of the Priority Axes and significant reformulation of the intervention logic. A significant feature of the previous versions of the LIOP was the deletion of most of the Output Target values and many Result Target Values; new indicators and targets have been introduced.

As noted in the previous Evaluation Report, earlier versions of the LIOP were criticised in respect of the presentation of the strategic context and this has been continually strengthened. The higher level intervention logic – Europe 2020, Thematic Objectives, Investment Priorities, Specific Objectives – has been found to be generally coherent and consistent. However the intervention logic at the operational level has been more problematic. The evaluators are tasked to verify this content.

The purpose of this report is to help the LIOP advance towards becoming a more coherent and complete document.

1. Programme's strategy /Contribution to Europe 2020 strategy

Consistency of programme objectives with challenges and needs and challenges and needs in relation to Europe 2020 objectives are addressed by the following evaluation questions:

Q1. To what extent there is consistency between the selected thematic objectives, priorities and corresponding objectives of the program, on one hand and the Common Strategic Framework, the Partnership and country-specific recommendations under Article 121 (2) of the Treaty and the relevant Council recommendations adopted under Article 148 (4) of the Treaty? To what extent is there consistency with other policies (strategies) relevant?

Q9. To what extent the OP contributes to the EU strategy for smart, sustainable and inclusive growth, given the selected thematic objectives and priorities, taking into account the national and regional needs?

Q10. What is the relationship of the OP with other relevant programs (policies, strategies)?

1.1. Transport

Support for the Transport sector addresses one directly related Thematic Objective (TO), No. 7: *Promoting sustainable transport and removing bottlenecks in key network infrastructures*, through Priority Axis 1 and Priority Axis 2.

Thematic Objective	Fund	Priority Axis	Investment Priority	Specific Objective
7 Promoting sustainable transport and removing bottlenecks in key network infrastructures	CF	PA 1 Improve mobility through the development of the TEN-T network and of the urban underground transport	7i Supporting a multimodal Single European Transport Area by investing in the TEN-T	SO 1.1 Increase mobility through development of road transport on TEN-T network
				SO 1.2 Increase mobility through development of railway transport on TEN-T network (Core)
				SO 1.3 Increase attractiveness of naval transport through development of water ways and ports on TEN-T network (Core)

Thematic Objective	Fund	Priority Axis	Investment Priority	Specific Objective
			7ii Developing and improving environmentally-friendly (including low-noise) and low-carbon transport systems, including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility	SO 1.4 Increase attractiveness of Bucharest underground transport system through infrastructure and services development
	ERDF	PA 2 Development of a multimodal, quality, sustainable and efficient transport system	7a Supporting a multimodal Single European Transport Area by investing in the TEN-T	SO 2.1 Increase mobility through road transport development on TEN-T network (Comprehensive)
7b Enhancing regional mobility by connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes			SO 2.2 Increase regional accessibility through the connection of areas with reduced connectivity to the road infrastructure of TEN-T	
7c Developing and improving environmentally-friendly (including low-noise) and low-carbon transport systems, including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility			SO 2.3 Increase regional mobility through sustainable modernisation of the airports	
			SO 2.4 Increased attractiveness of the inter-modal transport in order to stimulate the use of sustainable modes of transport	
			SO 2.5 Increase safety and security levels on all transport modes and reduce the impact of transport over the environment	
7d Developing and rehabilitating comprehensive, high quality and interoperable railway systems, and promoting noise-reduction measures	SO 2.6 Improve traffic fluency at border crossing points			
				2.7. Increase of sustainability and quality of railway transport through reform measures and modernisation of infrastructure and services

Under the resource efficiency flagship initiative of the **Europe 2020 strategy**, European Union (EU) member states (MS) are required to address the issues of: (1) development of smart, upgraded and fully interconnected transport and energy infrastructures and making full use of information and communication technology (ICT); (2) ensuring a coordinated implementation of infrastructure projects, within the EU TEN-T network, that critically contributes to the

effectiveness of the overall EU transport system; (3) focusing on the urban dimension of transport, where much of the congestion and emissions are generated. The LIOP's Transport priorities and specific objectives (SO) address all the above topics. The interconnection in EU transport policy is to be achieved mainly through the development of the Trans-European Transport (TEN-T) network, with particular focus on the Core Network. Basically, the LIOP Transport investment strategy is being built around the common priorities set forth by the TEN-T policy, the largest financial allocation being provided for the upgrade and development of the Core Network. The urban transport area is being addressed under Priority Axis 1, which has a SO dedicated to the underground transport in Bucharest, the largest city of Romania and the most affected by traffic pollution and congestion.

The breakdown of the financial allocation foreseen for Transport under the LIOP proves that the Europe 2020 priorities have been appropriately considered. TEN-T infrastructure development counts for 79.45% of the Transport envelope and urban transport for 10.61%.

From a broader perspective, by targeting the development needs of the Romanian transport system, LIOP contributes to the achievement of the Europe 2020 strategic goals through territorial cohesion (by ensuring regional and international connectivity and accessibility), efficiency (by removal of bottlenecks) and sustainable development (by decreasing the impact of the transport system over the environment). The LIOP Transport-related investments should also, indirectly, contribute to CO2 reduction policy objectives, through both the promotion of sustainable transport modes and the measures aiming at reduction of road traffic congestion.

One of the main **Council Recommendations** to Romania consists of the adoption of a long-term and comprehensive General Transport Master Plan (GTMP), in order to ensure a sound basis for the programming and selection of transport investments on short and medium term. While the master planning exercise is yet to be finalised, its interim conclusions have been extensively used for the drafting of the Transport section of the strategy chapter of the LIOP.

Another specific recommendation concerns continuation of the corporate governance reform of state-owned enterprises in the transport sector. As the main LIOP beneficiaries (national Road and Rail companies) have previously shown significant capacity constraints, which have a potential to further hamper European Structural and Investment Funds (ESIF) implementation, LIOP will explicitly address this issue through one of the specific objectives defined under transport priorities, ensuring support for actions aiming to improve sector governance. The

foreseen railway sector reform is also being referred to in the programme and there is a clear commitment to ensure LIOP financing for actions to be further identified in this respect.

In addition, TA measures targeting directly the beneficiaries' administrative capacity are foreseen under the dedicated OP TA, while the administrative capacity measures identified by the World Bank in the action plans developed under the Functional Review (in the context of the medium term support granted by the EC for the balance of payment) are to be implemented under OP Administrative Capacity.

The **National Reform Programme (NRP)** provides for a number of transport-related commitments, such as: significant reforms of the state owned enterprises in the transport sector; diminishing Green House Gases (GHG) emissions in the transport sector, with a special focus on programmes and projects employing EU funds; rebalancing rail transport in relation with road transport; improving rail sector management and services; development of inter-modal transport; use of 10% renewable energy sources in the transport sector by 2020, as per the target set-up by the Renewable Energy Directive; increase the share of public transportation. In response to these commitments, the LIOP comprises a set of specific measures, out of which the most relevant are: (1) specific support measures addressing the corporate reform and capacity constraints of the state-owned Transport companies; (2) significant investments in rail, naval and inter-modal transport, aiming at re-balancing the modal split; (3) investments in the Bucharest metro system in view of increasing the share of the public transport in the most populated region of the country.

Reversing the current decline trend of the railway transport and addressing the existing bottlenecks hampering the development of naval and inter-modal transport are the LIOP main expected contributions to the NRP. It should be noted, however, that re-balancing of the modal split is a long-term objective, which LIOP is expected to contribute to, on its seven years perspective and within the limited funding available. There are significant challenges ahead, which make unlikely the fact that the foreseen rail transport investments shall finally result in a significant change in modal split on short and medium term. These challenges include: a car ownership rate still low as compared with the EU average; significant investments planned, including under LIOP, in the road transport, which will make the road network more attractive; the continued decline, over the recent years, of the Rail transport market share. The key question remains, therefore, whether a sound basis for ensuring a future re-balancing of the modal split has been set-up through the LIOP's SOs and expected results. Our analysis concludes that this is clearly the case.

The Transport section of the LIOP is targeting the *Infrastructure* challenge identified through the **Partnership Agreement** (PA) and the main sector needs and funding priorities defined within the PA. A more detailed analysis in this respect has been performed in relation with the Evaluation Question no. 2.

The Transport **White Paper 2011** encompasses the common goals of the EU transport policy and defines the sector policy agenda for the next decade, addressing the flagship initiative of the Europe 2020 strategy for a resource-efficient Europe. The White Paper comprises 10 strategic goals that may be further grouped under three broader objectives: (1) developing and deploying new and sustainable fuels and propulsion systems; (2) optimising the performance of multimodal logistic chains, including by making greater use of more energy-efficient modes; (3) increasing the efficiency of transport and infrastructure use by employing information systems and market-based incentives. Under these strategic objectives, specific goals are defined¹, with the general aim of achieving a 60% reduction of GHG emissions.

The LIOP foresees significant investment for TEN-T Network upgrade /completion and for transport safety measures and promotes multi-modal and less-polluting transport modes (including studies for High-Speed Railway). Thus the LIOP is generally compliant with the White Paper although the share of investments targeting directly its key objectives is rather low and significant funds target road infrastructure improvement (more than 55% of the ESIF). But the LIOP allocation breakdown by mode must be assessed in conjunction with the specific challenges faced by the Romanian transport sector as compared with more developed MS. The road network is chronically underdeveloped. The large market share of the road transport is combined with an insufficient capacity to accommodate existing and future demand on certain (key) sections of the network, a low degree of safety and a huge backlog of investment for maintenance. Also, there is demonstrated positive impact of road modernisation on sector policy objectives, such as improved accessibility and mobility. An additional argument is the fact that the financing available through Connecting Europe Facility (CEF) is mainly reserved for sustainable transport modes. All these justify the important share of the financial allocation targeting the road sector.

¹Halve the use of 'conventionally'-fuelled cars in urban transport by 2030 and phase them out in cities by 2050; shift 30% of road freight over 300 km to other modes and more than 50% by 2050; complete a European high-speed rail network by 2050 and maintain a dense Railway Network in all MS, with the aim of having the majority of medium-distance passengers using train by 2050; a fully functional and EU-wide multimodal TEN-T "Core Network" by 2030, with a high quality and capacity network by 2050 and a corresponding set of information services; connect all core network airports to the rail network (preferably high-speed) by 2050; deployment of intelligent transport management system (SESAR, ERTMS, ITS, RIS, Galileo, etc.) by 2020; halve the road transport related casualties by 2020 and move close to zero by 2050.

The **TEN-T network policy** is well reflected within both the LIOP strategy chapter, which provides extensive references in this respect and within the proposed Priority Axes and SOs targeting TEN-T infrastructure. The TEN-T policy has been recently subject to extensive revision, with new priority corridors being defined through Regulation no. 1315/2013, aiming to interconnect national infrastructure grids and build-up a unique and interoperable European network. Among the declared TEN-T policy objectives are gap closing, bottleneck removal and overcoming of the technical difficulties, such as different /incompatible transport standards aiming at supporting the smooth functioning of the EU internal market.

The TEN-T policy comprises a dual-layer structure consisting of a **Core Network** (to be developed by 31st December 2030) and a **Comprehensive Network** (to be developed by 31st December 2050). The former includes those parts of the Comprehensive Network that are deemed having the highest strategic importance for achieving the overall objectives of the EU transport policy. In order to ensure a coordinated implementation of the Core Network, Regulation no. 1315/2013 has also defined a number of corridors covering the most important long-distance flows in the Core Network, for which there is particular focus on improving modal integration, interoperability and cross-border links. Romania is transited by two of the nine TEN-T Core Priority Corridors, namely Rhine – Danube and Orient – East-Med Corridors. According to the TEN-T guidelines, the Transport infrastructure investments should observe the following priority ranking: (1) TEN-T Core Priority Corridors; (2) TEN-T Core Network sections outside the 9 priority corridors; (3) TEN-T Comprehensive Network; (4) Infrastructure ensuring connection to TEN-T.

The LIOP financial allocations per priority axes show significant precedence being given to TEN-T related investments, for which a total of 79.45% of the available financing is allocated, respectively 84% of the Cohesion Fund (CF) allocation and 70.5% of European Regional Development Fund (ERDF). The TEN-T Multimodal Priority Corridors, comprising rail and inland waterways, are addressed within a mix of CF and CEF complementary financing. The TEN-T Core Network is addressed through dedicated SOs and the significant share of the allocation proves the priority level assigned. The TEN-T Comprehensive Network is addressed within a dedicated SO financed under ERDF. Out of the total ERDF allocation for the road sector (Bn€ 1.218), 82% target TEN-T related investment. According to the PA provisions, for the other objectives not specifically targeting TEN-T infrastructure, the selection of future operations will be made based on GTMP criteria, among which TEN-T integration is also counted.

There are several arguments for limiting the LIOP transport-related objectives to investments located on TEN-T network only (both Core and Comprehensive) and financing projects aiming to ensure connection with TEN-T under the regional programme(s). Among these arguments are: (1) the strategic scope of LIOP is to target only large infrastructure projects; (2) the available financial resources are deemed insufficient as compared to the sector needs; (3) the ESIF intervention should be concentrated on limited and most relevant targets only in order to achieve the most effective results (art. 18 of the General Regulation); (4) ESIF financing is also available under regional development programmes. Nevertheless, in the case of Romania there are also counter-arguments, such as: the fact that important links outside TEN-T are classified as National Roads and administrated at central level; the current NUTS 3 unit (county)-based administrative set-up makes cross-county projects of regional /national significance difficult to coordinate and implement; national roads should not compete with county roads within the same financial envelope; various investments not necessarily on TEN-T might prove highly relevant for the overall sector objectives of the LIOP in order to ensure the connection of major cities to TEN-T network. For these particular reasons, financing infrastructure outside TEN-T and, in particular, addressing investment priority no. 7.b under LIOP is assessed as being fully acceptable.

Under the first pillar of the EU **Danube Strategy** - *Connecting the Danube Region* - a Priority Area targeting mobility and multimodality improvement has been defined, with actions foreseen targeting inland waterways, road, rail and air transport in the region. The strategy refers specifically to missing network parts, cross-border links, multimodality, TEN-T Corridors and clean transport modes. These objectives are being consistently reflected within the LIOP, with an overwhelming part of the available financing being directed to projects of common interest, as defined through the TEN-T Regulation, aiming at closing the existing gaps. Multimodal and clean transport modes are specifically addressed. Cross-boundary links will benefit from the actions foreseen under the SO targeting time savings at border crossing points. In addition, significant complementary investments in inland waterways transport will be financed within the framework of CEF.

Ideally, the **elaboration of the GTMP** should have preceded the LIOP elaboration but unfortunately it was not the case. While the drafting of the GTMP documents has been running in parallel for a while, it should be mentioned that the LIOP incorporates, to a large extent, data and preliminary results stemming from the GTMP. The Master Plan has been build around a series of general sector principles, such as economic efficiency, limitation of the

impact on environment, sustainability, safety. All these are duly considered within the LIOP, which encompasses dedicated SOs /actions in these respects. In addition, it is clearly specified in various sections of the OP that individual projects' selection will be made on the basis of the prioritisation criteria to be established by the GTMP.

By addressing all transport modes, with a declared aim to re-balance the share of the sustainable ones, the LIOP is in line with the **Strategy for Sustainable Transport**. However, considering both objective factors, such as the low car ownership rate and subjective ones, such as the significant allocation for road-related investments it is unlikely that the LIOP will have, by itself, a significant impact on re-balancing the modal split towards a larger share of the sustainable transport modes. As mentioned before, the development of a sustainable transport system is a long-term objective and the LIOP is only providing for a sound basis in this respect, in full compliance with the specific needs of all the transport modes in Romania. For such objective to prove realistic, it is mandatory that the entire sector investment policy is managed on the basis of a single, GTMP-based strategic approach, so that fully complementary and coherent interventions are promoted under various financing mechanisms.

The LIOP Priority Axis 2 comprises a SO targeting inter-modal transport development. Actions to be financed include infrastructure development and equipment modernisation in inter-modal terminals, which is in full compliance with the **Strategy for Inter-modal Transport**². Selection of future operations /individual projects will be made based on GTMP criteria, which presumably will give due consideration to the prioritisation criteria provided in the Strategy.

There is relevant information with respect to the **CEF** provided within the LIOP, which underlines the synergy of its specific objectives targeting TEN-T network with the foreseen CEF interventions on sustainable transport modes and TEN-T Priority Corridors. Under CEF - Transport, around Bn€ 26 will be available for co-financing TEN-T projects in the MS. Of this amount, approximately Bn€ 11 will be ring-fenced for "cohesion" countries only, which includes Romania. The CEF mechanism has been set-up as a response of the MSs' apparent tendency to favour road infrastructure investments and to prioritise internal infrastructure sections rather than cross-border links. Project selection will be made at the EC level, based on a pre-identified list of projects and selection criteria provided in the CEF Regulation. At national level, a selection of projects to be proposed for CEF financing has been operated by

²Strategy's specific objectives include modernisation and /or construction of new inter-modal terminals and associated infrastructure, improving the quality of inter-modal transport services and implementation of a planning, monitoring and management system for the inter-modal transport.

the Ministry of Transport, through a Memorandum that has been approved by the Government³ that has been further updated, based on the informal discussions with EC services. Considering that projects located on the TEN-T Core Network Corridors and railway /inland water infrastructure are given priority under the CEF, the following projects have been proposed: *Inter-modal platforms in Galati and Giurgiu ports*, and *Predeal - Brasov & Braşov - Sighişoara Railway rehabilitation*, as well as improving the navigation conditions on Danube (the common sector), according to the list annexed to LIOP.

Overall, the projects proposed for CEF financing seems to have been selected in observance of the relevant prioritization criteria set-up by the Regulation and are fully coherent with the approach proposed under LIOP.

The investments foreseen under the LIOP Priority Axis 2, SO 2.2 aiming at enhancing regional accessibility by ensuring connection to the TEN-T road infrastructure is similar, to some extent, with the ones foreseen under the **Regional Operational Programme (ROP)**⁴, Priority Axis 6 "*Improvement of road infrastructure of regional and local importance*". Both measures employ the same financial instrument (FEDR), TO (no. 7) and Investment Priority (7b). The ROP addresses road infrastructure managed by county councils (County Roads), while the investments foreseen under the LIOP target national roads, which are centrally managed by the National Company for Motorways and National Roads (CNADNR) therefore there will be no overlapping in terms of potential projects and beneficiaries. The pure administrative distinction between the two Priority Axes under discussion appears somehow artificial, as the investments foreseen under both programmes target similar sector policy objectives (ensuring good quality links to the TEN-T network and enhance the regional mobility /accessibility) and have similar result indicators (time savings). The assessment of the alternative option in this respect, respectively financing the road infrastructure outside TEN-T under the ROP only, indicates that the proposed split between the ROP and the LIOP is relevant for the Romanian context.

The investments to be financed under the **National Programme for Rural Development**⁵ (**NPRD**) are complementary to those foreseen under the ESIF-financed OPs, ensuring an

³ http://mt.ro/web14/documente/strategie/memorandumuri/memo_cefv2.pdf

⁴ Draft dated 13 June 2014

⁵ Draft dated March 2014 from the MARD website (<http://www.madr.ro/docs/dezvoltare-rurala/programare-2014-2020/programe/Programul-National-de-Dezvoltare-Rurala-2014-2020-proiect.pdf>)

increased accessibility of rural areas. The development of transport infrastructure in rural areas is being specifically targeted under the small-scaled basic infrastructure related measure.

Conclusions

Overall, the LIOP has been found consistent with both the EU and national strategic development frameworks and sector policy papers and strategies. The synergy and strategic coherence between the LIOP and other programmes that finance transport infrastructure investments is assessed as acceptable.

1.2. Environment

Support for the Environment sector addresses the two directly related TOs: No. 5 promoting climate change adaptation, risk prevention and management and No. 6 protecting the environment and promoting resource efficiency, through three Priority Axes (3, 4 and 5).

Thematic Objective	Fund	Priority Axis	Investment Priority	Specific Objective
6 Protecting the environment and promoting resource efficiency	CF	PA 3 Development of environment infrastructure ensuring the efficient use of resources	6i Investing in the waste sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the MSs, for investment that goes beyond those requirements 6ii. Investing in the water sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the MSs, for investment that goes beyond those requirements	Increasing the reuse and recycling of waste through providing the necessary premises at the level of the integrated waste management systems at county level Increasing the level of municipal wastewater collection and treatment and increasing drinking water supply to the population
6 Protecting the environment and promoting resource efficiency	ERDF	PA 4 Environment protection through measures dedicated to biodiversity preservation, monitoring the air quality and decontamination of historically polluted sites	6d. Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure	Increasing in the level of protection and conservation of biodiversity through appropriate management measures and restoration of degraded ecosystems
			6e. Taking action to improve the urban environment, to revitalise cities, regenerate and decontaminate brownfield sites (including conversion areas), reduce air	Increasing the level of assessment and monitoring of air quality at national level through development of monitoring

Thematic Objective	Fund	Priority Axis	Investment Priority	Specific Objective
			pollution and promote noise-reduction measures	instruments Reducing the historically polluted areas
5 Promoting climate change adaptation, risk prevention and management	CF	PA5 Promoting adaptation to climate change, risk prevention and management	5i. Supporting investment for adaptation to climate change, including eco-system based approaches	Reducing the impacts and damage to the population of the natural phenomena associated to the main risks exacerbated by climate change
			5ii Promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems	Enhancing preparedness for disaster interventions through support of the authorities involved in crisis management

There is no specific **Europe 2020 strategy** priority addressing the environment (although a Flagship Initiative is the EU Biodiversity Strategy 2020, which is the basis for the measures proposed for the protection of habitats and species). The nature of the Environment sector is that it is an amalgam of sub-sectors with each having strategy /policy aims most embodied in community legislation and /or targets, e.g. the framework directives for water and waste. Overwhelmingly, the majority of resources allocated under the environment section of the LIOP are directed towards compliance with community legislation – the *acquis*. However, within the Europe 2020 strategy **sustainable growth** encompasses environmental protection and preventing biodiversity loss. Sustainable growth is invariably included in the rationale behind the sub-sector strategies, targets and legislation e.g. forecasts of job creation resulting from the pursuit waste management targets. Similarly growth is supported by savings accrued through a cleaner, healthier environment. While there is no mention of the environment in the **EC Country-Specific Recommendations**, the **EC Position Paper** promotes all the measures included the environment sub-sector of the LIOP. Similarly the European Environment Agency in its **Country Assessment of 2010** draws attention to the shortcomings in the areas highlighted in the LIOP. In particular it can be seen that there is a substantial gap between Romania and other MSs and European averages. These themes are elaborated upon in the **PA**. The PA identifies the sub-sector development needs and these correspond to the SOs and their accompanying measures in the relevant sections of the LIOP. The **NRP** focuses on the need to develop strategies and planning, particularly for the waste sub-sector. For the entire environment section there is correlation with the **EU Strategy for the Danube Region (EUSDR)**. In particular there is strong synergy with wastewater treatment and biodiversity protection

measures. The existence of the national strategies is a subject within the ex-ante conditionalities.

Overall, the package of measures is a continuation of the endeavours made under the Environment Sectoral Operational Programme (ENV SOP) 2007–2013. The measures are targeted at the most demanding areas of the environmental infrastructure. The overwhelming proportion of funds will be directed towards areas where Romania needs to comply with the environmental acquis (and obligations set-out under the Accession Treaty Annex VII). In itself this establishes coherence; as acquis compliance presupposes sustainable growth; a pillar of the Europe 2020 strategy. Also there is strong correlation between the SOs and TOs. Similarly there is coherence between the SOs and the Investment Priorities.

For water and waste the objectives are clearly to meet the requirements of the environmental acquis (and the obligations within Annex VII of the Accession Treaty). The benefits of compliance with the acquis are inherent in the respective Directives and consistency with the Common Strategic Framework (CSF) is ensured. The rationale of the acquis underpins the Guidance on the TOs and the thrust of the LIOP objectives are thoroughly consistent with this. In line with the Guidance on the TOs the LIOP draws attention to the Regional Master Plans for water and their accordance with the River Basin Management Plans. A complimentary programme for rural areas will be financed through the European Agriculture and rural Development Fund (EARDF), coordination will be at operational level.

The LIOP acknowledges the need to develop a waste prevention plan to meet the ex-ante conditionality for waste management investment. The current National and Regional Waste Management Plans were published in 2004 and updated versions are under preparation. The LIOP points out the high level of municipal waste storage, low levels of recycling and that the investment is to redress this.

For both water and waste it is anticipated that some projects initiated under the ENV SOP 2007–2013 will not be completed in due time. Some will be finalised with national funds and others are proposed to be ‘phased’ utilising funds from the current provision.

The same rationale is given for biodiversity protection in that it is driven by acquis obligations regarding the Habitats and Birds Directives and the Natura 2000 network. This is inescapable and the underlying strategic imperative is within the purpose of the acquis. According to the EC the loss of biodiversity costs 3% of GDP – Bn€ 450 per year – and 11% of European jobs are dependent on biodiversity and the environment. From this it can be deduced that redressing

biodiversity loss will make a substantial contribution to recovery from the financial crisis and sustainable growth. At the National level the nature protection aims are encapsulated within the **National Strategy and Action Plan for the Conservation of Biodiversity 2014 – 2020**. Again the proposed biodiversity intervention continues from the initiatives undertaken under the ENV SOP 2007–2013 of drafting management plans for the protected sites but with the intention of supporting the implementation of some management plans. The Guidance Fiche for Biodiversity reiterates the Habitats Directive requirement for MSs to develop strategic planning tools – Prioritised Action Frameworks (PAF), reference to this has now been included in the LIOP. MSs were asked to submit the PAFs prior to submitting their PAs and OPs. There are proposals under the EARDF to support better agri- environmental practise and land owners in protected areas. Measures to support the preservation of endangered species in marine and inland waters will be supported by the EMFF.

The proposed intervention for air quality monitoring again cites the need to comply with the acquis as the strategic intent; monitoring and reporting requirements for pollutants. Also the intervention is proposed to ensure compliance with air quality reporting according to the INSPIRE Directive. While for historically contaminated sites the **National Strategy and Action Plan for the Management of Contaminated Sites in Romania** is referred to, proposals under the ROP as to urban regeneration are also alluded to.

Under the strategy heading Climate change adaptation and risk prevention the case is laid out for three areas of intervention; reducing flooding, coastal erosion and increasing the capacity emergency response. The LIOP describes flooding and coastal erosion being exacerbated by climate change and the causative factors are detailed in the PA. The LIOP refers to the flood prevention measures resulting from the Flood Hazard Risk Maps finalized in 2014, the River Basin Management Plans, the Romanian National Strategy on Climate Change 2013-2020 and the National Strategy for flood risk management on the medium and long term forming the basis for the proposed intervention. Correlation with the EUSDR is annexed to the PA. The coastal erosion protection and restoration works will be based on the Master Plan '**Protection and Rehabilitation of the Coastal Zone 2012**'. Although Romania has always been susceptible to flooding, hydro-technical works, land use and agricultural practise have been identified as exacerbating the problem. The focus of investments will be on green infrastructure measures. The NPRD will support re-forestation of both agricultural and non-agricultural land to assist with drought prevention, soil erosion and flood prevention.

Investment is foreseen in the emergency response facilities in the cases of disaster. The PA includes references to the United Nations sponsored Hyogo Framework for Action 2005 – 2015 and the EU Internal Security Strategy and the National Risk Assessment is due to be finalised in 2015.

Synergies between the Priority Axes could be elaborated; e.g. the effect of insufficiently treated wastewater and the derelict state of the sea defences have on the marine ecology. However, the links are somewhat tenuous in comparison the direct and individual expectations of the proposed interventions. For each intervention a compelling case can be made that it should be taken forward regardless of any other intervention.

Although it is not stated explicitly in the LIOP, as the objectives correspond to compliance with the environmental acquis, there is inherent consistency with Europe 2020, the TOs, CSF and obligations arising from the Accession Treaty. The overall thrust of the Specific Objectives and the proposed measures correspond to the EC Position Paper 2012 and the European Environment Agency findings, and address the development needs identified in the PA. There are no fundamental conflicts with the respective Guidance Fiches. Linkages with other interventions are discussed but in general terms and it is stated that coordination mechanisms will be put in place.

Conclusions

Due to the high degree of correlation between the Specific and Thematic Objectives the evaluators conclude that the environment section of the programme should make a positive contribution towards Community and National aims.

1.3. Energy

The support for the energy sector within LIOP addresses two TOs, no. 4 - Supporting the shift to a low carbon economy in all sectors, and no. 7 - Promoting sustainable transport and eliminating bottlenecks in key network infrastructures. These are addressed through Priority Axes 6, 7 and 8.

Thematic Objective	Fund	Priority Axis	Investment Priority	Specific Objective
4 Supporting the transition shift to a low carbon economy in all sectors	ERDF	PA 6 Promoting clean energy and energy efficiency in order to support a low carbon economy	4a Promoting the production and distribution of energy from renewable sources	SO 6.1. Increasing the installed capacity of renewables from less used resources
			4b Promoting energy efficiency and renewable energy use in enterprises	SO 6.2. Increasing energy efficiency through monitoring energy consumption at the level of industrial consumers
			4d Developing and implementing smart distribution systems that operate at low and medium voltage	SO 6.3. Increase energy efficiency by implementing smart electricity metering at low voltage for power network
			4g Promoting the use of high efficiency cogeneration of heat and power, based on useful heat demand	SO 6.4. Improving energy efficiency in companies through high efficiency cogeneration systems
	ERDF	PA 7 Increasing energy efficiency in district heating systems in selected cities	4c Promoting energy efficiency, intelligent energy management and the use of energy from renewable sources in public infrastructures, including public buildings, and in residential buildings	SO 7.1. Improving energy efficiency by modernization of the district heating systems in selected cities
CF	4iii Promoting energy efficiency, intelligent energy management and the use of energy from renewable sources in public infrastructures, including public buildings, and in residential buildings		SO 7.2. Improving energy efficiency by the modernization of the district heating system in Bucharest	
7 Promoting sustainable transport and eliminating bottlenecks in key network infrastructures	ERDF	PA 8 Intelligent and sustainable transport systems for electricity and gas	7e Improving energy efficiency and security of supply through the development of smart energy distribution, storage and transmission systems and through the integration distributed generation from renewable sources	SO 8.1. Enhancing the security of the National Energy System by expanding and consolidating the electricity transport network to integrate renewables
				SO 8.2. Increasing the flexibility of the National Gas Transport in Romania to ensure interconnection with neighboring countries

The **Europe 2020** strategy aims to ensure smart, sustainable and inclusive growth and provides a comprehensive framework for energy policy, based on 5 strategic priorities: to reduce energy consumption /improve energy efficiency; to implement the internal market, reducing

fragmentation; to develop infrastructure and improve technology; to protect consumers and to reinforce the external dimension of energy policy, by speaking with one voice in relation to external partners. On climate change, the specific targets of Energy 2020 are: improvements of energy efficiency by 20%; a renewable energy target of 20%; and a reduction of GHG emissions by 20%, compared to the baseline. LIOP's priorities and specific objectives, as well as the financial allocations, adequately address these topics: overall, 95.7% of the total available envelope for energy focuses on the energy and climate change strategy of the EU. Thus, Priority Axis 6 (which contains national-level measures for energy efficiency, investments in renewables, development of grids) and Priority Axis 7 (measures for energy efficiency and reduction of GHG emissions at municipal level) are designed to contribute to achieving the targets on energy efficiency and increasing the share of energy from clean sources. Also, Priority Axis 8 addresses the need to reduce bottlenecks on the infrastructure for better integration of renewables and to improve interconnections with the EU and, broader, with members of the Energy Community (the current draft of the LIOP lists several interconnection projects to Hungary, Moldova and Ukraine which would be eligible for financing under LIOP, as well as other measures that could improve the interconnections).

Of the 3 targets (energy efficiency, renewables, emissions), the most difficult to achieve in Romania's case is the target on energy efficiency. The **Council Recommendations** place special emphasis on the need to improve energy efficiency, considering that Romania's economy is 2.5 times more energy intensive than EU average (and 8 times more energy-intensive on residential buildings compared to EU-15), and ranks as 3rd most energy inefficient member state. Another issue of concern is the fact that Romania is also the 3rd most carbon-intensive economy in the EU. The Council also highlights the need to ensure better interconnection of electricity and gas markets with the EU; and, broader, the interconnection with neighboring countries within the Energy Community. A specific recommendation concerns corporate governance reform of state-owned enterprises in the energy and transport sectors.

Currently, the LIOP properly includes measures to address energy intensity in the residential sector, directly by the implementation of smart electricity distribution and indirectly by addressing the centralized heating system in Bucharest and seven other large cities, as well as through smart metering measures, providing energy savings in power consumption; while complementary measures for building insulation are included in the ROP. LIOP also contains one measure to implement monitoring of energy consumption on the largest industrial platforms, to cover the gap in industrial efficiency caused by the so far incomplete

liberalization of prices for various energy products and the immaturity of financial products required to finance industrial energy savings. As regards the governance reform of state-owned enterprises in the energy sector, the OP Administrative Capacity provides dedicated support for administrative reform following the results of the *Functional Review exercise*.

The **National Reform Program** has several main priorities for the energy sector: 1) to promote competition and efficiency in network industries by enhancing the regulator's (ANRE) independence and by continuing the reform of corporate governance in state-owned companies in energy (and transport); 2) to deregulate energy prices and improvements in energy efficiency; 3) to facilitate cross-border interconnections for energy networks; 4) to accelerate interconnections of gas markets.

LIOF comprises a specific set of measures tackling the above-listed commitments, such as facilitation of interconnections of energy (gas) networks with neighboring countries; improvements of energy efficiency by supporting cogeneration for industrial consumers; enhancing the energy efficiency through smart grids /metering; reducing energy loss in residential buildings by addressing the largest centralized heating system in the country (Bucharest), which covers about 40% of all residences connected to district heating in Romania, and in improving the heat transmission and distribution network in other 7 large cities. As ANRE and state-owned energy producers are not among the beneficiaries of the LIOF and therefore cannot be targeted with TA within the programme, governance reforms should be tackled in the dedicated administrative capacity OP.

The **PA** highlights as development needs specific for the energy sector the promotion of renewables, of high-efficiency cogeneration based on useful heat demand, improving energy efficiency through smart distribution, ensuring sustainability of district heating in municipalities, and enhancing energy efficiency in buildings. The LIOF addresses the main development needs and funding priorities that have been previously identified at PA level. A detailed analysis is under Evaluation Question no. 2.

In May 2014, as a response to the crisis in Ukraine, EU has published an **energy security strategy**, to ensure a stable, abundant supply of energy to all member states, based on a detailed study of the energy dependence of member states. It includes short term measures (stress tests to see responses to supply risks, increasing gas stocks, developing emergency infrastructure such as reverse flows on cross-border gas connections, reducing short term energy demand and alternative fuels); and medium and long term measures (intensification of

energy efficiency efforts by 2030; increasing energy production inside EU; completing the internal energy market, including inter-connectors; joint negotiation with a common voice with partners outside EU; and protection of critical infrastructure). Of particular relevance to LIOP, while stressing the need for a faster development of interconnections within EU and neighboring countries, the strategy narrowed down the priority projects for energy to be financed through CEF, from originally 250 projects to just 33. For Romania, the remaining priority projects eligible under CEF are only the gas reverse flow with Hungary and with Ukraine. The draft LIOP currently would cover the need to enhance the capacity of the interconnection with Moldova, complementing the efforts financed from CEF to enhance regional interconnections, as part of larger projects (usually the funding gap to be covered from external resources is half of the total investment costs, while additional resources can be attracted from external sources /loans).

De facto, Romania does not have an **Energy strategy** in force, though legally the 2007 strategy is still applicable, while a revised version is under preparation. Ideally, such a strategy should have been updated and in place before the preparation of the LIOP. However, elements of an energy policy can be found in several other documents (National Action Plan for Renewable Energy III, National Action Plan for Energy Efficiency and Strategy for Climate Change 2013). The two Action Plans set clear targets for renewable energy and energy efficiency, including proposed measures to achieve those targets (for renewables – the existing green certificates scheme, investments under SOP Competitiveness 2007-2013, and other smaller schemes under the Environment Fund or at local administration level; for energy efficiency – replacements of power generation capacities, investments / support of cogeneration, including the bonus scheme, support for renewables and investments in grids of electricity and heating; energy efficiency measures for residential buildings; and measures in other energy-consumption sectors, such as transport). LIOP Priority Axes are consistent with the objectives and targets in the National Action Plan for Renewable Energy and National Action Plan for Energy Efficiency III. A total of 95.65% of the available for CF and ERDF financing are consistent with the objectives and targets of these two Action Plans.

At the same time, the recently-approved strategy for Climate Change 2013-2020 reinforces the needs for: support for renewables, sectorial strategy for the reduction of GHG emissions, smart systems for transport, distribution and consumption of electricity; support for high efficiency cogeneration; improvements of energy efficiency; investments in equipment for industry to reduce energy consumption; energy efficiency in sectors such as agriculture;

carbon storage. However, for the moment, the strategy is not accompanied by an Action Plan (which would be ready in 2 years). Given that neither the Energy strategy nor the Action Plan for the Climate Change strategy are yet available, LIOP could actually act temporarily as the main strategic policy document in Romania's energy sector, and help provide a clear direction for these future documents in line with European priorities, starting from where previous measures did not work so well, and piloting new measures that could be scaled up later.

Thus, SOs 6.1 and 8.1 support the renewables for which the existing support in the SOP Competitiveness 2007-2013 and the green certificates scheme (Law no. 228) were not sufficient, most notably, biomass, while also ensuring complementary investments in the transport grid that would ensure a better integration of additional renewable capacity in the national energy system (SO 8.1). LIOP also supports cogeneration for industrial platforms, particularly to recover residual energy (SO 6.4) and energy monitoring equipment (SO 6.2) to improve energy efficiency for industrial consumers. The latter two support measures, never used before for energy efficiency improvements in the industrial sector, could have also a demonstration effect for the future Energy strategy and NAPEE III. LIOP also continues the already on-going demonstrative project investments in smart distribution (SO 6.3), for a future full scale-up by 2020. Additional energy efficiency improvements for residential energy consumption, in line with the strategic priorities outlined in the Climate Change strategy, are expected from the rehabilitation of DH transport and distribution systems in Bucharest and in 7 other large cities on which projects were prepared under the Environment OP 2007-2013 (SO 7.1. and 7.2, respectively).

The measures targeted at smart metering and district heating systems adequately complement the residential and public building insulation projects to be financed under the Regional Operational Program. Thus, the TO no. 4, "Supporting the transition to a low-carbon economy in all sectors" is addressed in Priority Axis 3 of the ROP, "Supporting energy efficiency in public buildings" and Priority Axis 4, "Sustainable Urban Development", SO 4.1 "Supporting energy efficiency in residential buildings and public lighting systems". Therefore, the LIOP and ROP are complementary: LIOP focuses on supply-side measures (generation, transmission and distribution networks, including district heating for the largest city, Bucharest, and for 7 large cities for which projects were prepared under the Environment OP 2007-2013); and demand-side energy efficiency measures for industrial consumers; whereas ROP focuses on the remaining demand-side measures needed, for residential and public buildings.

Conclusions

Overall, the LIOP is largely consistent with both EU and national strategic development frameworks and sector policy papers and strategies. It also has appropriate synergies with other programmes, particularly the ROP.

2. Internal coherence

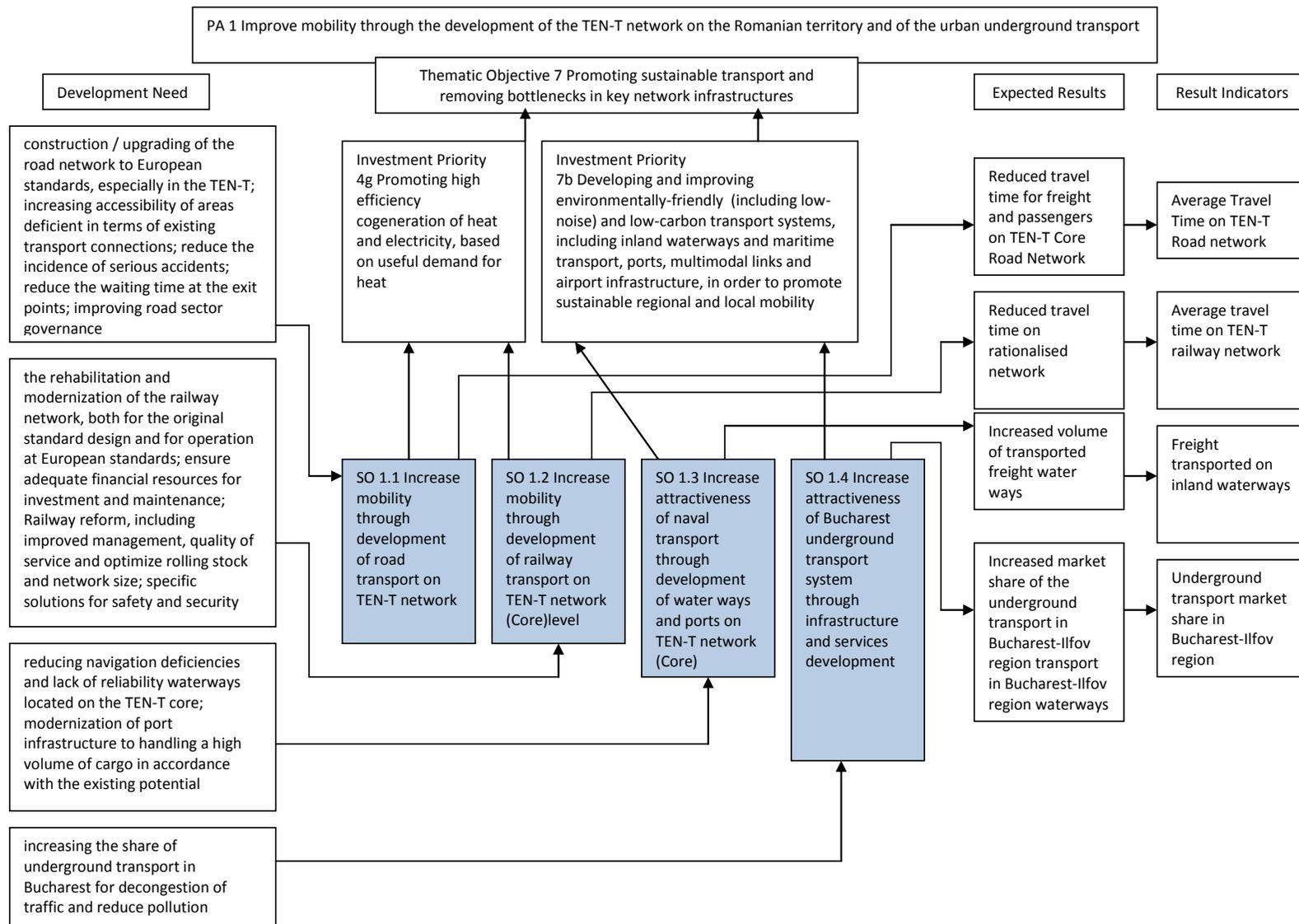
Q2. How is the internal coherence of the program ensured? Are the suggested forms of support the most adequate?

2.1. Transport

The LIOP provides for a condensed summary of development needs and strategy for each transport mode, which quotes relevant sections of the analysis of the existing situation in the sector, as it is presented in the PA and the GTMP. This facilitates the understanding of the logical links between needs and actions and strengthens programme's intervention logic. As a general comment, it appears that the definition of the two priority axes has been mainly made on fund basis, with Priority Axis 1 encompassing all interventions to be financed through the CF, while Priority Axis 2 contains the ERDF-funded interventions. Such partition seems artificial, considering the various types of interventions proposed under each priority axis. However, as a multi-fund priority axis approach is more difficult to justify and could also give rise to administrative complications, the proposed approach is acceptable. In addition to this administrative /fund basis split, it is worth mentioning, however, that Priority Axis 1 is focused on increasing mobility for all transport modes, mainly on TEN-T core, as well as the mobility in Bucharest through the development of public underground transport network. Priority Axis 2 is focused mainly on solving connectivity issues and investments that underpin and valorise the investments promoted under Priority Axis 1.

For ease of analysis and further reference, a brief summary of the intervention logic for each of the two Transport-related Priority Axes is provided below, followed by specific comments:

Priority Axis 1

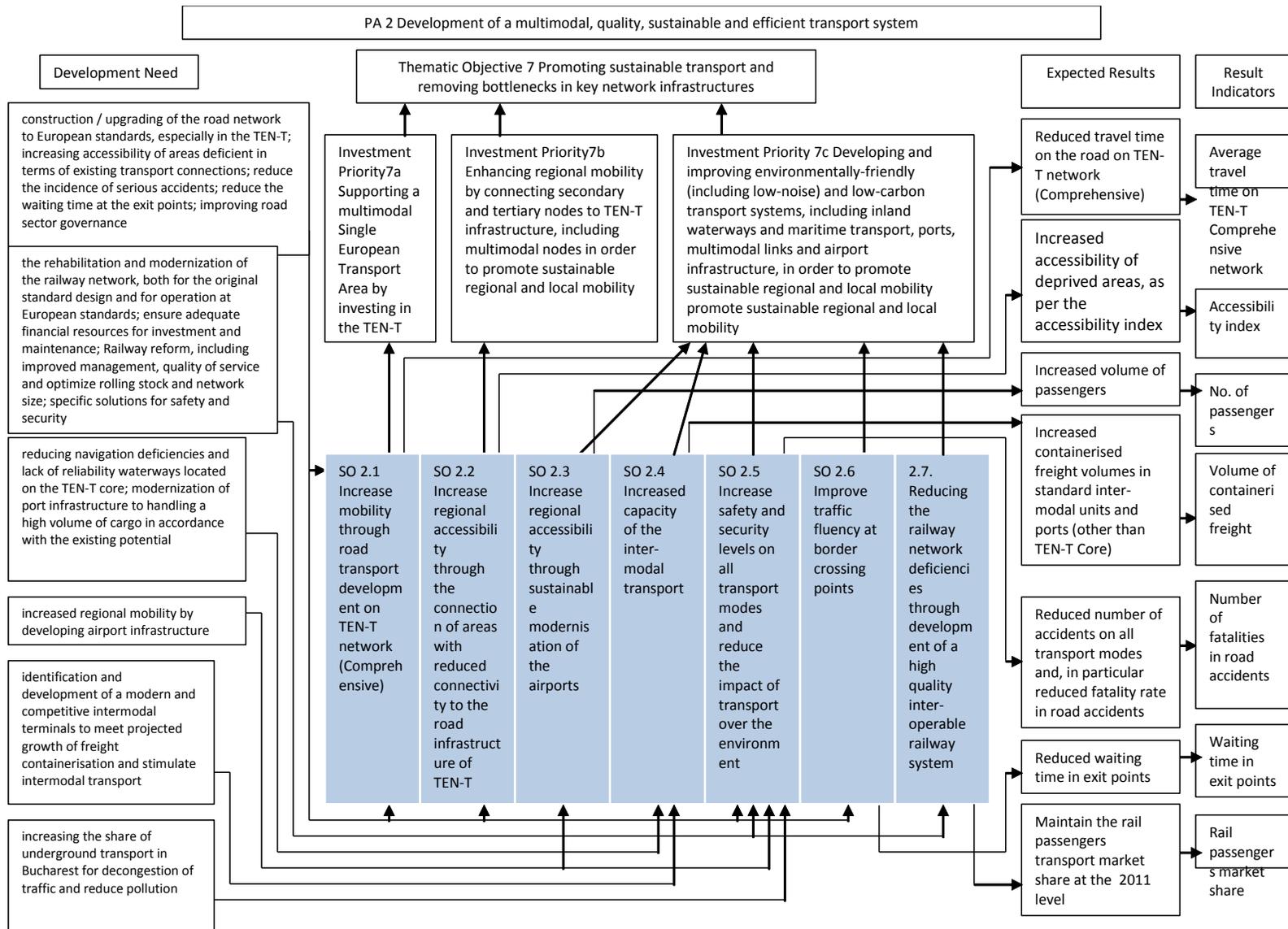


The Intervention Logic for Priority Axis 1 is generally sound. There is a clear, logical link between the development needs and funding priorities identified within the PA and the LIOP's SOs. Consistency has been also ensured between SOs and selected TO and associated investment priorities established through the Regulations no. 1300/2013.

In broad terms, the LIOP Priority Axis 1 SOs have been defined in line with the relevant provisions of the Common Provisions Regulation (CPR) – Regulation no. 1303/2013 - at the intersection of EU and national priorities. The CPR defines SOs as „*the result to which an investment priority shall contribute in a specific national /regional context through actions and measures undertaken within a priority*” or in simpler language “*the change foreseen*”. This is clear enough in the case of SOs 1.1, 1.2 and 1.3, which target increased mobility on road and rail TEN-T core networks and increased attractiveness of waterborne transport. Such objectives are consistent with the specific Romanian development needs and with the sector strategy and are adequately reflecting the policy objectives, namely reduced travel time and increased volume of freight transported by water ways.

Similar to SO 1.4 (urban underground transport in Bucharest-Ilfov region), for which the result is defined as “increased share of metro transport in Bucharest” (therefore reduced urban congestion and GHG emissions), the possibility of expressing SO 1.3 in relation to the waterborne transport market share was also assessed. However a strong argument in favour of the current SO definition is the fact that the market share of the waterborne transport is likely to be influenced to a large extent by external factors due to the fact that this transport mode is highly dependent on few specific types of freight and therefore on business decisions adopted by a limited number of actors. The conclusion is that a result indicator targeting the volume of transported freight is more “policy responsive”.

The actions foreseen are all relevant with respect to their contribution to the expected results.



Priority Axis 2

The intervention logic for Priority Axis 2 is sound in general, with the link between funding priorities, development needs and SOs being fully ensured. SOs are adequately expressed in terms of sector policy objectives. The results are also clear in terms on expected change sought and consistent with the SOs. Ideally, SOs and results should be the same. This is clearly the case for some of the selected SOs under Priority Axis 2. In the case of SO 2.3, regional accessibility should indirectly benefit from an increased number of passengers, as increased air traffic is similar to increased travel opportunities for people transiting airport areas (and thus better accessibility). However, air transport is equally influenced by the existing ground facilities (infrastructure and services) and by the air carriers' policy and business plans. Therefore, while air transport demand is likely to increase, its future distribution between regional airports might not be determined by future investments to be undertaken under LIOP. The SO 2.5 is only partially transposed in the associated expected result, which aims at reducing the number of incidents on all transport modes and, in particular, reducing the fatalities rate in road accidents. This is, however, fully justified, given the fact that road transport is responsible for the vast majority of traffic accidents and fatalities in Romania.

All the foreseen actions are adequately contributing to the expected results, with the only question marks being related to those under SO 2.3, for the reasons referred at above (air traffic (LIOP related investments are not condition precedent for the foreseen air passengers volume increase)...

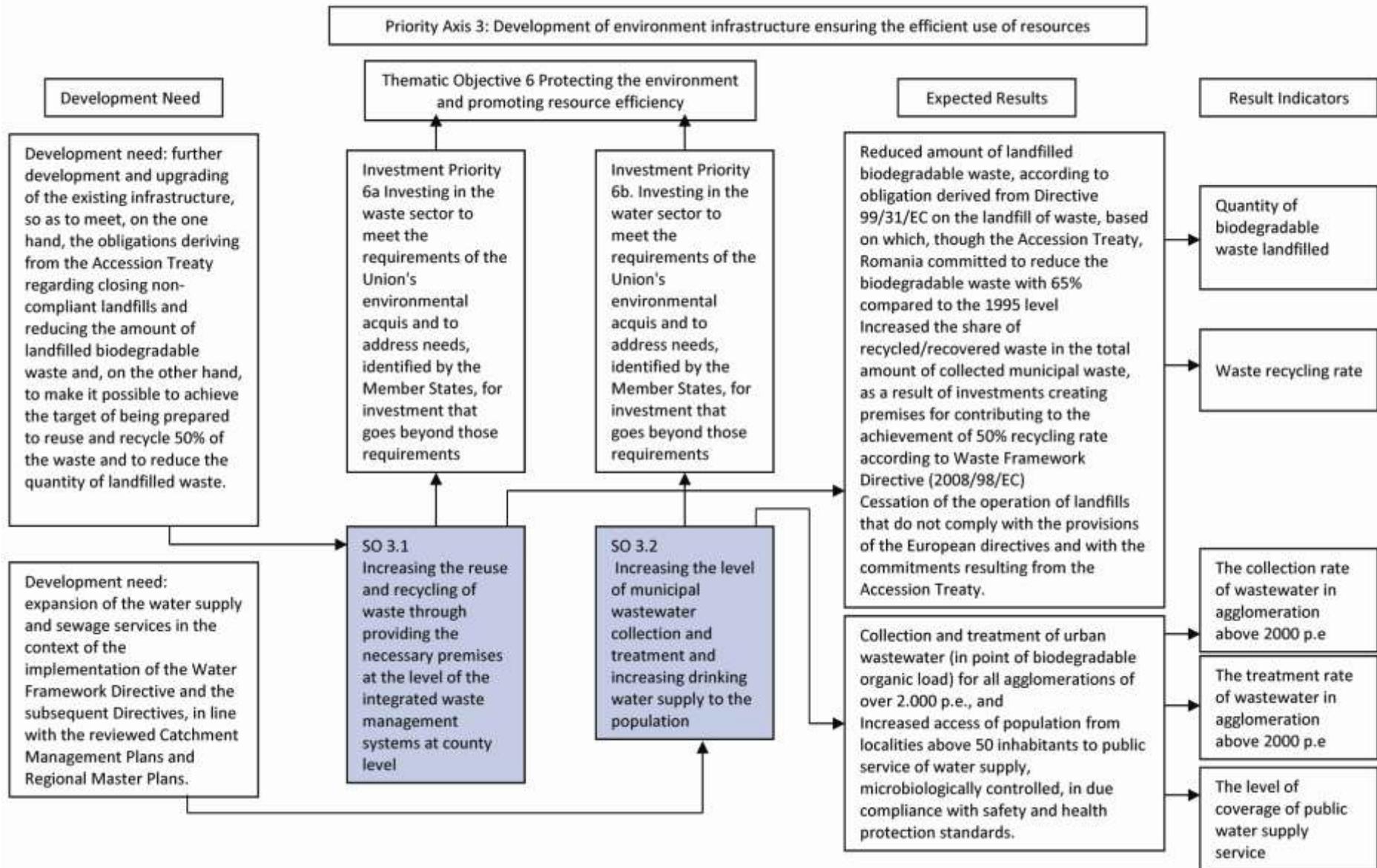
Conclusions

The POIM intervention logic on transport sector is sound, which is in line with programme's overall external coherence with higher level strategies and programming documents. SOs are adequately defined, as a translation of the EU-level investment priorities within the national context, they are specific enough and reflect policy objectives and targets. Results are a clear reflection of the expected change and actions are generally likely to contribute to the achievement of the results.

The definition of the two Transport-related priority axes appears fund driven and somehow artificial, considering the various types of interventions proposed under each priority axis. The proposed approach is acceptable in light of the arguments that multi-fund priority axes approach is more difficult to justify at programming stage and triggers makes further implementation and reporting more complicated.

2.2. Environment

As discussed above, for the environment sub-sector the higher level intervention logic is coherent with consistency between the thrust of the SOs, Investment Priorities and TOs: The SOs bridge both national needs and wider community aims. The thrust of the interventions is very much acquis-driven and some of the intervention logic is framed in precisely those terms. For ease of analysis and further reference, a brief summary of LIOP transport intervention logic is being provided below:



For **waste the Results** are the reduction of biodegradable waste landfilled, increased waste recycling /recovery. The closure of non-compliant landfills is specified as an action but not included in the Results.. The Results clearly indicate the **direction of change**, encompass the SO and are wider in scope. There is an obvious overlap between the Results regarding biodegradable waste and recycling. However, there are specific obligations regarding the share of biodegradable waste to be diverted from landfill and the familiar 50% recycling obligation. There is a narrative attached to the Actions section which details the target values; from the 1995 baseline [4.8 M Tonnes] 65% of biodegradable waste diverted from landfill by 2016, waste recovery capacity increased by 740,000 Tonnes and 38 non-compliant landfills closed /rehabilitated; ‘rehabilitated’ to mean appropriate post-closure aftercare. These are phased projects from ENV SOP 2007– 2013. The LIOP points out that the funds for waste management are approximately 25% of the need.

Investment is foreseen for an incinerator in Bucharest with a capacity of 380,000 Tonnes /year. Critics of incineration would argue that there is a possibility that they can attract material away from recycling and thus damaging the recycling infrastructure and industry and destroying materials with potential reuse in manufacturing thereby increasing the need for additional raw materials. However it is noticeable that the European countries with high rates of incineration also have high rates of recycling. Given the extremely low levels of recycling in Romania and therefore the availability of waste there is considerable scope for the development of recycling infrastructure unhindered for the foreseeable future.

Although additional funding is required to meet the shortfall between the LIOP allocation and the needed investment, there is direct correlation between the Actions and their contribution to the Results, SO and development need and the funding priority detailed in the PA. Romania has one of the highest rates of land filling of municipal solid waste in Europe and lowest municipal waste recycling /recovery rates – 4.35%⁶.

For **water the Development Needs**, Funding Priority of the PA, SO and Results all directly refer to compliance with the acquis. Due to the lack of infrastructure transition periods were given for acquis compliance in the Accession Treaty. The longest of these will expire in 2018. Since such time further acquis has been adopted, notably tertiary wastewater treatment for agglomerations of more than 10,000 population equivalent. Installation of wastewater and

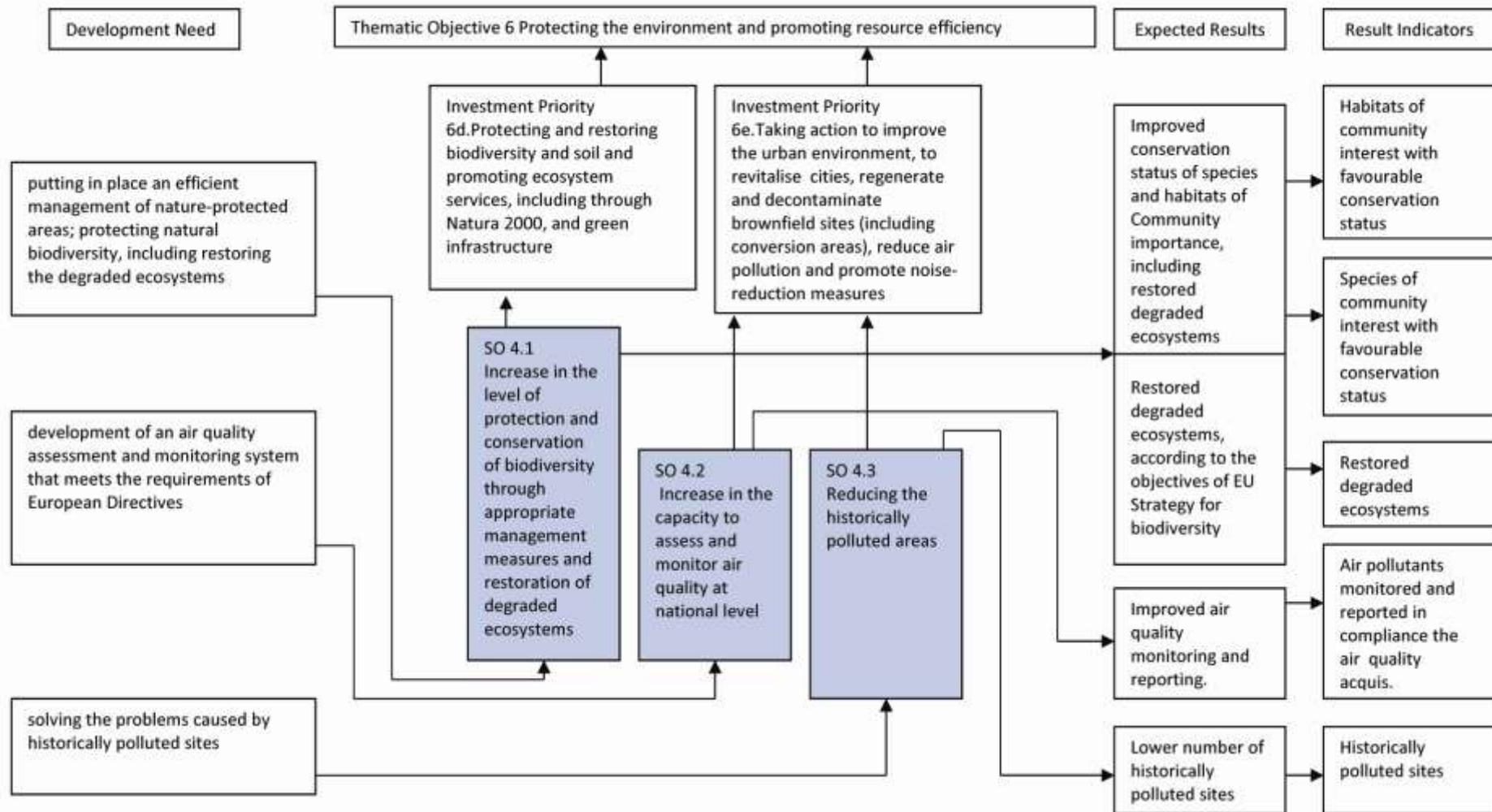
⁶As reported in the National Report on the State of the Environment issued by the National Environmental Protection Agency; EUROSTAT figures differ but it is understood that the EC will accept the Romanian reporting methodology.

water provision made advances with support under the ENV SOP 2007–2013 (and previously through pre-accession support). The challenge now is to extend the provision to the remaining population within the limitations of the legislation. It is argued convincingly that this is not possible without EU support. The Results are explicit in terms **of the direction of change** in that acquis compliance is sought and that a wider population will have drinking and wastewater provision.

Three types of Actions are proposed: wastewater collection and treatment, drinking water supply and setting up a national laboratory in order to improve monitoring of spillage, special priority being given to hazardous substances and to drinking water quality. There are three elements to wastewater provision: collection, treatment and tertiary treatment. Also proposed is a National Laboratory for the National Administration Romanian Waters (NARW).

As with the waste sub-sector the LIOP financial allocation is only a fraction of the estimated needed investment. Additional support is foreseen with complimentary funding from the EARDF for agglomerations between 2,000 and 10,000 population equivalent (p.e.) but this will be very modest in comparison with the need. Coordination between the funds will be at Managing Authority (MA) level. Notwithstanding, the actions for wastewater collection and treatment and drinking water supply are consistent with and will contribute to the Results, SO, funding priority and development need.

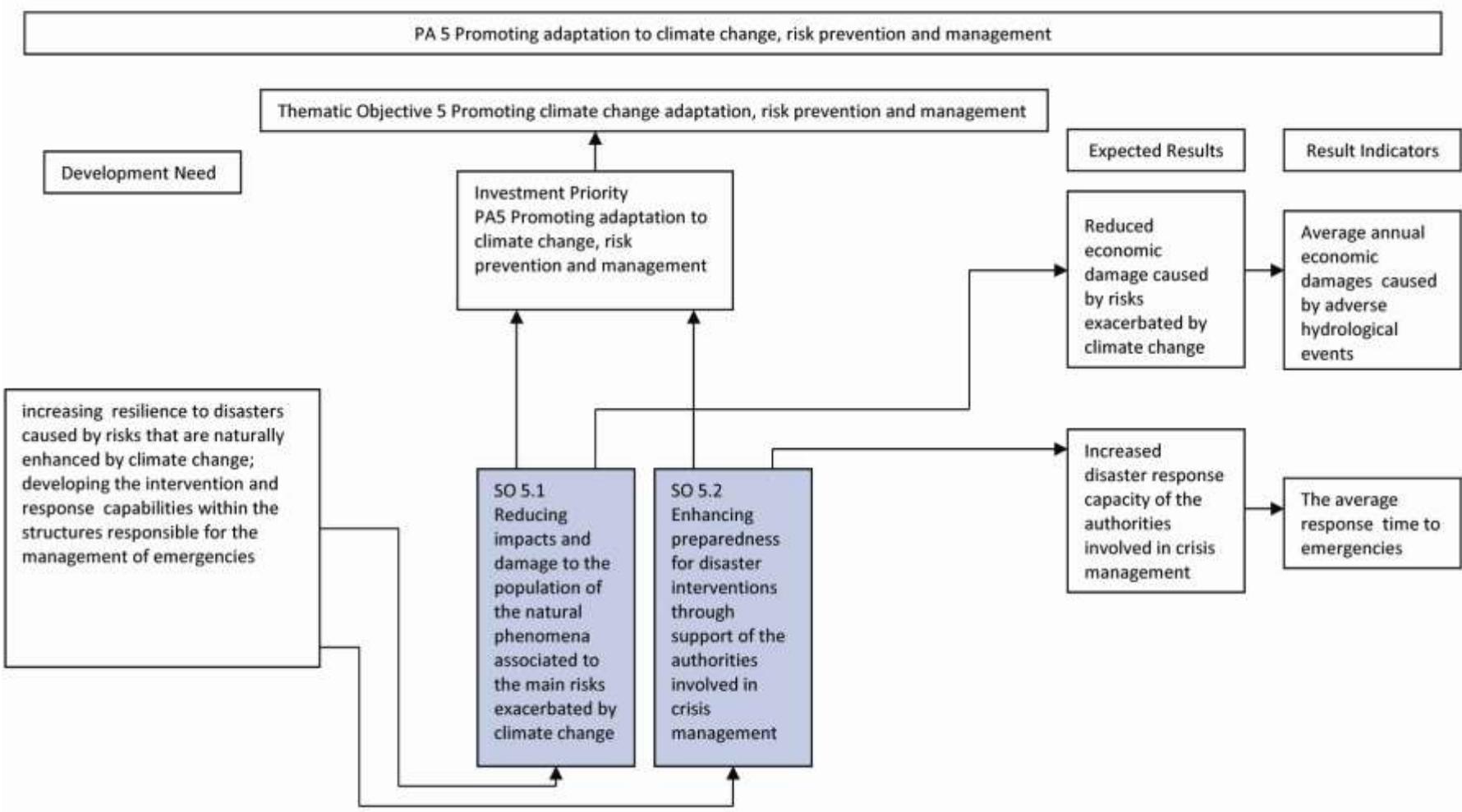
PA 4: Environment protection through measures dedicated to biodiversity preservation, monitoring the air quality and decontamination of historically polluted sites



For biodiversity, the proposed interventions are to further support the Natura 2000 network with the SO being *'Increase in the level of protection and conservation of biodiversity through appropriate management measures and restoration of degraded ecosystems'*. The Result is *'Improved conservation status of species and habitats of Community importance and "Restored degraded ecosystems'*. Improved conservation status for species and habitats indicate the **direction of change** and correspond to the SO. As with other interventions in this sub-sector there is a high degree of correspondence with the acquis: In this case the Habitats and Birds Directives particularly as encompassed in the EC Biodiversity Strategy. *'Improved conservation status'* as expressed in the Result is directly related to the EC Biodiversity Strategy where the targets are to ensure 'improvements' from categories of *'Unfavourable Bad'* and *'Unfavourable Inadequate'* to *'Favourable'*. A host of actions and activities are foreseen but fall into two groups; developing management plans for Site of Community Interest and Special Protected Areas (Natura 2000 sites) (acquis requirement) and includes provision for 'national monitoring', and supporting measures to implement the Management Plans. The intervention continues from support under ENV SOP 2007–2013, where 272 Management plans covering 452 sites of the total of 531 have been drafted. Of these, 66 are approved or await approval and from these it is anticipated that a third of these areas will receive support under the LIOP. Other areas will become eligible for support in implementing the management plans as and when the plans are approved. Support for the protection and restoration of biodiversity is also foreseen under the EARDF with high nature value farming and support for forest owners. Similarly the EMFF is intended to provide support for the marine environment. Support from LIFE is also anticipated for the environment sector and biodiversity would be an obvious candidate. Coordination is seen to be the responsibility of the Ministry of Environment and Climate Change. The LIOP suggests that institutional capacity building and awareness and education activities would be considered for funding through LIFE.

The intervention logic for air quality monitoring is straightforward. The acquis in respect of air quality requires that monitoring data are reported to the EC annually. Also there is a requirement under the INSPIRE directive to make environmental data publicly available. Investment is required to upgrade the air quality monitoring network and reporting system to meet these requirements. The **direction change** is indicated in the improvement of the air quality monitoring system and is essentially equivalent to the SO. The scope of the intervention is to purchase and install the necessary equipment for monitoring and reporting, establish an air quality forecasting system and enable public access to the information.

The intervention logic for historically contaminated sites is also straightforward. The Result is essentially synonymous with the SO and clearly denotes the **direction of change** in reducing the number of historically polluted sites. A legacy of the former socialist regime was a number polluted and contaminated industrial sites. So far 1,393 polluted sites have been identified and 210 identified as contaminated by historical pollution. The National Strategy for Contaminated Sites prioritises rehabilitating sites where the owner cannot be identified – another legacy of the socialist regime. The need to rehabilitate the contaminated sites to protect human health and the environment forms the basis of the development needs and this feeds through the intervention logic in the form of reducing the number of polluted sites.



The intervention concerns prevention measures against flooding and coastal erosion. The Result is '*Less economic damage caused by the occurrence of natural risks exacerbated by climate change.*' This denotes the **direction of change**. Throughout history Romania has been susceptible to and has experienced flooding and, despite measures to reduce the risk, between 2005 and 2013 the Ministry of Internal Affairs calculate that the resulting economic losses amount to nearly Bn€ 3.7. Tourism on the Southern stretch of the Black Sea coast is a major contributor to the economy. Works restricting sediment deposit and the deterioration of sea defences are causing loss of the beach front and, left unchecked, will have a negative impact on the tourist industry and coastal property, the economic damages being estimated at around M€ 16,18 /year (for 75.75 km). Drought is also cited in the PA as a risk exacerbated by climate change this is alluded to in the narrative supporting the Result but is described as 'addressed indirectly', through the green infrastructure measures. Specific measures will be considered in view of the National Risk Assessment when it is completed. However, support for irrigation is foreseen under the EARDF and national funds.

Actions for flood protection list the types of measures which include non-structural and structural measures, studies and flood monitoring and warning systems. The PA and the LIOP point out that until the National Risk Assessment is finalised, the focus will be on 'no-regret' projects.

Planning for the restoration and protection of the coastline is mature, based on a study and protection plan supported by the Japan International Cooperation Agency and the Master Plan for the Protection and Rehabilitation of the Coastal Zone. This is a multi-decadal plan with an estimated cost of approximately M€ 400. The Actions simply provide a list of the measures /techniques that will be employed and will contribute to the achievement of the Result.

The third element in the Priority Axis is to strengthen the capacity of disaster response authorities. That is both natural and man made disasters, such as earthquake, landslides, radiological accident, etc. Increasing capacity for disaster response is expressed clearly in both the Result and SO, which denote the **direction of change**. The proposed Actions include developing training facilities, upgrading command and control and procurement of equipment.

Conclusions

The presentation the SOs and Results concur and denote the direction of change foreseen. Much of the content of the Priority Axes and the overwhelming budgetary allocation directly

addresses acquis and Accession Treaty obligations.

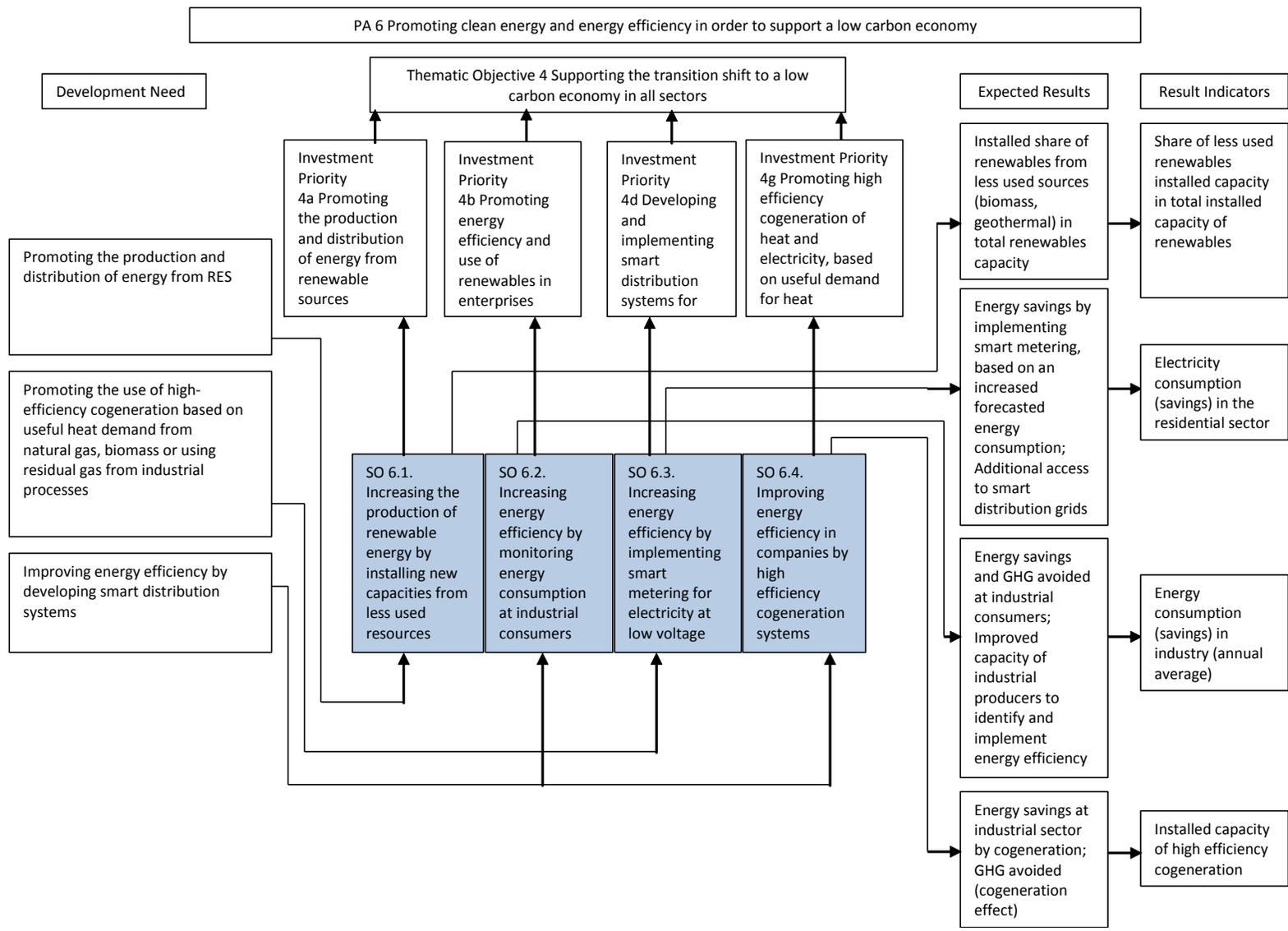
The types of Actions proposed are appropriate and will contribute to the achievement of the Results.

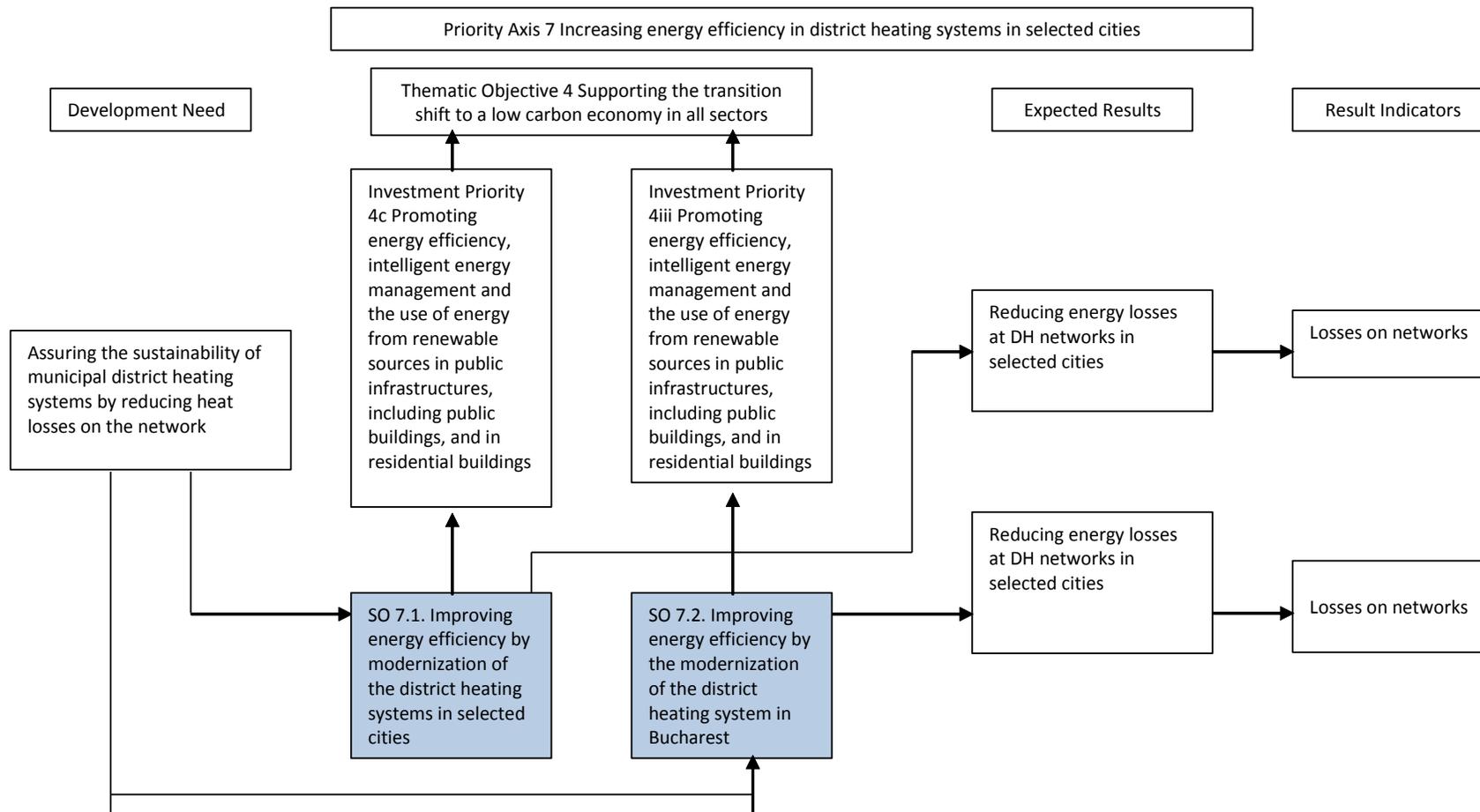
The Actions and the expected outcomes are consistent with the PA Development Needs and Funding Priorities.

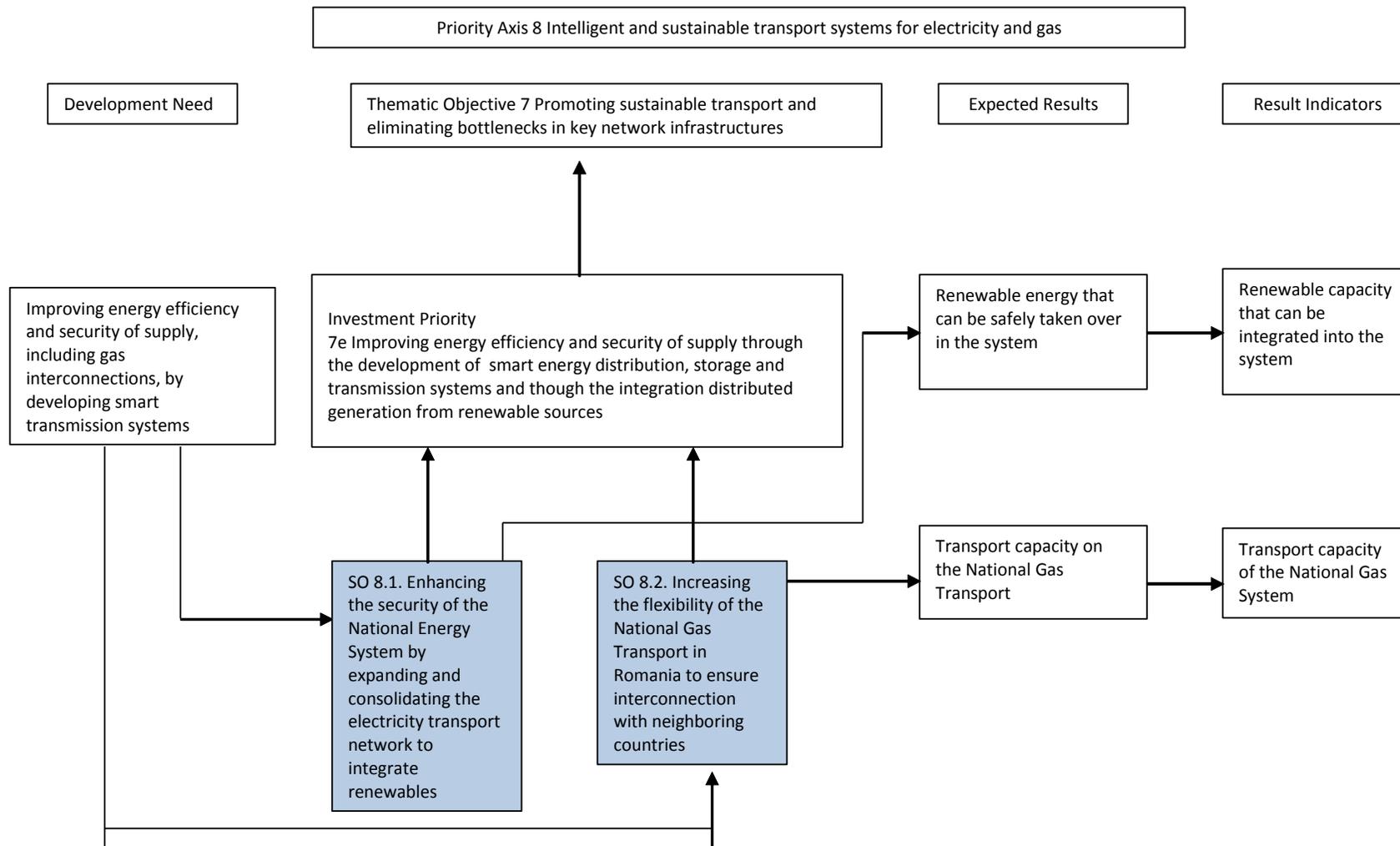
The interventions almost entirely continue from the ENV SOP 2007–2013 and the financial instruments remain consistent and are the preferred option.

2.3. Energy

The LIOP contains a summary of the current situation and of the development needs in the energy sector, which enhances the intervention logic. The three Priority Axes provide a relatively clear division line among the interventions, focused on: producers and /energy efficiency at consumers (Priority Axis 6); heat transmission (Priority Axis 7); and electricity and gas transport (Priority Axis 8). Priority Axis 7 is multi-fond, which could cause administrative difficulties during implementation, but this approach is justified by the fact that the two SOs are very similar (upgrade /modernisation of DH systems), but Bucharest is a large project in a relatively developed area and is eligible under CF, whereas the seven other cities are smaller projects in less developed regions, eligible under ERDF. The summary of the intervention logic is presented below.







The Intervention Logic for the LIOP energy sector is consistent, with a clear match between the funding priorities provided for in the PA and the LIOP SOs. There is consistency between SOs and selected thematic objective and investment priorities as per the Regulations no. 1300/2013 (CF) and 1301/2013 (ERDF). LIOP objectives are also in line with the relevant provisions of Regulation no. 1303/2013. The logical link between funding priorities and specific objectives is clear enough. The actions foreseen are all relevant with respect to their contribution to the expected results.

However, there are still some weaknesses in the LIOP intervention logic. Thus, consistency should be also more clearly ensured between the development needs, the definition of funding priorities and the specific objectives in the case of SOs 6.3 and 6.4 (energy efficiency for industrial consumers), as well as coherence with other policy measures. Thus, some large energy consumers have benefited energy at below-market prices (discounts from market prices, from state owned energy producers, for which there is an on-going investigation at DG Comp on illegal state aid - Alro and Mittal). In 2013, the Government approved additional state aid in the form of green certificates exemptions for large electricity consumers, in direct proportion with their energy consumption (the more energy-intensive, the higher the support). A similar support package is under preparation for large gas consumers. These measures are conflicting with the LIOP objective to improve energy efficiency at industrial consumers. There is a risk that, in these circumstances, just monitoring energy consumption would not reduce consumption by 1% without additional policy measures or interventions; and that imposing additional conditions on beneficiaries to improve energy efficiency (by 3%) might reduce their demand for the projects. The success of this measure depends critically on: competitive market based energy prices, improvements in banking products to finance energy efficiency measures and explicit, monitored and enforceable targets for beneficiaries to improve energy efficiency. It is also unclear whether the major barrier against the implementation of monitoring systems so far by industrial consumers was because of lack of financing for the equipment or lack of interest, in which case there might be few applications from industrial consumers for the financing available during 2014-2020.

The LIOP is also consistent and complementary with the ROP which contains measures for thermal insulation for residential and public buildings and public lighting, whereas LIOP addresses DH networks.

Conclusions

The intervention logic is generally sound, comprehensive, and coherent with higher level strategies and programming documents. The LIOP is also largely coherent the ROP which tackles energy demand side for buildings.

3. Consistency of financial allocations

Q3: To what extent the budgetary allocation corresponds to the OP objectives?

3.1. Transport

For ease of analysis, a summary of LIOP Transport allocations is provided in the table below:

Priority Axis	Fund	EU Allocation (EUR)	Total net allocation (EUR)	Specific objectives
Priority Axis 1 Improve mobility through development of TEN-T Network and underground transport	CF	1.504.000.000	2.005.333.333	1.1 Increase mobility through development of road transport on TEN-T Network
		1.024.000.000	1.365.333.333	1.2 Increase mobility for rail transport on TEN-T core network
		160.000.000	213.333.333	1.3 Increase attractiveness of naval transport by developing the ports and water ways on TEN-T (Core)
		512,000,000	682.666.668	1.4 Increase attractiveness of Bucharest underground transport system through infrastructure and related services development
Total		3,200,000,000	4,266,666,666	
Priority Axis 2 Development of a sustainable, high-quality and efficient multimodal transport system	ERDF	942,219,197	1,256,292,263	2.1 Increase mobility through development of road transport on TEN-T network (Comprehensive)
		203,064,482	270,752,642	2.2 Increase of the regional accessibility by connecting deprived areas to the TEN-T Road Infrastructure
		40,612,896	54,150,528	2.3 Enhancing regional accessibility through sustainable airports modernization
		81,225,792	108,301,057	2.4 Increase the capacity of inter-modal transport in order to stimulate the use of sustainable transport modes
		64,980,634	86,640,845	2.5 Improvement of safety and security on all transport modes and reduction of the transport environmental impact.
		16,245,158	21,660,211	2.6 Ensure traffic fluency in customs at cross-border points
		276,167,695	368,223,594	2.7 Reducing railway network deficiencies through development of a high quality inter-operable railway system
Total		1,624,515,854	2,166,021,140	

The Romanian transport system remains chronically under-financed; investment needed for both infrastructure development and maintenance highly exceed resources available. Given the budgetary constraints and the overall ESIF available envelope the situation is unlikely to change in the foreseeable future. While a significant share of the LIOP resources are allocated for the transport sector (54.9%), the available financing remains far from addressing the sector's investment needs, which comprise on-going projects - started under the previous programming period that will be phased - and of other priority projects, under various stages of preparation. Preliminary data show that the GTMP's 2020 Scenario requires cumulated investment of **M€ 16,874.8**, to which CF, ERDF and associated co-financing are expected to contribute under the LIOP with **M€ 6,432.7**, representing a share of **38.12%**. Therefore, judging solely from the perspective of the available LIOP allocation **neither the full upgrade of the TEN-T network in Romania, nor a sustainable, high-quality and efficient multimodal transport system could be achieved**. But the assessment of the adequacy of the current allocations must also take account of the following:

- Total ESIF allocations for Romania, as compared with the overall needs;
- The requirement to concentrate on the most important objectives;
- The additional financial resources that might be mobilised for the transport sector (CEF, state budget, Private Public Partnerships (PPP), etc.);
- The driving role of GTMP for the entire transport sector investment policy, ensuring that all future investments, irrespective of financing source, should target the same strategic objectives;
- The implementing capacity of the main stakeholders (such as Road and Rail companies).

Out of the total ESIF allocation for Romania of **M€ 30,619** (performance reserve included), the foreseen allocation for Transport under both CF and ERDF is M€ **5,132.46**, which represents **16.76%**. This is a good share given the multitude of the country needs and the cost of *acquis* compliance on other sectors, such as environment. The commitment of Romania towards transport infrastructure development is also highlighted by the foreseen co-financing rate of 25%, which allows for an increased overall budget for the sector.

The majority of the funds are allocated to the main sector declared priority - TEN-T network development. A total of M€ **4,840.29**, representing 75.25% of the financial envelope has been allocated to SOs targeting directly TEN-T network infrastructure (Core and Comprehensive). Moreover, significant amounts have been allocated to sustainable transport modes (M€ 2,825.15), from which M€ 2,695.19 (41.90%) is allocated to railway-related projects. The

financial allocation for the road sector (M€ 3,575.04, representing 55.58% of the LIOP Transport allocation) exceeds the funds reserved for sustainable transport modes. This road-oriented approach seems to contradict both the EU guidelines and the self-assumed overall LIOP objective of re-balancing the modal split but there are strong arguments supporting the proposed allocation for road sector, as discussed previously under Section 1. There is no multi-fund axis proposed for transport sector under the LIOP, though such an approach could have contributed to a more coherent programme design. Comments in this respect have been also provided under Section 1.

During the previous programming period (2007–2013), under the dedicated OP, the transport sector performed rather disappointingly, with an absorption rate of **32.5%** as of 31st of July 2014⁷. This is the second lowest performance among the OPs financed under Convergence Objective and below the 36.47% average absorption rate. While absorption is likely to accelerate by the end of the eligibility period, the overall SOPT 2007-2013 performance remains low, particularly in view of the sector's investment needs. This is primarily due the programme's specificity (the bulk of the financing is committed to large projects, which take longer to prepare and implement) but also by capacity constraints; as SOPT absorption performance essentially reflects the main beneficiaries spending capacity, namely CNADNR and CFR. The primarily factors limiting the absorption capacity in the transport sector are: late project preparation, insufficient and insufficiently trained personnel, high staff turnover, frequent (and politically-driven) replacement of management staff, poor quality tender and design documentation, the high number of appeals during the procurement phase, external administrative and institutional burdens in project preparation and implementation, poor contract management, including the management of variations and claims and disputes with contractors. All these issues, which are not only specific to EU funds, have been subject to various assessments over time and are fully acknowledged by higher decision makers. There is wide consensus that the issues need to be dealt with, be it in the framework of the LIOP or otherwise, in order to ensure increased spending capacity in the 2014-2020 programming period. The question remains whether such an increase will be sufficient to achieve a more significant absorption rate in view of the larger financial envelope (approx. Bn€ 6.4 for LIOP Transport as compared with the Bn€ 5.5 for SOPT 2007 – 2013). To ensure this, the timely preparation of projects, including reserve projects (over-contracting) and smooth implementation of the phased projects are necessary.

⁷http://www.fonduri-ue.ro/res/filepicker_users/cd25a597fd-2/rezultate/std_abs/Raportare_PO_31.iulie.2014.pdf

Also during the 2007 – 2013 programming period there was a tendency for over-optimistic forecasting; annual spending constantly lagged behind forecasts. This has not been caused entirely by “unexpected” implementation hurdles but also by unrealistic projections. For example, in 2014, with procurement virtually finalised for all major projects and works ongoing, the CNADNR spending forecast for the period from January to May was RON 268,337,566, while real disbursement for the same period was RON 95,650,527 (an achievement rate of 35.64%⁸). The same analysis at CFR shows a forecast achievement rate of 42.07%⁹. If perpetuated, the unrealistic forecasting could affect the overall LIOP spending rate.

Considering that the spending rate is likely to accelerate over the next year and a half, it is reasonable to assume that the SOPT will reach a 60% absorption rate by December 2015. Therefore a reasonable objective for LIOP in this respect would be 80%. In consideration of the foreseen increase of the available financial envelope, **achieving an 80% absorption rate would imply an increase of the average spending performance of approximately 60%**. Such an increase is certainly achievable, subject to adequate measures targeting the beneficiaries’ capacity and more efficient OP management as a whole.

Currently there is no consolidated estimation available with respect to the annual allocations needed to achieve middle and long term policy targets (the GTMP 2020 Scenario), as the GTMP section that should provide such information (Strategy for the National Transport System Development) is still awaited. An essential pre-requisite to realise the potential of alternative financial sources (CEF, IFI loans, PPPs and state budget allocations) to contribute to the achievement of the LIOP strategic objectives on a mid-term perspective, is that all future sector spending is driven by the GTMP. While there is a clear commitment of the Romanian authorities in this respect, the institutional risk remains, given the previously demonstrated difficulty to achieve political consensus in establishing middle and long-term policy objectives. Until present, policy development has been hampered by changes to priorities accompanying government and ministerial portfolio changes. Moving on to a strategic policy driven approach is conditioned by consolidation of the line ministry’s role in policy development and its strong ownership of the GTMP.

The Government estimates that the available CEF allocation for Romania will be approximately Bn€ 1.2, which will trigger a project portfolio estimated to be of approximately Bn€ 2.3

⁸ http://www.ampost.ro/fisiere/pagini_fisiere/CNADNR.pdf

⁹ http://www.ampost.ro/fisiere/pagini_fisiere/CFR.pdf

(including co-financing, VAT, etc.¹⁰). Considerations concerning CEF financing and foreseeable targets have been presented in Section 1. Larger, state-guaranteed IFI loans for infrastructure development have been disregarded recently, primarily because of their negative influence over the State budget parameters (deficit and external debt). This trend is unlikely to change in the medium-term. The potential PPPs contribution to the overall financing envelope available is difficult to estimate, as the first PPP transport sector success stories are still awaited. Based on the Government's commitment to allocate 2% of the GDP for the transport sector, a preliminary forecast presented in the draft MPGT shows that the annual funds available from the state budget would be around Bn€ 22.59 for 2014 – 2020¹¹. It is worth noting, however, that such amount should cover also infrastructure maintenance and administrative costs, which are excluded from the GTMP's 2020 scenario. Co-financing, VAT and non-eligible costs to be covered under the LIOP and CEF have been also considered when estimating the state budget funds that could be used for closing the investment "financing gap" for the 2020 scenario. Considering the available data, the difference to be covered by the State budget amounts to **Bn€ 8.125**. This represents an average annual allocation of **Bn€ 1.16** for investments only. Compared with Bn€ 2.87 average allocation corresponding to the 2% commitment, this appears fully achievable. However, this excludes the annual amounts needed for infrastructure maintenance and administration, as yet to be estimated.

Conclusions

Given the implementation challenges, the proposed financial envelope for transport is appropriate, despite the fact that the investment needs are far from being satisfied. The proposed financial allocations of LIOP Transport focus on key objectives from both national and EU perspectives. Overall, the potential to achieve sector policy targets using the available financing resources is conditioned by the existence of a coherent medium and long-term strategic planning policy to address all financial sources including the availability of state budget allocations, according to the political commitments made in this respect. In view of past implementation constraints and the increased financial envelope for 2014-2020 period, meeting absorption targets will necessitate that the planned measures targeting beneficiaries' capacity and more efficient OP management as a whole result in an improved spending capacity by 60% as compared to 2007-2013.

¹⁰ http://mt.ro/web14/documente/strategie/memorandumuri/memo_cefv2.pdf

¹¹ http://www.ampost.ro/fisiere/pagini_fisiere/14.10.01_Master_Plan_Report.pdf

Recommendations

- Timely project preparation as to ensure early spending;
- Reserve projects financed from alternative financial sources that would allow reimbursement of expenditure under LIOP, if necessary;
- Adequate measures targeting the implementing capacity at the level of the LIOP final beneficiaries (mainly CFR and CNADNR);
- Compensation of overoptimistic forecasting through appliance of flat corrections rates, in order to ensure a sound financial management of the Programme.

3.2. Environment

For the Environment sector the EU support amounts to Bn€ 4.199 representing 37.58% of the LIOP allocation. For all three Priority Axes in the environment section of the LIOP the EU funding represents 85% of the total support and National funds 15%. For ease of analysis, a summary of LIOP Environment allocations for each priority axis concerned is provided in tables preceding the analysis text:

Priority Axis 3

Priority Axis	Fund	EU Allocation (€)	Total net allocation (€)	Specific objectives
PA 3 Development of environment infrastructure ensuring the efficient use of resources	CF	318,168,816.35	374,316,254.53	Increasing the reuse and recycling of waste through providing the necessary premises at the level of the integrated waste management systems at county level
		2,574,274,968.65	3,028,558,786.65	Increasing the level of municipal wastewater collection and treatment and increasing drinking water supply to the population
Total		2,892,443,785.00	3,402,875,041.18	

The majority of the funding for the environment under the LIOP is allocated to the provision of wastewater collection and treatment and the provision of drinking water supply. The investment is required to meet obligations arising from the Accession Treaty and acquis requirement subsequently introduced. The allocation is consistent with the SOs and the proposed actions however, the allocation represents only a fraction of the needed funds and additional funding will need to be identified if the obligations and results are to be met. The total investment is M€ 3.03 representing 26.68% of the LIOP allocation. The investment will finance both phased projects launched under the ENV SOP 2007-2013 and new projects

according to the County Master Plans. The current estimate is that Bn€ 6.2 is required to meet the acquis obligations regarding drinking and wastewater. The allocation under the LIOP is less than half of the required investment. The outputs are based upon unit costs calculated by averaging costs incurred under ENV SOP 2007–2013 i.e. € 900 per person for wastewater provision and € 400 per person for drinking water provision.

The initial priority will be targeted to agglomerations of more than 10,000 population equivalent - 44% of the budget - and the remaining 56% towards wastewater services for agglomerations of between 2,000 and 10,000 inhabitants and drinking water provision for communities of more than 50 persons. Additional funding for agglomerations of between 2,000 and 10,000 inhabitants is foreseen under the EARDF as part of a package that includes investment in roads. The precise EARDF allocation for water and wastewater is not specified. The allocation of resources between the LIOP and EARDF will be made according to the specific requirements and based on the County Master Plans. However, as the LIOP points out, additional funding will need to be identified if the acquis obligations are to be met.

Project preparation is being funded under ENV SOP 2007 – 2014 Priority Axis 1 and the target is for 44 projects to be prepared.

The other component of Priority Axis 3 concerns waste management. The total budget is M€ 374.32 representing 3.30% of the LIOP allocation. As with the water sector, the operations are proposed in order to meet Accession Treaty and acquis obligations. The allocation will be used to support 10 phased projects from SOP ENV 2007–2013, 4 new projects and the construction of a waste incinerator for Bucharest. The funds are estimated to cover 25% of the investment need. The Output target is for an additional 740,000 tonnes /year recovery capacity (MBT and composting) and the PA states that a 1.8 M tonnes /year is needed to ensure compliance. The total funding investment for the Bucharest Incinerator is estimated to be M€ 250, while the funding gap to be covered from grant is estimated between M€ 70 and M€ 100 (to be defined by the feasibility study) — and will provide just over half of the Output target additional capacity. While there is no indication as to where the additional investment will be sourced, the LIOP states that new interventions and their investment are to be considered upon completion of the new National Waste Management Plan. The OP will be amended accordingly.

The allocation is substantially less than the corresponding funds under ENV SOP 2007–2013. This is not surprising as the previous funding round was seen to establish integrated waste

management facilities throughout the country. However the progress was hampered by difficulties in the local authorities in reaching agreements through the Interregional Development Associations established for the purpose, conflicting commercial interests and contractual difficulties. While the current allocation is far more modest it is not clear if all the past absorption difficulties have been overcome.

Priority Axis 4

Priority Axis	Fund	EU Allocation (€)	Total allocation (€)	Specific objectives
PA 4 Environment protection through measures dedicated to biodiversity preservation, monitoring the air quality and decontamination of historically polluted sites	ERDF	285,106,383.05	335,419,274.18	Increase in the level of protection and conservation of biodiversity through appropriate management measures and restoration of degraded ecosystems
		13,829,787.24	16,270,337.93	Increasing the level of assessment and monitoring of air quality at national level through development of monitoring instruments
		126,595,744.71	148,936,170.25	Reducing the historically polluted areas
Total		425,531,915.00	500,625,782.36	

Priority Axis 4 supports biodiversity conservation, air quality monitoring and reporting and the decontamination of historically polluted sites. The total budget is M€ 500.63, representing 4.41% of the LIOP allocation. Of the Priority Axis allocation, biodiversity conservation has the largest share with M€ 335.42 (67%), air quality M€ 16.27 (3.25%) and decontamination of historically polluted sites M€ 148.94 (29.75%).

Biodiversity conservation is supported through the development of management plans for *Natura 2000* network sites, the implementation of some approved management plans and national monitoring. The development of management plans continues from ENV SOP 2007–2013, where 272 sites were supported. As yet, only 66 management plans have been submitted for approval and of these only 10 approved. Under the LIOP, support for a further 70 management plans is foreseen. The budget is based on a unit cost of € 70,000. The remaining M€ 20 is to be allocated for national monitoring. There is little detail or output indicator regarding this and it is assumed that it entails the compulsory reporting to the EC under the Habitats and Birds Directives.

Although the actions provide a list of the activities to be supported under the projects implementing management plans there is little sense of the scale of operations. The target number of sites (and therefore projects) has decreased considerably as discussions have taken place with stakeholders in the process of drafting the LIOP. Consequently, fewer but far more

expensive projects are now proposed – an average of approximately M€ 6 each. Whereas the interventions support compliance with the acquis – specifically the European Biodiversity Strategy – this is not as imperative as the waste and water operations. Romania is above the European average in terms of habitats and species conservation status.

The EARDF foresees funding support for Biodiversity conservation through promoting environmentally friendly farming practice and compensation of landowners. The EMFF will also support conservation measures in respect of the marine environment and inland waters. As a considerable stretch of the Danube runs through Romania, funds can be accessed through the EU Strategy for the Danube Region START programme. Additionally there are funding opportunities through the LIFE programme and Norway Grants.

The funding for air quality monitoring and reporting is also an acquis driven exercise. The reporting requirements were revised under the 2008/50 Directive and the INSPIRE Directive requires that the public have access to environmental information. The operations foresee upgrading 10 of the air quality monitoring stations and air quality forecasting system and establishing a pollutants’ database. The budget would appear to be more than adequate to meet the needs and ensure compliance with the acquis.

A total of 1,393 contaminated sites have been identified of which 210 have been identified as being caused historically; Romania has a legacy of historically contaminated former industrial sites stemming from industrial and agricultural practice prior to 1989. The operations will continue from the initiative commenced under SOP ENV 2007-2013 to rehabilitate the sites. The scale of the operations is modest in comparison with the need. Over the period 2014 – 2020, 10 sites are foreseen to be decontaminated; 8 funded through the LIOP and 2 through other financing. The sites will be those ‘orphaned’ i.e. that owner cannot be identified following the collapse of the socialist regime in 1989. Costs and budget are based upon the experience of 2007 – 2013.

Priority Axis 5

Priority Axis	Fund	EU Allocation (€)	Total allocation (€)	Specific objectives
PA5 Promoting adaptation to climate change, risk prevention and management	CF	363,829,787.04	428,035,043.58	Reducing the impacts and damage to the population of the natural phenomena associated to the main risks exacerbated by climate change
		114,893,616.96	135,168,961.13	Enhancing preparedness for disaster interventions through support of the authorities involved in crisis management
Total		478,723,404.00	563,204,004.71	

Although there are two SOs under Priority Axis 5, there are three distinct elements: flood protection, coastal erosion prevention and disaster response. The total budget is M€ 563.20, which represents 4.96% of the LIOP allocation. Within the Priority Axis the allocations for the components are: M€ 268.04 (47.59%) for flood protection, M€ 160 (28.41%) for coastal erosion prevention and M€ 169 (31.01%) for disaster response.

Both flood protection and coastal erosion prevention are long-term multi-decadal undertakings. For flood prevention an investment of Bn€ 12.3 is foreseen over the following twenty years and M€ 400 for coastal erosion prevention. The strategy for flood prevention will be further developed – or the actions further defined – when the national risk assessment is published. This is expected in 2015. The proposal is for protection measures for the river *Trotus* and tributaries. Supplementary support for flood prevention will be provided under the EARDF through re-forestation and supporting measures to reduce soil erosion. A further related measure is support for irrigation. For coastal erosion, measures will be taken along part of the Southern Black Sea coastline. As with the majority of interventions proposed under this section of the LOIP the budget is targeted at sector priorities but the investment, however substantial, is insufficient to provide a total solution to the need.

Support for the emergency services was provided under the ROP 2007 – 2013, the current intervention continues from that undertaking. There are few specifics given in the LIOP other than the budget is based on estimates provided by the General Inspectorate for Emergency Situations (GIES) who will determine the allocations and endowment for each of the foreseen 46 emergency units. Part of the budget will be used to equip the command and control facilities and establish training centres. The rationale for the investment is that the response to major incidents has shown that recourses were insufficient and not used to maximum efficiency and that the equipment base, especially vehicles, are outdated.

Conclusions

The financial allocations are consistent with the objectives and actions. The financial allocations address the environment sector investment priorities and needs. The majority of the financial allocations are not sufficient to meet the results targets within themselves and the additional investment sources required have not been fully identified as yet.

3.3. Energy

A summary of the budgetary allocations for the Energy sector is provided in the table below:

Priority Axis	Fund	EU net allocation (EUR)	Total net allocation (EUR)	Specific objective
6. Clean energy and energy efficiency	ERDF	89,100,000	104,823,529	6.1. Increasing the installed capacity of renewables from less used resources
		9,990,000	11,752,941	SO 6.2. Increasing energy efficiency through monitoring energy consumption at the level of industrial consumers
		32,400,000	38,117,647	SO 6.3. Increase energy efficiency by implementing smart electricity metering at low voltage for power network
		54,000,000	63,529,412	6.4. Improving energy efficiency in companies through high efficiency cogeneration systems
7. Increasing energy efficiency in district heating systems in selected cities	ERDF	150,000,000	176,470,588	7.1. Improving energy efficiency by modernization of the district heating systems in selected cities
	CF	84,510,000	99,423,529	7.2. Improving energy efficiency by the modernisation of the district heating system in Bucharest
8. Intelligent, sustainable transport systems for electricity and gas	ERDF	20,000,000	23,529,412	8.1. Enhancing the security of the National Energy System by expanding and consolidating the electricity transport network to integrate renewables
		20,000,000	23,529,412	8.2 Increasing the flexibility of the National Gas Transport in Romania to ensure interconnection with neighbouring countries
Total		460,000,000	541,176,469	

The total financial allocation for the energy sector is relatively small within LIOP (5.2%) and represents 1.5% of the total ESIF allocation for Romania (Bn€ 30). Despite the small allocation, and the fact that the envisaged co-financing under all Priority Axes is 15% only, the overall programme is rather ambitious in terms of SOs. There is a risk that funding is spread too thinly to actually produce significant changes. In addition, the fact that there is no updated energy strategy to indicate the amount of investments needed for the whole sector makes it difficult to assess the real financing gap and to ensure a proper prioritisation of measures. By 2011, the World Bank has estimated that Romanian energy sector needs over Bn€ 30 investments in order to comply with the EU targets and in order to ensure the energy security by 2020 (Functional Review, Ministry of Economy). However, in the absence of a strategy and given the frequent changes in the energy policy during the recent years, the LIOP can at least ensure that some measures and policy directions will be followed consistently over the 2014-2020

programming period, regardless of other sector changes and independent from electoral cycles.

Generally, the financial allocation and the proposed split on priority axes and SOs is consistent with the LIOP aims and cover all segments, production, consumption, grids. Also, the priorities of the LIOP energy sector (energy supply, transport and distribution) are well correlated with the ROP (priorities for optimisation of energy demand in the residential sector). The proposed approach of having a multi-fund priority axis, co-financed by the CF and by the ERDF is acceptable in principle, given the complementarities of the interventions proposed, although it is likely to complicate the administration.

However, in the case of SO 6.3 – with an allocation of M€ 32.4 - it must be noted that the proposed investment consists of demonstrative projects, which already follow a pilot project and which should be followed up by a scaling up of the programme after finalisation of the demonstrative phase. While LIOP's contribution through the demonstrative project is expected to exceed 1% to the overall energy savings target at residential consumers by 2023, other measures (e.g., finalization of Iasi-Ungheni project, other gas interconnections etc.) might look like a higher priority for financing under LIOP and for the EU in the current regional context, given that there was already a pilot project for smart distribution. The demonstrative projects would not lead directly to significant improvements in energy efficiency or emission reduction, particularly if the electricity market is not fully liberalised by the end of the pilot phase. However, the projects could later be scaled up with national or other funding and the know-how gathered could be used as an input for the future energy strategy.

For SO 6.2, it is unclear to what extent large industrial consumers for which energy is a significant share of their production costs, have little incentives presently to purchase commercially the monitoring equipment to monitor the energy consumption. The allocation is expected to meet the needs of at least 60 projects¹² at an average cost per project of 200,000 euros. If this will not be the case and the number of applications for financial support would be lower, it is likely that there are other reasons, such as energy prices, lack of incentives to improve energy efficiency, etc. why large consumers do not install such equipments in the absence of grant support being available.

¹² There are around 600 large consumers.

Conclusions

As the programme differs substantially from the previous programming exercise, in terms of SOs, intervention mechanisms and eligible beneficiaries, the lessons learned with respect to absorption and capacity are of little relevance. The main challenge is to ensure that there is sufficient administrative capacity at all levels in order to ensure sound programme management.

4. Indicators

Q4. To what extent the indicators proposed in the programme are relevant

Q5. How will the expected outcomes contribute to the results? To what extent the results are influenced by external factors, including the other existing instruments? Are the quantified target values of the indicators realistic, versus the expected support from the CSF?

4.1. Transport

Priority Axis 1

A summary of the LIOP **Priority Axis 1** indicators is provided in the table below:

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
1.1 Increase mobility through development and modernisation of road infrastructure on TEN-T network (Core)	Reduced travel time for freight and passengers on TEN-T Core Road Network	Average Travel Time on TEN-T Road network	Min/100 km	86,2	49,8	Total length on newly built roads	200
1.2 Increase mobility through development of rail infrastructure on TEN-T network	Reduced travel time on rationalised network	Average travel time on TEN-T railway network	Min/100 km	133,3	60,1	Total length of reconstructed or upgraded railway line	140
						Procured rolling stock	22
1.3 Increase attractiveness of naval transport by developing the ports and water ways on TEN-T (Core)	Increased volume of transported freight	Freight transported on inland waterways	Mil. tonnes/year	26.8	32.2	Number of TEN-T Core ports addressed	2
						Total length of new or improved inland waterways	30
						Modernised water gates	4
1.4 Increase attractiveness of Bucharest underground transport system through infrastructure and related services development	Increased market share of the underground transport in Bucharest-Ilfov region	Underground transport market share in Bucharest-Ilfov region	%	20	25	Total length of new or improved tram and metro lines	9

All selected **result indicators (RI)** are clearly reflecting the results sought. SOs 1.1, 1.2 and 1.4 are basically the same with the expected results and associated result indicators, as recommended by the guidelines. This is partially the case for SO 1.3 as well. All RIs have **clear label, clear explanatory definition** and are easily understandable.

The **data source** that has been used for establishing the **baselines** and **target values** for RI 1.1 and RI 1.2 is the National Transport Model (NTM) developed under the GTMP project, which allows the simulation of the impact of individual road, respectively railway projects on the entire network.

It is worth noting that RI 1.1 target value has been calculated taking account of: (1) new, high quality road sections to be constructed with LIOP financing, (2) motorway projects currently under construction and (3) other road sections to be built with alternative financing sources, by 2023. The time savings have been provided by the National Transport Model. Such approach is consistent with the EC Guidelines, which recommend that results and associated indicators are to be set-up at sector level. Overall, the target seems achievable.

In case of RI 1.2, the NTM estimations show an increase of the average speed from 45 to 100 km/h counting for a 73.2 min/100 km time savings that could be achieved through the investment package proposed under LIOP. This is very challenging, as only 140 km of railway should be rehabilitated /improved under SO 1.2. However, it should be noted that the estimated time savings should also result from other investments to be financed either under LIOP (SO 2.7) or using alternative financing sources, such as CEF. Time savings should be also calculated in respect of the rationalised network only. Considering the last 25 years downward trends, the proposed target value remains difficult to achieve.

Data needed for RI 1.3 will be collected directly from the National Institute for Statistics (NIS) periodical publications, which provides sufficient assurance with respect to the indicator's **robustness and statistical validity**. The target value has been set-up in line with the Danube Strategy policy goals but is also confirmed by the NMT.

The data source for establishing the baseline and target values for RI 1.4 is METROREX, the underground transport operator for Bucharest-Ilfov region. The target value has been established using the parameters of the projects planned to be implemented during the next programming period, including the ongoing projects and the passengers' demand. It seems realistic and achievable.

For RI 1.1, **external factors** likely to affect the results are the overall increase in traffic volumes, investments to be promoted under alternative financing mechanisms and ongoing rehabilitation works at the time of data collection. RI 1.2 could be severely influenced by lack of regular maintenance, high number of thefts of railway components and lack of political decision in respect of network rationalisation. RI 1.3 is likely to be influenced by the overall increase /decrease in trade volumes (general economic activity), new suppliers on market, etc. As pointed out in the previous section of the report, being dependent on limited number of freight types, waterborne transport is highly responsive to business decisions taken by a limited number of economic operators. For example, a large share of the inland waterways traffic is generated by two economic operators – the steel and cement plants in *Medgidia* and *Galati*. In the case RI 1.4, the achievement of the target value is likely to be influenced by future evolution of the surface public transport and by the city infrastructure.

The table below provides a synthesis of the analysis covering **Priority Axis 1 result indicators**:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
RI 1.1	Average Travel Time on Road TEN-T network	Yes	Yes	Yes	Yes
RI 1.2	Average travel time on TEN-T railway network	Yes	Yes	Yes	Yes
RI 1.3	Freight transported on inland waterways	Yes	Yes	Yes	Yes
RI 1.4	Underground transport market share in Bucharest-Ilfov region	Yes	Yes	Yes	Yes

All Priority Axis 1 **output indicators (OI)** are contributing to the expected results and are **relevant for the actions** foreseen. **Common indicators** have been properly used where relevant. The OIs have **clear** label, clear explanatory definition and are easily understandable.

The **target values** provided have been calculated based on average unit costs, data from the indicative project list, financial allocations and /or data provided by beneficiaries. In assessing whether such values are actually achievable using the available LIOP financial envelope, maturity of the proposed projects, average implementation durations foreseen and past performances of similar projects are equally relevant.

In the case of OI 1.1, the total length of new roads to be constructed has been setup at 200 km, based on the individual, indicative list of projects to be implemented and a unit-cost approach. The proposed cost per kilometre (M€ 10.8) has been calculated based on the cost standards provided for in Government Decision no. 1394/2010 and the terrain characteristics of the projects. The methodology used is fully acceptable and the proposed target value is realistic. Time-wise, delivering 200 km of motorways by 2023 (9 years) is realistic, considering that 2 years are needed for Feasibility Studies /Detailed Design, 1.5 years for procurement and 4 years for construction. It is worth noting that such an implementation schedule is based on two main assumptions: (1) there is no preliminary study available at present, which is not always the case and (2) all the above deadlines are generous¹³.

The target value for OI 1.2 (140 km of improved /rehabilitated railways) has been set-up taking account of the projects intended to be implemented. Such projects are already in advanced preparation stage (detailed design completed), which provides a sound basis with respect to cost estimations and makes implementation by end-2023 fully achievable. The project cluster under SO 1.3 appears to have been already decided and the associated OI target values have been properly estimated. For this reason, the target is realistic.

The number of rolling stock to be procured is basically an administrative decision based on available budget and an estimated unit cost. The proposed target is, therefore, realistic and achievable in terms of both time and budget.

The target values for OI 1.4 – metro infrastructure in Bucharest – have been established based on the projects to be implemented. Both length and unit cost resulted from an approved Feasibility Study (*M 5 Universitate – Pantelimon*). The construction of 9 kilometres of metro line in 9 years appears as realistic, assuming that project preparation, procurement and implementation will proceed according to plan.

The table below provides a synthesis of the analysis covering **Priority Axis 1 output indicators**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 1.1	Total length on newly built roads	Common	Yes	Yes
OI 1.2.1	Total length of reconstructed or	Common	Yes	Yes

¹³For example, the SOP-T financed the construction of four motorway sections on *Orastie – Sibiu* TEN-T sector, by using the design & build approach, with a contractual deadline for completion of 22 months. Three out of the four have been already finalised, yet with an 8-months delay. The fourth is still under construction, because of unexpected technical and legal difficulties, but it should be completed in less than 48 months overall.

Code	Indicator	Type (common /specific)	Relevance	Clarity
	upgraded railway line			
OI 1.2.2	Procured rolling stock	Specific	Yes	Yes
OI 1.3.1	Number of TEN-T Core ports addressed	Specific	Yes	Yes
OI 1.3.2	Total length of new or improved inland waterways	Common	Yes	Yes
OI 1.3.3	Modernised watergates	Specific	Yes	Yes
OI 1.4.1	Total length of new or improved tram and metro lines	Common	Yes	Yes

Priority Axis 2

A summary table of the indicators proposed under LIOP **Priority Axis 2** is provided in below:

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
2.1 Increase mobility by road transport development on TEN-T Comprehensive Network	Reduced travel time on the road on TEN-T network (Comprehensive)	Average travel time on TEN-T Comprehensive network	Min /100km	90,9	54,5	Total length of newly built roads	125
2.2. Increase of the regional accessibility by connecting areas with reduced connectivity to the TEN-T Road Infrastructure	Increased accessibility of deprived areas, as per the accessibility index	Accessibility index	Employee/min	25	27.873	Total length of reconstructed or upgraded roads	250
						Total length of newly built roads	80
2.3 Enhancing regional mobility through sustainable airports modernisation	Increased volume of passengers	No. of passengers	Mil. of passengers	10,7	20	Airports addressed	4
2.4 Increase the attractiveness of inter-modal transport in order to stimulate the use of sustainable transport modes	Increased containerised freight volumes in standard inter-modal units and ports (other than TEN-T Core)	Volume of containerised freight handled in intermodals terminals and ports	TEU /year	64,376	130,000	No. of newly built/improved inter-modal terminals	8
						No. of addressed ports	4

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target		
2.5 Improvement of safety and security on all transport modes and reduction of the transport environmental impact.	Reduced number of accidents on all transport modes and, in particular reduced fatality rate in road accidents	Number of fatalities in road accidents	No. /mil. inhabitants	92	82	No. of black spots addressed (no)	20		
						No. of level-crossing addressed (no)	20		
						Snow removal equipments procured (no)	20		
						Windbreaks (km)	100		
2.6 Ensure traffic fluency at exits points	Reduced waiting time in exit points	Waiting time in exist points	min	300	150	Modernized/extended cross-border points	3		
2.7 Increase of sustainability and quality of railway transport through reform measures and modernisation of infrastructure and services	Increased use of railway network Increased sustainability of railway network	Intensity of railway network use Financial sustainability of railway network	rail pax-km / network length (route-km)	409.640	555.940	Total length of reconstructed or upgraded railway line	125		
			Maintenance budget/network length (route-km)			34,000	116,000	Reform measures studied, implemented	5
								Procured rolling stock	20

The selected RIs are generally **clear** and reflect the **change sought**. The increased number of passenger using airports reflects an increased mobility, as increased air traffic involves increased travel opportunities for people in the airports' catchment areas. In the case of SO 2.5, the RI captures a significant amount of the change sought, as road transport is by far the most unsafe transport mode. In terms of **robustness**, it should be mentioned that business decisions taken by a limited number of actors (air carriers) might significantly influence the achievement of RI 2.3, at least on short term, irrespective of the amount of investments or the theoretic catchment area of the airports¹⁴. In case of SO no. 2.7, RI no. 2.7.2 is rather reflecting political /administrative decisions than the change sought through the specific objective itself. While financial sustainability of the railway transport clearly represents a key strategic objective, RI no. 2.7.2 seems not sufficiently policy responsive in LIOP specific context, while the direction of change itself is a little bit unclear (for example, reducing the maintenance

¹⁴For example, traffic decreased significantly on *Timisoara Airport* in the last 2 years after one air carrier ceased operations.

backlog through large railway rehabilitation investments might also result in reducing the required level of current maintenance and associated budget).

Result indicators have **clear labels, clear explanatory definitions** and are **easy to understand**.

RI 2.1 is very similar to RI 1.1 and all the comments above with respect to its **statistical validation** are applicable in this case. The proposed target value seems achievable, considering the TEN-T Comprehensive network dimensions and the proposed length of the new roads to be built. The same comments in respect of statistical validation apply for RI 2.2 as well. The baseline value for RI no. 2.2 comes from the studies/analyses performed under the GTMP project, while its target value reflects the outcome of a NMT simulation. For such target value to be achievable, it is presumed that selection of operation to be financed under this particular SO should be made so that to favour projects with greater impact on accessibility, as identified through the NMT. A confirmation in this respect should be provided together with the indicative projects list.

Data in respect of baseline value of RI 2.3 are provided by NIS, which ensures statistical validation. The target value follows an estimation provided by the NMT, which is fully acceptable. In case of RI 2.4, data are provided by the Ministry of Transport.

The baseline value for RI 2.5 is provided by NIS. For statistical validation purposes, NIS data should be also used in monitoring. The target value has been established considering both the ambitious goal set-up by the Transport White Paper in this respect (50% reduction of fatalities caused by road accidents by 2020) and the Romanian specific context (high number of severe accidents caused by the bad condition of the road network). Whereas over the last 23 years there was no clear tendency of change in the evolution of this indicator, achieving a constant decreasing trend and an overall 10% reduction by 2023 is both reasonable, as policy target and achievable.

The RI 2.6 baseline value has been extracted from a study conducted by the relevant authority on waiting times in customs. The proposed target consists in halving such waiting times by 2023, from 300 (2012 data) to 150 minutes. The proposed target value is not that ambitious, in view of the fact that, at EU level, the average waiting time in customs is 40 minutes. However, its achievability is difficult to estimate without data with respect to total time needed for border crossing, traffic intensity by specific time intervals and corresponding waiting times and without an analysis of the main underlying causes for long waiting times.

In the case of RI 2.7, the data sources for the baseline value are MT and NIS (based on proposed method of calculation). Presumably, NIS and MT data will be further used for monitoring purposes, which ensures statistical validation. The targets are achievable, assuming that the GTMP recommendations in respect of network rationalization and maintenance budget increase shall be fully implemented.

For RI 2.1, **external factors** that might affect results are the overall increase in traffic volumes, investments to be promoted under alternative financing mechanisms and ongoing rehabilitation works, which were affecting the traffic at the time when data are collected. In consideration of the calculation methodology for the accessibility index, RI no. 2.2 might be influenced by variations of the number of employees /zones. It should be clarified whether it is the number of employees or working-age population/zone that the model is considering. If the first applies, then other external factors such as employment levels variation might also influence the results. In case of RI 2.3, an overall increase of airport transport is expected. The extent to which such increase might be attributed to LIOP investments is, however, unclear. Airborne passenger traffic is also influenced by overall economic trends, fuel prices or air carriers' business decisions. RI 2.5 might be influenced by the foreseen increase of individual car ownership rate and by road transport market share. However, ideally infrastructure development should compensate this. External factors that might influence achievement of RI 2.7 target value are basically political, as the targets have been set-up presuming that the rail networks shall be rationalised and the maintenance budget increased. Preserving the actual network length and shortage of the maintenance budget would certainly result in the set-up targets not being achieved.

The table below provides a synthesis of the analysis covering **Priority Axis 2 result indicators**:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
RI 2.1	Average travel time on TEN-T comprehensive network	Yes	Yes	Yes	Yes
RI 2.2	Accessibility index	Yes	Yes	Yes	Yes
RI 2.3	Increased volume of passengers	Partially	Yes	Yes	Yes
RI 2.4	Increased containerised freight volumes in standard inter-modal units and ports (other than TEN-T Core)	Yes	Yes	Yes	Yes
RI 2.5	Reduced number of accidents on all	Yes	Yes	Yes	Yes

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
	transport modes and, in particular reduced fatality rate in road accidents				
RI 2.6	Reduced waiting time in exit points	Yes	Yes	Yes	Yes
RI 2.7.1	Increased use of railway network	Yes	Yes	Yes	Yes
RI 2.7.2	Increased sustainability of railway network	Partially	Yes	Partially	Yes

In general, Priority Axis 2 OIs **contribute to the expected results** and are fully **relevant for the actions** foreseen. Contribution to results is less clear in case of two out of four OIs associated with SO 2.5.

Common indicators have been properly used, where relevant. The proposed OIs have **clear labels, clear explanatory definitions** and are **easily understandable**. The provided target values have been estimated based on average unit costs, indicative project lists, available financial allocations and data provided by beneficiaries.

In case of OI 2.1, the unit cost used in calculating the proposed target value was M€ 10.8, which is similar with that under SO 1.1. Whereas such cost comes from an in-depth analysis of the indicative project list under SO 1.1, it might not be equally relevant for those to be financed under SO 2.1. The proposed unit costs was therefore checked against average prices for motorways' construction in Romania extracted from on-going /finalised contracts financed under SOPT 2007 – 2013.

The results of this analysis are provided bellow:

Motorway section	Length (km)	Price (euros)	Price /km (euros)
Orastie – Sibiu lot 1	24.11	132,640,524	5,501,473
Orastie – Sibiu lot 2	19.75	90,934,963	4,604,301
Orastie – Sibiu lot 3	22.11	147,183,471	6,656,873
Orastie – Sibiu lot 4	16.11	116,705,067	7,244,262

The average unit price for 82 kilometres of motorways built on rather difficult terrain (unstable hills requiring extensive consolidation works and structures) amounts to M€ 6.0, which is significantly below the unit cost proposed under LIOP. However, the M€ 10.8 unit cost might be considered acceptable to the extent that the foreseen projects will be built in similar conditions to those under SO 1.1 i.e. mainly mountainous terrain.

The target value for one of the OIs associated to SO 2.2 (*total length of newly constructed roads*) has been established considering a unit cost of M€ 1.2/km, which is reasonable. For the second OI, the target value has been set-up based on a unit cost of M€ 0.7 /km, which is also reasonable. It is worth noting that the allocation for each SO includes the performance reserve and 15% saving from procurement, based on past experience. This is reasonable and in line with the relevant EC guidelines.

The targets setup for OIs 2.3, 2.4 and 2.6 are fully achievable, as the number of interventions to be financed (airports, inter-modal terminals, cross border points) results from administrative decision, which means that the cost of the projects /interventions maybe adjusted in order to fit with the available allocation. However, it should be mentioned that concrete projects /project proposals have been also considered when the targets were set. This is also the case for the target values provided for OIs associated with SO 2.5. The LIOP will finance works for 20 black spots and 20 level crossings and the procurement of 20 snow removal equipments. The proposed target for OI 2.5.4 (*100 km of windbreaks*) has been established by the beneficiary (CNADNR) and appears realistic.

The target values for the OIs associated with SO 2.7 are essentially achievable. OI 2.7.1 is based on an administrative decision (*number of reform measures*), which in turn takes account of the main sector needs. For rolling stock procurement, a (reasonable) unit cost was provided, similar to the case of railroad rehabilitation.

The table below provides a synthesis of the analysis covering **Priority Axis 1 output indicators**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 2.1	Total length of newly built roads	Common	Yes	Yes
OI 2.2.1	Total length of reconstructed or upgraded roads	Common	Yes	Yes
OI 2.2.2	Total length of newly constructed roads	Common	Yes	Yes
OI 2.3	Airports addressed	Specific	Yes	Yes
OI 2.4.1	No. of newly built /improved inter-modal terminals	Specific	Yes	Yes
OI 2.4.2	No. of addressed ports	Specific	Yes	Yes
OI 2.5.1	No. of black spots addressed	Specific	Yes	Yes
OI 2.5.2	No. of level-crossing addressed	Specific	Yes	Yes
OI 2.5.3	Snow removal equipments procured	Specific	Yes	Yes
OI 2.5.4	Windbreaks	Specific	Yes	Yes
OI 2.6	Modernised /extended cross-border points	Specific	Yes	Yes
OI 2.7.1	Reform measures	Specific	Yes	Yes
OI 2.7.2	Total length of reconstructed	Common	Yes	Yes

Code	Indicator	Type (common /specific)	Relevance	Clarity
	or upgraded railway line			
OI 2.7.3	Procured rolling stock	Specific	Yes	Yes

Conclusions

All selected RIs for Priority Axes 1 and 2 are clearly reflecting the results sought. All RIs have clear label, clear explanatory definition and are easily understandable, except for RI 2.2 (accessibility index). Most of the RIs are robust, an exception might be RI 2.3 (increased air traffic) and 1.3 (freight volume), case in which the indicators are highly responsive on business decisions taken by a rather limited number of economic operators. Full statistical validation is ensured in the cases where data sources that have been used for establishing baselines and target values are EUROSTAT and NIS. Other sources used include the NTM developed under the GTMP project, the EU road accidents database, METROREX and studies.

In general, all Priority Axis 1 and 2 OIs are contributing to the expected results and are relevant for the actions foreseen. An exception is two out of four OIs associated with SO 2.5, for which contribution to results is less clear. Common indicators have been properly used where relevant. The proposed OIs have clear labels, clear explanatory definitions and are easily understandable

Recommendations

- The MA for LIOP is to consider a close cooperation with NIS when developing the monitoring procedure for indicators.
- RI no. 2.7.2 should be eliminated.
- There is a strong need for a dedicated TA to be available at the level of MoT and MA for LIOP and detailed procedures to be established at the level of the Ministry of Transport in order to ensure statistical consistency of data.

4.2. Environment

Priority Axis 3

The table below provide a synthesis of the Priority Axis 3 Result and Output Indicators.

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
3.1 Increasing the reuse and recycling of waste through providing the necessary premises at the level of the integrated waste management systems at county level	Reduced amount of landfilled biodegradable waste , according to obligation derived from Directive 99/31/EC Increased the share of recycled /recovered waste in the total amount of collected waste , as a result of investments creating premises for contributing to the achievement of 50% recycling rate	Quantity of biodegradable waste landfilled	Million Tonnes / year	3	1.53	Additional capacity for recovery of collected waste	740,000 Tonnes / Year
		Waste recycling rate	%	4.3	50	Non-compliant landfills closed /rehabilitated	No 38
3.2 Increasing the level of municipal wastewater collection and treatment and increasing drinking water supply to the population	Collection and treatment of urban wastewater (in point of biodegradable organic load) for all agglomerations of over 2.000 p.e Increased access of population from localities above 50 inhabitants to public service of water supply, microbiologically controlled , in due compliance with safety and health protection standards.	The collection rate of wastewater in agglomeration above 2000 p.e	%	59.95%	100%	Additional population served by improved wastewater treatment	1,700,000
		The treatment rate of wastewater in agglomeration above 2000 p.e		49.89%	100%	Additional population served by improved water supply	3,700,000
		The level of coverage of public water supply service		60.15%	99.5%		

Waste Management

Both RIs measure the changes sought and are **relevant** to the substance of the intervention. Meeting a reduced target of biodegradable waste land filled and recycling targets are both waste framework directive obligations. The indicators directly correspond with the SO and the two emphasised elements of the Result. The indicators will measure progress towards the achievement of the Results and the measurement will be indicative of the outputs. The indicators are **clear and measurable** and, for all intents and purposes, synonymous with the main elements of the Result. The indicators are based on total amounts; targets are established in community legislation and level of compliance reported. It is understood that the EC have agreed that the Romanian methodology for data collecting and its **validation** will be utilised for assessing compliance and the same approach is applicable to the LIOP.

Baselines are derived from the National Environment Protection Agency report *National Report on the State of the Environment 2012*. Waste management data are required to be reported to EUROSTAT annually. The RIs targets reflect acquis compliance; the 50% target for recycling being a common indicator. The reduction of biodegradable waste landfilled stems from a transition granted to Romania to progressively reduce landfilling biodegradable waste and the next target is a reduction of 65% of the 1995 level (4.8 M Tonnes) by 2016. The biodegradable waste target is achievable; Romania has meet previous targets and the PA forecasts only slightly below the target – 62.5%. The 50% recycling target is far more challenging in view of the difficulties many old MSs have had in meeting the target and in consideration the longer time and more established infrastructure at their disposal. There is a significant shortfall between the output targets and the results and the identified need. The LIOP states that the allocation is approximately 25% of the needed budget, the PA states that 1.8 M Tonnes of additional capacity are required and Jaspers estimated that Bn€ 1.1 was required to meet the waste acquis requirements in 2014–2020. However this was based on more extensive use of incineration and now the cost to meet acquis obligations is estimated to be approximately 70% of that figure.

Wastewater and Drinking Water

The RIs are relevant and reflect the objectives of the proposed interventions. The overriding driver is the need to meet the obligations set out in the Accession Treaty transition arrangements and to comply with the relevant acquis. The indicators point to the specific measures that need to be taken to meet those obligations. The **indicators are clear, measurable** and reflect the results and specific objectives and directly accord with the proposed actions. The indicator calculation is based on the entire target group and not a sample data collection and its **validation** is the responsibility of the NARW and NIS.

The RI baselines are set by the Ministry of Environment and Climate Change /NARW who report to the EC biannually. Drinking water supply data is held by the NIS. The target values are in line with the acquis and the Accession Treaty and transition period obligations. There is a significant shortfall between the allocation (approximately Bn€ 3) and the estimated need (approximately Bn€ 12.1). Support is foreseen from the EARDF for between 2,000–10,000 population but this will be extremely modest in comparison with the task.

The table below provides a synthesis of the analysis covering **Priority Axis 3 result indicators**:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
3.1	Quantity of biodegradable waste landfilled Waste recycling rate	Yes	Yes	Yes	Yes
3.2	The collection rate of wastewater in agglomeration above 2000 p.e The treatment rate of wastewater in agglomeration above 2000 p.e The level of coverage of public water supply service	Yes	Yes	Yes	Yes

The **OIs** for **waste management** are **relevant for the expected contribution to the results** and reintroduce the closure of non-compliant landfills which do not form part of the results indicators. The **Indicators are clear** and reflect the proposed actions in the additional capacity for recycling and closure of non-compliant landfills. The **target values** are based upon pre-existing contracts and the construction of the Bucharest waste incinerator - 740,000 Tonnes of additional waste recovery capacity - and the closure of 38 non-compliant landfills. The allocation is based on the value of existing contracts and the estimated cost of the incinerator.

For **water** the OIs are **relevant** for the expected contribution to the results and are a direct measurement of the expected outcomes of the proposed actions. The indicators are **clear** and establish quantifiable targets.

The table below provides a synthesis of the analysis covering **Priority Axis 3 output indicators**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 3.1 i	Additional capacity for recovery of collected waste	Specific	Yes	Yes
OI 3.1 ii	Non-compliant landfills closed/rehabilitated	Specific	Yes	Yes
OI 3.2 i	Additional population served by improved wastewater treatment	Common	Yes	Yes
OI 3.2 ii	Additional population served by improved water supply	Common	Yes	Yes

Priority Axis 4

A summary table of the indicators proposed under **Priority Axis 4** is provided in below:

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
4.1 Increase in the level of protection and conservation of biodiversity through appropriate management	Improved conservation status of species and habitats of Community importance, including restored degraded ecosystems , according to EU Directive 92/43/EEC on the conservation of	Habitats of community interest with favourable conservation status*	%	63%	65%	Set of measures/management plans/ action plans approved	70
		Species of		19%	25%	Surface area of habitats	3000

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
measures and restoration of degraded ecosystems	natural habitats and of wild fauna and flora and to Directive 2009/147/EC on the conservation of wild birds	community interest with favourable conservation status Restored degraded ecosystems		0	10%	supported in order to attain a better conservation status Surface of restored degraded ecosystems	800
4.2 Increased level of assessment and monitoring of air quality at national level through development of monitoring instruments	Improved air quality monitoring	Monitoring and reporting the air quality according to requirements of Directive 2008/50/EC	Yes /No	No	Yes	Data base of pollutants emission consistent with INSPIRE Directive Air quality forecasting system Air quality monitoring stations upgraded.	1 1 10
4.3 Reducing the historically polluted areas	Lower number of historically polluted sites	Historically polluted sites	No.	210	200	Decontaminated surface	53 Ha

Biodiversity

The Results Indicators are **relevant** and reflect the objectives of the proposed interventions essentially pursuing the EC Biodiversity Strategy which is paralleled by the National Biodiversity Strategy to improve the conservation status of habitats and species. The indicators are **clear, measurable** and reflect the results and specific objectives and accord with the proposed actions. The indicators parallel compulsory reporting on conservation status. The baselines are established by the compulsory reporting requirements under the Habitats and Birds Directives by the Ministry of Environment and Climate Change based on the National Summary for Article 17 of 2014. The indicators are **clear, measurable** and reflect the results and specific objectives and accord with the proposed actions. The indicators parallel compulsory reporting on conservation status. **Verification of the results** will be based upon the six-yearly reporting requirements under the Habitats and Birds Directives. **Data are validated** by the European Topic Centre for biodiversity and spatial data by the EEA. The target for increasing the number of habitats having favourable conservation status is modest a 2% rise from a baseline of 63%. The target for species is an increase in favourable conservation status from 19% to 25%. Additional support for the Natura 2000 network is foreseen under the EARDF to compensate landowners and encourage environmentally sensitive farming practise.

Air Quality Monitoring

The RI directly reflects the objective of the proposed interventions; compliance with the air quality acquis. The indicator is **clear, measurable** and reflects the result and specific objectives and is in accord with the proposed actions. Measuring achievement will be based on the data collection and **reporting methodology** established and required under community legislation. MSs are required to report air quality data annually to the EC. The data are also required to be made publicly available. In order to ensure compliance with the air quality acquis additional investment is required for monitoring and reporting – particulate matter and heavy metals. The indicator is a simple assessment of the current baseline where the air quality monitoring and reporting network does not entirely meet the required standards and the target of meeting those standards. **Validation** of the result will be in the data collection and reporting.

Historically Polluted Sites

The RI is entirely **relevant** and reflects the objective of the proposed interventions; reducing the number of historically contaminated sites. It is **clear, measurable** and reflects the results and specific objectives and accord with the proposed actions. The **baseline and target values** derive from The National Strategy and National Action Plan for the management of contaminated sites. A total of 1393 contaminated sites have been identified from which investigations to date have revealed that 210 have historical contamination. The baseline is the number of polluted sites that have been identified as historically contaminated. The expectation is that 8 sites will be decontaminated under the LIOP and a further 2 sites will be decontaminated through other non – ESIF interventions. **Validation** of the result will be enabled by the physical evidence.

The table below provides a synthesis of the analysis covering Priority Axis 4 result indicators:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
4.1 i	Habitats of community interest with favourable conservation status	Yes	Yes	Yes	Yes
4.1 ii	Species of community interest with favourable conservation status	Yes	Yes	Yes	Yes
4.1 iii	Restored degraded ecosystems	Yes	Yes	Yes	Yes
4.2	Monitoring and reporting the air quality according to requirements of Directive 2008/50/EC	Yes	Yes	Yes	Yes
4.3	Historically polluted sites	Yes	Yes	Yes	Yes

The **OI** and target for management plans for **biodiversity** are based upon M€ 70 is allocated for the development of management plans at a unit cost of approximately € 700,000. The target

is 50 Management plans. The indicator is **clear and measurable** and directly reflects the **relevant** actions. The development of management plans is the first and essential step preceding measures to improve the conservation status of habitats and species. The plans are required under legislation and a prerequisite for eligibility for support for implementation measures. M€ 20 from the management plan allocation is taken for ‘national monitoring’ of the conservation status of habitats and species. There is no indicator for this. The target value for implementation measures is to support 40 sites. As with the indicator for the management plans this is **clear and measurable and relevant** to the actions and results. These will be large scale projects with an average budget of ~ M€ 6.64. The financial plan states that it is expected to support one third of the areas covered by 66 management plans developed under ENV SOP 2007–2013 which have been approved or await approval.

For **air quality monitoring** the OI and targets are a list of areas investment is necessary and systems operational in order to comply with air quality monitoring and reporting obligations; these are quantified. The evidence of achievement will be within the content of the compulsory reporting and the physical evidence. The Output targets are **clear, measurable and relevant**.

The OI for **historically contaminated sites** is essentially synonymous with and directly corresponds with the actions, results and objective. It is **clear** – defining the number of hectares to be decontaminated. As with the result this is directly **measurable**. The target is based upon the unit costs. A similar intervention was undertaken within the ENV SOP 2007–2013. The unit cost also derives the value of the part of the results target supported by the LIOP as this is calculated on the average size of the contaminated sites.

The table below provides a synthesis of the analysis covering **Priority Axis 4 output indicators**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 4.1 i	Set of measures /management plans / action plans approved	Specific	Yes	Yes
OI 4.1 ii	Natural protected areas benefiting of protection and conservation measures	Specific	Yes	Yes
OI 4.2 i	Data base of pollutants emission consistent with INSPIRE Directive	Specific	Yes	Yes
OI 4.2 ii	Air quality forecasting system	Specific	Yes	Yes
OI 4.2 iii	Air quality monitoring stations upgraded	Specific	Yes	Yes
OI 4.3	Decontaminated surface	Common	Yes	Yes

Priority Axis 5

A summary table of the indicators proposed under Priority Axis 5 is provided in below:

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
To reduce the impacts and damage to the population of the main risks exacerbated by climate change	Reducing impacts and damage to the population of the natural phenomena associated to the main risks exacerbated by climate change	Average annual economic damages produced financed risks	M€	426,93	404,32	Population benefiting of floods prevention measures Length of rehabilitated marine coast	40,000 12.65 km
Increasing the disaster response capacity by supporting the authorities involved in crisis management	Enhancing preparedness for disaster interventions through support of the authorities involved in crisis management	The average response time to emergencies	Minutes	15.1	13.5	Equipped units for emergency interventions	46

Floods and Coastal Erosion

The indicator is **relevant** as it provides a qualified value as to the effects of flooding. However given the variability of the events and their intermittency the outcome will be more apparent in the longer-term. The indicator is **clearly expressed** only in respect of flooding. In the aftermath of a flooding event a joint commission is convened at county level supported by specialised committees comprising sector experts to report. Calculating economic losses from floods is a long-established practice. The baseline has been calculated by the Ministry of Internal Affairs /GIES from the average annual losses based on the economic damages incurred 2005 – 2013. The 5% reduction in economic damage target value is derived from the output target. 800,000 inhabitants reside in areas where there is a risk of a greater than a one in a hundred year flooding event, the output target is to provide protective measures for 40,000 inhabitants – 5%. This is then translated into the reduction of economic damage expressed in the results target. The yearly average economic damage caused by flooding are based on an annual average of the past 9 years losses resulting from flooding. Long-term NARW records show an irregular cycle of periods of drought, rainy conditions and normal conditions ranging between 11 and 20 years. Given limited resources comprehensive flood prevention measures cannot be taken at all vulnerable sites. The annual losses over the sample period show huge variation between Bn€ 1.65 and 0. As the precise frequency, severity and location of flooding are unpredictable there can be no guarantees that the indicator can reflect the outcome of the intervention within the lifetime of the programme.

It is arguable that the inclusion of losses accumulated by coastal erosion would be a distraction. Certainly they would be difficult to assimilate. Left unattended coastal erosion could have a long term economic impact on the tourism and property. But this would be future projections and taken to an extreme would be a loss equal to the value of the entire tourist industry and property value. This would not be informative and serve little purpose.

Disaster Response

The Results indicator reflects a quantifiable aspect of the emergency services capacity. This is based on the alert /dispatch time, travelling and intervention. The indicator is **clearly expressed and measurable**. The data are derived from all interventions both rural and urban. **Data are entered into dedicated software** at local, operational level. The baseline has been established by the Ministry of Internal Affairs /GIES by collating and averaging the response times. The target value is set according to the Ministry of Internal Affairs’ strategic plan which foresees an incremental reduction of response time and the figure for 2023 is extrapolated from this.

The table below provides a synthesis of the analysis covering **Priority Axis 5 result indicators**:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
5.2	Average annual economic damages produced by financed risks	Yes	Yes	Partially	Yes
5.2	The average response time to emergencies	Yes	Yes	Yes	Yes

The OIs for **floods and coastal erosion** are **relevant** in that they describe the extent of protection measures. The indicators are **clear** in respect of both protection from floods and coastal erosion. For floods the frequency distribution measure is that typically used in hydrology and meteorology and is derived from historical data. The population residing in localities at most risk from flooding is known and the extent of the measures to be undertaken is estimated according to the budget. Therefore the extent of the population that will benefit from protection measures can be calculated. For coastal erosion the indicator is the measurable extent of coastline for which protection measures will be undertaken.

For **disaster response** the OI is a ‘catch all’ for the support to be given to the emergency response units. The intervention continues from and is based upon the model used under the ROP 2007 – 2014. The indicator is **clear** and **measurable** in the number of emergency units to be supported. This will include establishing training facilities and procurement of vehicles and equipment. The emergency response services are structured on a central /regional /local

basis. The GIES will determine the precise endowments to the individual units. The overall allocation is based on an assessment made by the GIES.

The table below provides a synthesis of the analysis covering **Priority Axis 4 output indicators**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 5.1 i	Population benefiting of floods prevention measures	Common	Yes	Yes
OI 5.1 ii	Length of rehabilitated marine coast	Specific	Yes	Yes
OI 5.2 i	Equipped technical units for emergency interventions	Specific	Yes	Yes

Conclusions

Overall the indicators are relevant to both the actions and objectives. Some indicators cover only parts of the intervention but these are the major components.

The Indicators are qualified, clear and measurable and will provide the basis for assessing achievement and monitoring.

No sampling methodology is to be employed the target values and achievement will be assessed by recording the entirety of the operations against the entire target group.

4.3. Energy

The table below presents a summary of the indicators on energy in LIOP.

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
Priority Axis 6							
6.1. Increasing the installed capacity of renewables from less used resources	Installed share of renewables from less used sources (biomass, geothermal) in total renewables capacity	Share of less used renewables (biomass, biogas, geothermal) installed capacity in total capacity of renewables	%	3.77 (2013)	19.6 (2023)	Additional capacity installed	23 MWe biomass 66 MWt biomass, 11 MWt geothermal
SO 6.2. Increasing energy efficiency through monitoring energy consumption at the level of industrial consumers	Increased energy efficiency at the level of supported industrial consumers Improved access to smart distribution	Energy consumption in industry (yearly average)	Thousands toe	378	328	Number of additional energy users connected to smart grids	80.000

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
SO 6.3. Increase energy efficiency by implementing smart electricity metering at low voltage for power network	Improved know-how for industrial consumers to identify and implement energy efficiency measures by monitoring systems; Energy and GHG savings in companies	Power consumption in residential buildings	Thousands toe	810	925	Number of companies supported	60
6.4 Improving energy efficiency in companies by high efficiency cogeneration systems	Installed high efficiency cogeneration production; Increased energy efficiency at industrial sector by cogeneration; GHG avoided (cogeneration effect)	Share of installed capacity of high efficiency cogeneration in total electrical capacity in cogeneration				Installed capacity	50 MW (45 MW gas, 5 MW residual gas + biomass)
Priority Axis 7							
7.1. Improving energy efficiency by modernization of the district heating systems in selected cities	Reducing energy losses at DH networks in selected cities	Losses on networks	%	26.76 (2013)	15 (2023)	Length of network modernized	100 km
7.2. Improving energy efficiency by the modernization of the district heating system in Bucharest	Reducing energy losses at DH networks in selected cities	Losses on networks	%	26.76 (2013)	15 (2023)	Length of network modernised	120 km
Priority Axis 8							
8.1. Enhancing the security of the National Energy System by expanding and consolidating the electricity transport network to integrate renewables	Renewable energy that can be safely taken over in the system	Renewable capacity that can be integrated into the system	MW	2200 (2013)	3200 (2023)	Length of line modernised / built	140 km
8.2. Increasing the flexibility of the National Gas Transport in Romania to ensure interconnection with neighbouring countries	Transport capacity on the National Gas Transport	Transport capacity of the National Gas System	Bcm/year?	14.35 (2013)	20 (2023)	New / modernised gas stations	2

The RIs are clearly reflecting the change sought. The SOs are basically the same with the expected results and associated result indicators, or equivalent formulations, as recommended by the guidelines. RIs have **clear labels, clear explanatory definition** and are easily understandable.

Concerning **data sources**, baseline and target values are taken from ANRE, ANRSC and from the National Energy Efficiency Plan. SO 6.2 uses the savings from electricity consumption that could be achieved through the implementation of smart grids by 2023, according to the National Energy Efficiency Plan, and contributes 4.9% to the target (1800 MWh/year * 8 projects = 14400 MWh, or 1238 toe, of planned savings of 25,000 toe). The assumptions are based on the existing on-going pilot project for smart distribution and from the study carried out by EBRD.

The target values for SO 6.3 and 6.4 consist of the overall energy savings from the National Energy Efficiency Plan by 2023 to be achieved in industry by all energy efficiency measures (including policy measures such as price liberalization or support measures financed from other sources). The approach is consistent with the EC Guidelines that recommend the result indicators to be set up at the sub-sector level. The contributions of the two SOs to reaching the targets in the plan are as follows:

- SO 6.3: LIOP would generate by itself savings of up to 5,400 toe/year, assuming energy savings of 3% per year in 60 companies with consumption averaging 3,000 toe/year; or at least 1,800 toe/year assuming savings of 1% per year. The assumption is that, if industrial energy consumers become aware of their actual energy consumption by installing energy consumption monitoring equipment, this would change their behaviour and would contribute to savings of 1% of energy consumption without any additional measures. However, if in addition the financing from LIOP is also conditioned on specific requirements to improve energy efficiency, this could increase the energy savings potential to 3%. Based on this interval, LIOP would contribute 3.6% to 10.8% to the overall target of the Plan for industrial energy efficiency.

- SO 6.4: the energy savings from cogeneration are not known at this point and the results would be evaluated at the end of the program, according to the Guidelines.

The data needed for the RIs would be collected from ANRE/ANRSC and INS, which would ensure **robustness and statistical validity**. Overall, the target values seem realistic and achievable.

6.2, 6.3 and 6.4 could be influenced by **external factors** such as energy prices. If energy prices increase, beneficiaries are likely to be more interested in the program and more likely to change their behaviour once the actual consumption profile is better known. If energy prices are low, the demand from industrial consumers for energy distribution monitoring equipment and for energy-saving cogeneration and residual energy reuse would remain low, and the behaviour of household consumers connected to smart distribution is likely to remain unchanged.

The table below provides a synthesis of the analysis covering **Priority Axis 6 result indicators**:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
RI 6.1	Share of less used renewables (biomass, biogas, geothermal) installed capacity in total capacity of renewables	Yes	Yes	Yes	Yes
RI 6.2	Electricity savings in the residential sector - electricity consumption	Yes	Yes	Yes	Yes
RI 6.3	Energy savings - industrial consumers	Yes	Yes	Yes	Yes
RI 6.4	Energy savings at industrial sector by cogeneration	Yes	Yes	Yes	Yes

Priority Axis **OIs are contributing to expected results and are relevant for the actions foreseen**. Common indicators are properly used. The OIs have clear labels, explanatory definitions and are easily understandable.

The target values are calculated using average unit costs from similar projects or studies (eg EBRD for smart distribution) and confirmed with the energy regulator ANRE. The values are achievable within the LIOP financial allocation, considering the unit costs of the projects provided by ANRE. Projects under SOs 6.1 and 6.2 are mature and the average unit costs provided are realistic, given that there were already several projects implemented in Romania (a few investments in biomass projects and a pilot project for smart distribution). For SO 6.1, LIOP provides output indicators and unit costs for the installed capacity for biomass (electricity and heat, respectively). It does not provide output indicators for the associated investments in distribution to connect the additional capacity, a reasonable approach considering that at this

stage it would be difficult to assess where the new capacities would be installed and whether this would require investments in lines or stations. However, the allocation for distribution is small (20% of the SO).

Projects in SOs 6.3 and 6.4 are very new, not implemented in Romania before and there were no significant previous purchases of such equipment on the Romanian market for cost benchmarking, and therefore riskier in terms of whether the costs and interest of beneficiaries are realistic.

In terms of implementation duration, delivering the projects by 2023 is realistic, as the intermediate and final deadlines are rather generous and the individual projects are rather small.

The table below provides a synthesis of the analysis covering **Priority Axis 6 OIs**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 6.1	Total additional renewable capacity (60% allocation electricity biomass; 10% heat biomass; 20% distribution = 61MW)	Common	Yes	Yes
OI 6.2	Additional users connected to smart grids	Common	Yes	Yes
OI 6.3	Number of industrial users connected to smart monitoring of energy consumption	Common	Yes	Yes
OI 6.4	Installed cogeneration capacity GHG emissions avoided	Common	Yes	Yes

Priority Axis 7

A summary table of the indicators proposed under LIOP **Priority Axis 7** is provided below:

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
7.1. Improving energy efficiency by modernization of the district heating systems in selected cities	Reducing energy losses at DH networks in selected cities	Losses on networks	%	26.76 (2013)	15 (2023)	Length of network modernised	100 km
7.2. Improving energy efficiency by the modernization of the district heating system in Bucharest	Reducing energy losses at DH networks in selected cities	Losses on networks	%	26.76 (2013)	15 (2023)	Length of network modernised	120 km

RIs 7.1 and 7.2 are generally **clear and reflect the change sought**. They have **clear labels, clear explanatory definitions** and are **easy to understand**. The data source is ANRSC, which ensures

the **statistical validation**. The target values for 7.1 and 7.2 consist of the overall reduction of losses from all heat distribution and transmission networks planned by ANRSC by 2023, regardless of source of financing. The approach is consistent with the EC Guidelines that recommend the result indicators to be set up at the sub-sector level. However, the contribution of each SO to achieving the overall target is not properly identified (one possible solution is to approximate the contribution for each city by weighting with the share of each DH system in the overall heat production in Romania, e.g., Bucharest - 37%, of which about 50% attributable directly to LIOP).

The major **external factor** that could significantly affect the results consists of the continued disconnections of households from DH systems in cities. On average, seasonal heat demand decreases by 4% per year following such disconnections. The disconnection phenomenon is reinforced by the low gas prices for households, which would continue to remain regulated now until 2021 (after the amendment of the Energy Law and the extension of the liberalization calendar). This causes households to continue to switch to individual boilers, also given the poor quality of DH services.

The table below provides a synthesis of the analysis covering **Priority Axis 7 result indicators**:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
RI 7.1	Reduction of losses on DH networks - 7 cities	Yes	Yes	Yes	Yes
RI 7.2	Reduction of losses on networks - Bucharest	Yes	Yes	Yes	Yes

Priority Axis 7 OIs **contribute to expected results** and are **fully relevant for the actions foreseen**. The proposed OIs have **clear labels, clear explanatory definitions** and are **easily understandable**. The proposed target values are based on average unit costs existing feasibility studies, for 7.1 financed under the Environment SOP 2007-2013. The target values for the two OIs are achievable by 2023, considering that the feasibility studies have been finalized. However, the finalisation of the Bucharest DH network and the achievement of the full benefits in terms of energy savings require additional funding (LIOP finances the rehabilitation /modernisation of 500 km as compared to 1,058 km total length).

The table below provides a synthesis of the analysis covering **Priority Axis 7 OIs**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 7.1	Length of modernised /upgraded DH network	Specific	Yes	Yes

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 7.2	Length of modernised /upgraded DH network	Specific	Yes	Yes

Priority Axis 8

A summary table of the indicators proposed under LIOP **Priority Axis 8** is provided below:

Specific Objectives	Results	Result Indicators	Unit	Result Indicator Baseline	Result Indicator Target	Output Indicators	Output Target
8.1. Enhancing the security of the National Energy System by expanding and consolidating the electricity transport network to integrate renewables	Renewable energy that can be safely taken over in the system	Renewable energy that can be integrated into the system	MW	2200 (2013)	3200 (2023)	Length of line modernised /built	140 km
8.2. Increasing the flexibility of the National Gas Transport in Romania to ensure interconnection with neighbouring countries	Transport capacity on the National Gas Transport (at interconnections)	Transport capacity of the National Gas System for interconnections	Bcm /year	14.35 (2013)	20 (2023)	New /modernised gas stations	Compressing stations (2)

The result indicator 8.1 is clearly reflecting the **change sought**. In the case of RI 8.2, it should be better explained that the expected result consists of increasing the transport capacity specifically for the interconnection points with neighbouring countries. For RI 8.2, while the result indicators are at sub-sector level, as recommended by EC Guidelines, it should be specified that LIOP's contribution to the overall target would be of 26.5% as the financing covers only the Iasi-Ungheni project (1.5/ (20-14.35)). **Data sources** for the two RIs, both for the baseline and target values, consist of the network plans of Transelectrica and Transgaz by 2023, respectively. In the case of RI 8.1, the data is also correlated with the National Action Plan for Renewable Energy, which confers more assurance that indeed the additional transport capacity would be used for the better integration of renewables, and not of energy from conventional sources. Since the plans are monitored also by ANRE, this would reinforce the indicators' **robustness and statistical validity**.

The results could be affected by **external factors**. For 8.1, such external factors consist of the possible changes in forecasted energy consumption and territorial profile or the installation of capacities based on conventional fuels. For 8.2, the external factor is mainly the evolution of

the Russia-Ukraine conflict, which could increase the urgency of the projects and make interconnections an even higher priority at European level.

The table below provides a synthesis of the analysis covering **Priority Axis 8 RIs**:

Code	Indicator	Relevance	Clarity	Robustness	Statistically validated
RI 8.1	Installed renewables that can be taken over in the system	Yes	Yes	Yes	Yes
RI 8.2	Transport capacity of the National Gas Transport System (ref interconnection points)	Yes	Yes	Yes	Yes

Priority Axis 8 output indicators contribute to expected results and are relevant for the actions foreseen. The OIs have **clear** label, clear explanatory definition and are easily understandable. Target values are based on average unit costs provided by Transelectrica and Transgaz from existing studies. The financial envelope from LIOP could finance the 8.1 electrical line and the 8.2 compressors, with cofinancing of 50% from Transelectrica and Transgaz, and the projects should be implementable well within the duration of the LIOP.

The table below provides a synthesis of the analysis covering **Priority Axis 8 output indicators**:

Code	Indicator	Type (common /specific)	Relevance	Clarity
OI 8.1	Km of electrical line modernised /upgraded	Specific	Yes	Yes
OI 8.2	Equipment - two compressors	Specific	Yes	Yes

Conclusions

RIs for Priority Axes 6, 7, 8 are clearly reflecting the change sought; have clear labels, explanatory definitions and are easily understandable; and are quite robust. Statistical validation could be ensured by having dual sources for the data (e.g., Transelectrica and ANRE). Sources are reliable, from ANRE, ANRSC, Transelectrica, Transgaz; however, given the difficulty in obtaining some data during the preparation of the program, one should consider involving also the INS in collecting and publishing periodical indicators, which would also contribute to the statistical validation. It should also be made more clear in the case of 6.4; 7.1; 7.2; 8.2 what is LIOP's contribution in achieving the sub-sector targets.

Output indicators are contributing to the expected results and are relevant for the actions

foreseen. The proposed OIs have clear labels, clear explanatory definitions and are easily understandable. With the exception of Priority Axis 6, in all the other SOs, the OIs are specific, making benchmarking and EU-wide aggregation slightly more difficult.

5. Performance framework

Q6. To what extent the indicators and intermediary and final targets (milestones) selected for the performance framework are adequate?

5.1. Transport

Priority Axis 1

The performance framework for Priority Axis 1 is provided in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	euros	CF	566,746,118	4,539,007,093	MFP (CPA)
Output indicator	Total length of newly built roads on TEN-T Core network	km	CF	0	200	MT
Output indicator	Total length of reconstructed or upgraded railway line	km	CF	0	140	MT
Key Implementation step	Major projects submitted for EC approval for 200 km of newly built roads	%	CF	80%	N/A	MT
Key Implementation step	Major projects submitted for the EC approval for 120 km of reconstructed or improved railway line	%	CF	100%	N/A	MT

The indicators selected for the performance framework comply with the specific requirements set out by the Regulation and guidelines. Financial indicators (FI) and OIs have been used as well as relevant implementation steps. A single FI and OI have been provided for operations representing more than a half of the available financial allocation of the axis. The OI related to new roads represents approximately 47% of the total financial envelope, while the indicator for railway rehabilitation represents a further 32%.

Key implementation steps have been defined in consideration that Priority Axis 1 mainly comprises major projects, which take time to be realised and no interventions are anticipated to be fully completed by 2018. Therefore, there is a clear tool by which to evaluate the Priority Axis 1 interim performance; defining key implementation steps in relation with both selected output indicators was necessary.

The selected milestones and target values are reasonable and fully achievable.

For the FI, the proposed milestone represents approximately 10% of the total allocation of Priority Axis 1 while the final target reaches 100%. The proposed approach duly considers the threshold set by the n+3 rule (for the milestone) and the major projects' specific financial progress curve, with the bulk of expenditure being made in the final years of implementation. However, meeting both the milestone and the final target may prove challenging in consideration of the Sector OP Transport (SOPT) 2007–2013 performance, with an overall 32.5% absorption rate as of the 31st of July 2014. Moreover, at end-2011, corresponding to the 2018 intermediary milestone reimbursement of SOPT eligible expenditure only reached 3.39%. Therefore, for the milestones and final targets set-up for Priority Axis 1 to be achieved, the future MA should consider specific measures aiming at strengthening the absorption capacity (see also Section 3).

The milestone targets for the selected OIs have been set to zero, in due consideration of major projects' implementation timelines. This is consistent with past experience and fully reasonable. The target values are also achievable (please see more detailed comments in Section 4). Major interventions under SOPT 2007 – 2013 will be phased as they will not be completed by the end of the eligibility period.

The key implementation steps refer to major projects submitted to the EC for approval. The milestones values are achievable, to the extent that the current stage of project portfolio preparation has been properly taken into account. The maturity of the project portfolio also indicates the difference between the two selected implementation steps (80% for road and 100% for railway projects).

Overall, the Performance Framework for Priority Axis 1 has been designed in full observance of the EC Regulations and Guidelines provisions and the milestone and target values for the selected indicators are realistic and reasonable.

Priority Axis 2

The performance framework for Priority Axis 2 is provided in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total eligible amount certified by the Certifying Authority	euro	ERDF	271,036,238	2.304.277.812	MPF (CPA)

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Output indicator	Total length of newly built roads	km	ERDF	0	1	MT
Key Implementation step	Major projects submitted for the EC approval for 125 km of newly built roads	%	ERDF	80%	N/A	MT

Most of the observations made for Priority Axis 1 also apply to Priority Axis 2. All indicators selected for the performance framework comply with the specific requirements set-out in the Regulation and guidelines. FIs, OIs and implementation steps are provided. A single FI, OI and key implementation step are given for the intervention representing more than a half of the available financial allocation for the axis (the selected OI represents 53% of the total financial envelope).

For the FI, the proposed milestone represents approximately 12% of the total allocation of Priority Axis 2 while the final target is 80%. As with Priority Axis 1, the historical performance has been taken into account when setting the targets. The higher value proposed for the milestone as compared with Priority Axis 1 (12% vs. 10%) duly considers the fact that Priority Axis 2 includes smaller projects with projected shorter implementation periods. However, as mentioned above, the need for increasing the absorption capacity remains.

As with Priority Axis 1, the milestone target for the selected OI is zero (in due consideration of the major projects' average implementation durations) while the target value has been set-up to 80% of the expected outcome. This is both achievable and reasonable.

The operations under the selected OI consist exclusively of major projects with long delivery period and therefore a relevant implementation step has been selected. The milestones and target values for the key implementation step are plausible in consideration that the current stage of the project portfolio preparation has been taken into account.

Conclusions

The Performance Framework for Priority Axis 2 has been designed in full observance of the EC Regulations and Guidelines and all milestones and target values for the selected indicators are considered achievable and reasonable.

5.2. Environment

Priority Axis 3

The performance framework for Priority Axis 3 is presented in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	Euro	CF	424,887,245	3,402,875,041	CPA
Output	Additional population served by improved wastewater treatment	p.e.	CF	0	1,700,000	Beneficiaries
Output	Additional population served by improved water supply	Nr.	CF	0	3,700,000	Beneficiaries
Key implementation step	Additional population served by improved wastewater treatment in projects submitted to approval to the EC (as percentage from the final target)	%	CF	80%	N/A	MA LIOP
Key implementation step	Additional population served by improved water supply in projects submitted to approval to the EC	%	CF	80%	N/A	MA LIOP

The Priority Axis is supported by the CF and therefore regional classification is not applicable. The Performance Framework comprises financial and output indicators and key implementation steps. The indicators are for operations representing more than a half of the available financial allocation for the Priority Axis – 89%. Key implementation steps have been utilized as the intervention consists of major projects. As to be expected, these projects will take some time to be fully completed and are unlikely to be before the end of 2018. Therefore the choice of Key Implementation Steps – projects submitted for EC approval – is appropriate to measure performance.

The milestone for the financial indicator is at approximately 12.48% of the final target figure which is 100% of the gross allocation (EU + National Funds + performance reserve). As with all Priority Axes within the LIOP the financial milestone has been calculated to meet the minimum threshold required under the N + 3 rule. In compliance with the regulations the financial indicator is based on the expenditure entered into the accounting system of the certifying authority. Setting the final target value at 100% is common for all the priority axes in the programme. This particular indicator is based upon the gross allocation – EU + National Funds

+ Performance Reserve. Similarly the Performance Framework OI is set at 100% of the OI (Table 5 in the LIOP).

The Performance Framework OIs have milestones set to 0 as the interventions consist of major projects reflecting the time that the projects will take to bear results. Key Implementation Steps are given as a measure of performance. These are set at the content of projects submitted to the EC for approval which will provide for 80% of the final targets. The milestones are respectable targets. Although these are major projects and take time to develop preparations are currently underway for the first tranche of projects within this priority axis to be submitted to the EC for approval.

The Performance Framework parallels the OIs and RIs and will provide a relevant and measurable set of indicators for determining performance.

Priority Axis 4

The performance framework for Priority Axis 4 is presented in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	Euro	ERDF	58,885,143	500,625,782	CPA
Output	Set of measures /management plans /action plans approved	no	ERDF	0	70	MMSC
Output	Surface area of habitats supported in order to attain a better conservation status	no	ERDF	0	3,000	MMSC
Key implementation step	Contracted projects covering 70 set of measures /management plans /action plans to be developed for approval	%	ERDF	80	NA	MMSC
Key implementation step	Contracted projects covering 3,000 ha of the surface of natural protected areas which are to benefit of protection and conservation measures in contracted projects	%	ERDF	80	NA	MMSC

The Priority Axis is supported by the ERDF and the interventions are targeted at less developed regions. The Performance Framework is based on one of the three areas of intervention within the Priority Axis – biodiversity conservation. This represents 51% of the Priority Axis allocation. As with Priority Axis 3 the framework comprises FIs, OIs and Key Implementation Steps.

The FI is based on the total amount of eligible expenditure entered into the accounting system of the certifying authority. As with Priority Axis 3 the Final Target is set at 100% of the gross allocation (EU + National Funds + performance reserve) and the milestone is in-line with the N + 3 rule.

The subject matter of the Performance OIs directly corresponds to the OIs. The formula of 100% is used to calculate the 31 December 2023 outputs is utilised as described above for Priority Axis 3. The milestones are set at 0. For similar interventions under ENV SOP 2007–2013 the contracting and project initiation performance was poor, particularly in the early stages and as yet very few management plans developed under ENV SOP 2007–2013 have been approved. The PA and LIOP detail the lessons learned from this experience and state that corrective actions will be taken. However, it is not unreasonable to be cautious with the prognosis for the current programming. The projects have to pass through a number of stages; call for proposals to contracting, implementation and finally assessment and approval of the management plans. For projects that involve investigations into flora and fauna this can require observations over the seasonal cycle or more. Typically projects under ENV SOP 2007–2013 had implementation periods of 2–3 years. Therefore the cautious approach is justified.

Similarly, the Key Implementation Steps are given as 80% of the Final Targets for both the management plan and management plan implementation projects contracted by the end of 2018. Undertakings in this area under ENV SOP 2007-2013 experienced some difficulties and delays and on that basis this would appear to be an ambitious target. The final call for proposals to develop management plans under ENV SOP was in mid-2012 and of 129 proposals 62 were rejected. The reasons for rejection are not clear but it indicates the demand for the support. It is envisaged that a total of 70 management plans will be funded under the LIOP. Whereas the management plans already drafted and approved or awaiting approval will form the basis for the project portfolio for support in implementation, there is no indication that mature proposals are ready to be submitted and, prior to this, the respective management plans need to be approved. These projects are expected to be much larger than previously anticipated as the LIOP has gone through its stages of development.

Priority Axis 5

The performance framework for Priority Axis 5 is presented in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	Euro	CF	70,322,358	563,204,005	CPA
Output	Population benefiting from flood protection measures	number	CF	0	40,000	MMSC /ANAR
Output	Length of rehabilitated marine coast	km	CF	0	12,65	MMSC /ANAR
Key implementation step	Contracted projects covering 40,000 inhabitants that are to benefit of flood protection measures in contracted projects	%	CF	70%	NA	MMSC /ANAR
Key implementation step	Major projects submitted to the EC covering 12.65 km of marine coast to be rehabilitated	%	CF	100%	NA	MMSC/ ANAR

As with Priority Axes 3 and 4 there is a FI, two Performance OIs and two Key Implementation Steps. The Performance Framework comprises the two major operations within the Priority Axis – flood protection and coastal erosion prevention - which amount to 76% of the allocation.

The FI milestone is 12.48% of the Final Target Value. As with the other Priority Axes, this meets the threshold required under the N + 3 rule and is measured by the total amount of eligible expenditure entered into the accounting system of the certifying authority. The common formula for determining the Final Target value at 100% of the allocation appears to have been applied but in this case 100% of the net allocation (EU + National Funds without the performance reserve) rather than the 100% of the gross allocation used for Priority Axes 3 and 4.

The Performance OIs are intermediate steps reiterating the OIs. The Performance OIs also correspond with the Final Targets set at 100% of the OI value. The milestones are set at 0 reflecting the size of the interventions and that results will not be apparent until later in the programme implementation period.

As with the other Priority Axes, Key Implementation Steps are given. These are based on the number of projects contracted anticipated to be required in order to meet the values of the Final Target. For flood protection the milestone is set at 70% of the number of projects. Coastal erosion prevention will comprise a major project and the milestone is submission to the EC for approval.

Conclusions

The Performance Framework is compliant with the Regulation and guidelines. The FI milestones observe the minimum threshold required by the N + 3 rule. The Performance Framework indicators are relevant, clear and measurable. The Performance OIs correspond with and concern the same targets as the OIs. The Performance Framework is based upon the interventions that have a greater than 50% share of the allocation. Each Priority Axis has a FI based on amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority. The FI Final targets are set at 100% of the gross allocation, although not essential it would be clearer if this was consistent but this is dependent on reconciling the sets of OIs. The FI milestones are set at approximately 12% of the Final target. The Performance OIs all have a milestone set at 0 and the Final Target is set at 100% of the OI target. The Key Implementation Steps are based upon project contracting rates or major projects submitted to the EC for approval.

5.3. Energy

The performance framework for Priority Axis 6 is provided in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	euros	ERDF	27,306,513	232,152,690	CPA
Output indicator	Additional renewable capacity	MW	ERDF	0	60	MEF
Output indicator	Capacity installed in high efficiency cogeneration	MW	ERDF	0	50	MEF
Key Implementation step	Contracts signed for 60 MW from renewable sources	%	ERDF	100%	N/A	MEF
Key Implementation step	Contracts signed for 50 MW high efficiency cogeneration	%	ERDF	100%	N/A	MEF

The indicators selected for the performance framework comply with the specific requirements set out by the Regulation and guidelines. Financial indicators (FI) and output indicators (OI) have been used, as well as relevant implementation steps. A single FI and two OIs (renewables and high efficiency cogeneration) have been provided for operations representing more than a half of the available financial allocation of the axis. For Axis 6, the OI related to renewables represents approximately 33% of the total financial envelope, and the OI related to high efficiency cogeneration in industrial consumers represents 20%.

The key implementation step was provided to ensure that no funds risk being de-committed, given that previous experience shows such projects have a cycle of 3-4 years. This also explains the zero milestone for OIs in 2018. It is a clear tool to evaluate interim performance. The selected milestones and target values are reasonable and achievable. Thus, the key implementation steps (contracts signed for renewables and high efficiency cogeneration) are fully achievable, considering that individual projects are for relatively small capacity units and of little complexity.

The financial milestone represents 15% of the total allocation, whereas the final target is 100% (of EU funds + national co-financing). The proposed approach, which is very prudent, duly considers the threshold set by the n+3 rule (for the milestone) and the financial progress curve of similar projects on CF and ERDF financing at EU level, expecting the bulk of expenditure in the final years of implementation. The milestone targets for the OIs have been set to zero, taking into account the project preparation cycle, which is a very prudent approach.

The performance framework for Priority Axis 7 is provided in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	euros	ERDF	12,440,959	105,769,712	CPA
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	euros	CF	23,440,786	187,734,668	CPA

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Output indicator	Length of DH network upgraded	Km	ERDF	0	100	MEF
Output indicator	Length of DH network upgraded	Km	CF	0	120	MEF
Key Implementation step	Contracts on public procurement for 100 km network	Km	ERDF	100%	100%	MEF
Key Implementation step	Major project submitted to EC to modernize at least 120 km of DH network	km	CF	100%	N/A	MEF

The indicators selected for the performance framework comply with the specific requirements set out by the Regulation and guidelines. FIs and OIs have been used as well as relevant implementation steps. Axis 7 is a multi-fond Axis, which is justified by the fact that the two SOs are essentially the same type of measure (rehabilitation /upgrading of DH networks), but for projects eligible for different EU funds, ERDF (DH in 7 smaller cities) and CF (DH in Bucharest, also a major project), respectively.

The key implementation steps was provided to ensure that no funds risk to be de-committed, given that previous experience shows such projects have a cycle of 3-4 years for OI 7.1, and of 7 years for OI 7.2. This also explains the zero milestone for output indicators in 2018. It is a clear tool to evaluate interim performance. The selected milestones and target values are reasonable and achievable.

The financial milestone represents 15% and 16% of the total allocation, respectively, whereas the final target is 100% (of EU funds + national co-financing). The proposed approach duly considers the threshold set by the n+3 rule (for the milestone) and the financial progress curve of similar projects on CF and ERDF at EU level, expecting the bulk of expenditure in the final years of implementation. The milestone targets for the OIs have been set to zero, taking into account the project preparation cycle and, in the case of OI 7.2, also in due consideration of major projects' implementation timelines.

The performance framework for Priority Axis 8 is provided in the table below:

Type of indicator	Implementation step, financial, output or result indicator	Measurement unit	Fund	Milestone (2018)	Final target (2023)	Source of data
Financial	Total amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority	euros	ERDF	5,888,514	37,647,058	CPA
Output indicator	Electricity line modernized	Km	ERDF	0	140	MEF
Output indicator	Compressors built	No	ERDF	0	2	MEF
Key Implementation step	Contracts signed on public procurement for 140 km network	%	ERDF	100%	100%	MEF
Key Implementation step	Contracts signed on public procurement for 2 gas stations	%	ERDF	100%	100%	MEF

The indicators selected for the performance framework comply with the specific requirements set out by the Regulation and guidelines. FIs and OIs have been used, as well as relevant implementation steps. A single FI and two OIs (electricity line and gas compressors) have been provided covering the entire available financial allocation of the axis; each OI represents exactly 50% of the financial allocation.

The key implementation step was provided to ensure that no funds risk being de-committed, given that previous experience shows such strategic projects have a cycle of 30-60 months. This also explains the zero milestone for output indicators in 2018. It is a clear tool to evaluate interim performance. The selected milestones and target values are reasonable and achievable. Thus, the key implementation steps consist of the successful completion of the procurement process for the two OIs.

The financial milestone represents 15% of the total allocation, whereas the final target is 100% (of EU funds + national co-financing). The proposed approach duly considers the threshold set by the n+3 rule (for the milestone) and the financial progress curve of similar projects on ERDF financing at EU level, expecting the bulk of expenditure in the final years of implementation. The milestone targets for the OIs have been set to zero, taking into account the project preparation cycle.

Overall, the Performance Framework for Priority Axis 8 has been designed in full observance of the EC Regulations and Guidelines provisions and the milestone and target values for the selected indicators are realistic and reasonable.

Conclusions

The Performance Framework for Priority Axes 6, 7 and 8 is compliant with the Regulation and guidelines. The FI milestones observe the minimum threshold required by the N + 3 rule. The Performance Framework indicators are relevant, clear and measurable. The Performance OIs correspond with and concern the same targets as the OIs. The Performance Framework is based upon the interventions that have a greater than 50% share of the allocation. Each Priority Axis has a FI based on amount of eligible expenditure entered into the accounting system of the certifying authority and certified by the authority. The FI Final targets are set at 100% of the gross allocation. The FI milestones are set at approximately 15% of the Final target. The Performance OIs all have a milestone set at 0 and the Final Target is set at 100% of the OI target. The Key Implementation Steps are based upon project contracting rates or major projects submitted to the EC for approval.

6. Implementation system

Q7. To what extent the human resources and administrative capacity are adequate to manage the program?

Q8. To what extent the program monitoring procedures and the procedures for collection of data necessary for evaluation are appropriate?

Management system

Until now, there is limited data available with respect to the foreseen LIOP management system, including the setup and resources of the MA, Intermediary Bodies (IB) and beneficiaries. However, as per the provisions of the PA, it was decided that the MEF will be the LIOP MA and the line ministries will act as IBs for transport, environment and energy sectors. The PA stipulates that the institutional framework will be setup by the 3rd quarter of 2014.

The MEF, as future MA, intends to make full use of the experience gained during the 2007 – 2013 period by the MAs for the previous 2007-2013 Transport and Environment OPs and by the IB for Energy, all setup at the line ministries' level and who will act as IBs in the current programming period. Thus, an extended delegation of functions to the IBs is foreseen, including the key functions of programming, monitoring and certification of expenditure. It is expected that the MA will carry out regular verifications of the delegated functions. TA dedicated to the institutional setup of the new MA /IBs, including development of working procedures is available at MEF level.

While a detailed assessment of the LIOP implementing system can only be undertaken subsequent to the finalisation of the related administrative steps, some positive aspects are worth noting at this stage:

- Setting-up the MA at MEF level should help making the key decision making process in relation to LIOP straightforward and ensuring a good level of political support;
- The institutional experience gained during the previous programming period (2007-2013) should be fully used, as the former sector MAs (Transport and Environment OPs), respectively IB, in the case of Energy will further act as IBs;

At implementation level, it is ascertain fact that the main beneficiaries in the transport sector will remain the companies entrusted with the management of the state-owned road and railways infrastructure (CNADNR and CFR), as in the 2007-2013 programming period. During previous investment programmes (ISPA, IFI, SOPT 2007–2013), the administrative capacity of

the beneficiaries have been a major hindrance for the implementation. This drawback should not be underestimated for the current programming period. Addressing this issue requires both dedicated institutional strengthening measures, including human resources development and TA measures for outsourcing some of the activities linked to ESIF projects' preparation and implementation.

Limited administrative capacity has been identified as a key aspect specifically referred to in both the Council Recommendations for Romania and the NRP. The LIOP acknowledges this issue and provides for measures aiming at improving sector governance in general, while TA targeting directly the LIOP beneficiaries' administrative capacity can be financed through the dedicated OP TA. Both types of measures are expected to contribute to increased implementation and absorption capacities at the level of CNADNR and CFR.

Reduced administrative burden

As part of its endeavours to support economic development, environmental protection and employment, the EU has developed a complex legal and regulatory framework that serves as a foundation for its policies in all these fields. Despite the progress achieved in all these areas, it became apparent to the EC and the member states that complexity of legislation has a significant influence on the effectiveness of the EU-supported interventions. In this respect, a **Better Regulation Strategy** was elaborated at EU level in order to streamline the contribution of the EU regulatory frameworks towards meeting the aforementioned strategic development goals. Main objectives of the strategy are:

1. Simplifying the existing stock of regulations, with the following indicative measures: simplification of legislation, cutting red tape for businesses, simplification of procedures;
2. Increased quality of regulations: substantiation of normative acts and monitoring their implementation, improving transparency and quality of consultations, securing implementation of EU legislation;
3. Development of administrative capacity to implement policies on better regulation: improving institutional frameworks, human resources specialisation to draft impact studies.

In Romania, reform efforts within public administration in the last years have been driven, among others, by the acknowledgement of the fact that it is necessary to reduce the excessive administrative burden for the corporate sector, entrepreneurs, non-governmental organisations and citizens, stemming from complex regulations at the level of government institutions. This should in turn result in an improved business environment as a pre-requisite

for increase competitiveness. Considering the need to comply with a complex EU legislation, the ESIF regulatory simplification has the potential to provide benefits not just for the private sector, but also for the personnel of the governmental institutions in charge with ESIF implementation.

The transport sector is an interesting example for the potential effectiveness of reduced administrative burden. The sector exhibits several specific characteristics, such as:

- High sensitivity (as compared to other sectors) to economic fluctuations at both country and international level. During recession periods, imports, exports and consumption, which are key variables for the sector performance, are among the first affected.
- Lack of uniformity, mainly triggered by the distinctive features of each transport mode (e.g. road transports have a different nature, other parties involved and require a different approach as opposed to air transport and the same is true for transport by water and rail)
- Whereas transport by water, air and rail account for a limited number of businesses, the road domain is substantially more populated than all the other three together, which explains its top position in the administrative burdens' hierarchy.

The Transport sector is important for the administrative cost measurement, as it involves obligations for a wide range of Romanian businesses, from road carriers – the largest segment – to naval, inland waterways, rail or air carriers. A relevant example in this respect refers to the issuing of transportation licences. Thus any amendment to transportation regulations influences a wide range of companies. Increasing transport sector's competitiveness requires joint action by decision-makers at central levels to simplify and clarify the existing sector legislation and actions aiming at preparing future investments that take account of the bottle necks identified by the private sector. Under the circumstances, the simplification of legal framework and procedures impacting over a large number of companies becomes a strategic goal, with long-term implications for the sector and the economy as a whole.

Currently, a TA project benefiting the MEF on reducing administrative burden for the private sector is under implementation. Several key actors from the transport sector, which are legally setup as companies but are publicly owned, such as CNADNR, CFR, METROREX and the airport administrations across Romania are among its beneficiaries. A number of simplification measures are expected to be proposed, which have the potential to reduce the administrative burden on both the implementation system (MA, IBs, CPA), as well as on applicants and

beneficiaries. The outputs from this exercise will be further assessed in the framework of this evaluation if available on time.

7. Horizontal principles

Q11. Are the planned measures to promote equality between men and women and to prevent discrimination adequate? Are the planned measures to promote sustainable development suitable?

Sustainable Development

The LIOP points out that the programme aims to promote sustainable development. A Strategic Environmental Assessment (SEA) accompanies the programme and Environmental Impact Assessments will be carried out at operational level. The principle of sustainable development is to be incorporated at the level of the specific measures to be undertaken and factors such as waste prevention and biodiversity and ecosystem protection will be considerations within the proposals and tender documentation.

The PA details the sustainability factors that will be considered and prerequisites imposed during the operational phase. Operations involving construction will have to ensure efficient use of natural resources including the use of recycled materials and minimising waste generation. Conclusions of Environmental Impact Assessment will be used to ensure compliance with environmental standards and legislation. Legislation concerning environmental protection and that for protected areas must be adhered to. Energy efficient measures will be incorporated at the design stage; energy efficiency, water consumption, minimising waste generation and reducing greenhouse gas emissions will form part of the selection criteria when evaluating project proposals. Innovative use of clean technologies and environmental protection will be encouraged.

For water and waste projects the polluter pays principle will be applied and will be part of the cost benefit analysis. For the waste management sub-sector the interventions are to promote resource efficiency primarily through recycling. Other than reducing the need for fresh resources to be utilised to replace those to be discarded as waste there are arguments that, with the necessary infrastructure, recycled materials can be cheaper as a material source for manufacturing than fresh materials. The headline example oft quoted is for aluminium where only 5% of the energy is required in comparison with processing bauxite ore. Also the EC have calculated that an additional 400,000 jobs will be created across Europe if the recycling targets

are met. Elimination of non-compliant landfill should reduce soil and groundwater contamination. There are obvious social benefits for those living in close proximity to non-compliant landfills in terms of quality of life and perhaps health.

For wastewater collection and treatment the sustainable benefits are to reduce the untreated wastewater being discharged contaminating groundwater and rivers with consequent damage to the ecology and contamination of drinking water supplies. Hence wastewater treatment preserves natural resources.

The EC report that economists have calculated 3% of the European GDP is lost through biodiversity loss – Bn€ 450 per year. Therefore it follows that investments in protecting biodiversity are sound and deliver a substantial return.

Studies have shown the deleterious effects on health caused by air pollution. Not only is there a 'value' of suffering to be considered but there are also economic consequences; loss of productivity and the health treatment costs. The same arguments can be put for the problems arising from contaminated drinking water.

The *raison d'être* given in the LIOP for flood and coastal erosion prevention and protection is economic – reducing the resulting economic losses.

Gender Equality and Anti-discrimination

The LIOP notes that infrastructure projects by their nature have a 'reduced extent' as to equal opportunities, non-discrimination and gender equality. Although it is obligatory that gender mainstreaming is part of all EU financed initiatives the Guidance on Ex-ante Conditionalities indicates that for environmental infrastructure this does not apply. Specific examples are given for meeting the waste sector acquis where gender equality law does not apply because of the limited impact of the specific objectives and for diversity protection where anti-discrimination law does not apply for the same reason. The same logic can be extended to all of the environmental infrastructure proposals. The only exception from this in the environment section of the LIOP is the support from emergency services where gender equality and anti-discrimination needs to be within the specific applicable projects. The PA includes a number of provisions and intentions in the areas of education and training which are applicable. Any constructions intended for public access should be compliant with the regulations.

For the interventions in waste management and water there is a social dimension. The community at most risk from negative effects of inadequate water supply and wastewater treatment are more likely to be the less advantaged. The provision is now being extended to

smaller more rural communities and there are studies showing the heightened occurrence of ill health and its attribution to unclean drinking water and its contamination by untreated wastewater. The PA mentions in passing poorer neighbourhoods and their proximity to the existing non-compliant landfill. Removing these will have a disproportionate benefit for those residents.

8. Strategic Environmental Assessment

Q12: Which are the significant effects on the environment, likely to be generated by the programme that must be taken into consideration for its elaboration?

Current status of the evaluation question and main intermediary findings

The answer to this question will be included in the Sustainability Report to be produced in the framework of the ex ante evaluation as part of the Strategic Environmental Assessment of the Programme.

The activities developed in the framework of the SEA so far have been:

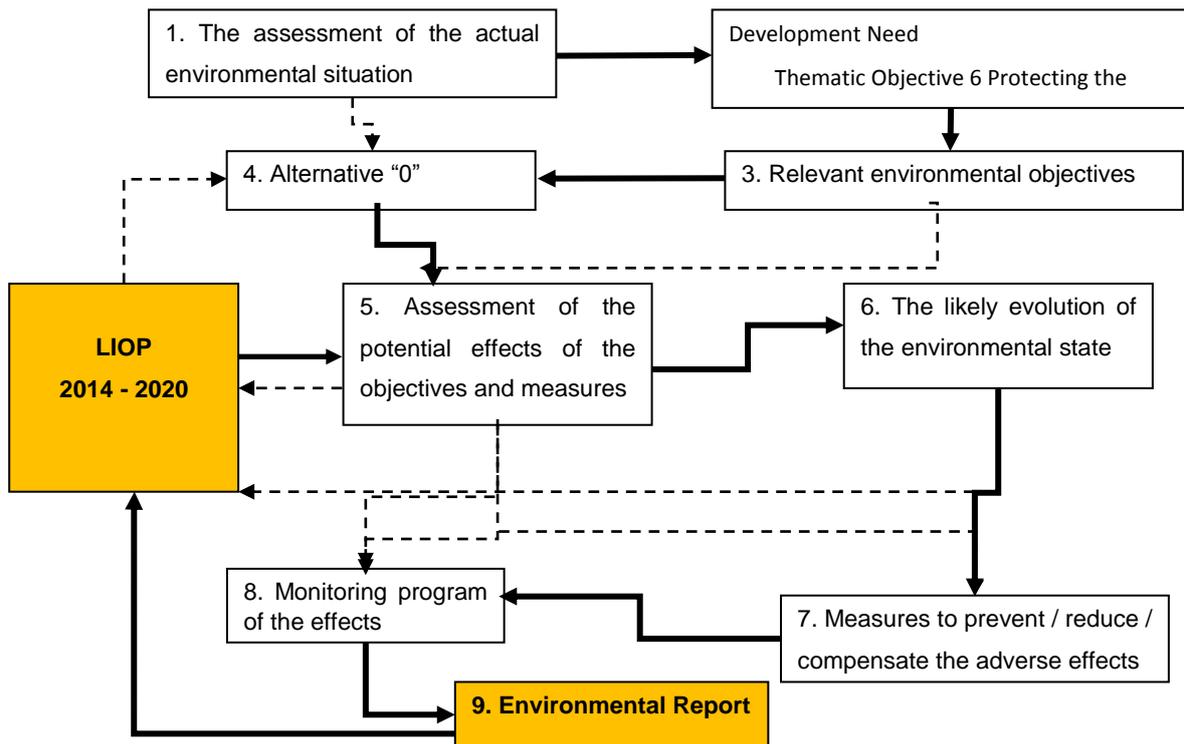
- Exposing the contents and the main objectives of LIOP as well as identification of national plans and programmes, strategies, relevant to LIOP priority axes and activities;*
- The assessment of the actual environmental situation, covering: definition of the area covered by the SEA, collection of baseline environmental information on the state of the environment and natural resources of the area, the interactions between these and the main development objectives supported by the LIOP, as well as the likely evolution in the case of non-implementing the proposed OP;*
- Establishing the relevant environmental objectives for LIOP, identifying measures for preventing the possible negative effects and indicators for monitoring of the possible significant environmental impacts of LIOP;*
- Participating at the first and second Working Group meetings and integrating of the observations and comments of the WG representatives into the environmental report;*
- Review of the LIOP according to relevant regional, national and EU environmental policies and legislation;*
- Assessment of the environmental implications of the development priorities within the LIOP and the degree of environmental integration in the LIOP objectives, priorities, targets and indicators.*

A strategic environmental evaluation (SEA) of the LIOP is currently underway according to the requirements of the Romanian legislation (Government Decision 1076/2004) which

transposes Directive 2001/42/EC regarding the assessment of effects of certain plans and programmes on the environment.

The main stages of the elaboration of LIOP Environmental Report are presented in the following scheme:

Figure 1: Stages of development of the Environmental Report



Specifically, the SEA consists of the following main steps:

- Assessment of the actual environmental situation, covering: definition of the area covered by the SEA, collection of baseline environmental information on the state of the environment and natural resources of the area, the interactions between these and the main development objectives supported by the LIOP as well as the likely evolution in the case of non-implementing the proposed operational programme (so called “alternative 0”, the one in which the LIOP would not be implemented);
- Identification of the environmental objectives, established at national, EU or international level, that are relevant to the operational programme, as well as the way in which these objectives and any environmental considerations were taken into account during the operational programme elaboration;
- Assessment of the environmental implications of the development priorities within the LIOP, as well as the degree of the environmental integration in the programme’s objectives, priorities, targets and indicators. Also, will be listed and assessed the positive and negative impacts deriving from the implementation of the LIOP proposed measures;
- Proposing measures to prevent, reduce /eliminate or compensate, as completely as possible, any adverse effect on the environment deriving from the implementation of the OP;

- Identification of alternatives (a comparison between the final version of LIOP with previous versions), by ensuring that environmental objectives and priorities are fully integrated into the LIOP draft, analysing the initiatives to be funded and the main alternatives for achieving the given development objectives;
- Establishing indicators for monitoring of the possible significant environmental impacts of LIOP;
- Integration of the SEA findings into the final drafting of the LIOP.

The first notification was submitted by MEF to MECC on 28th of January 2014. On 11th March 2014, the MECC communicated to the MEF the decision to start the Environmental Assessment (EA) for POIM 2014-2020, based on the requirements of GD 1076/2004, through letter MECC 114884, 114978/OP/11.03.2014. Through the same letter the structure of the Working Group was communicated.

The first Working Group took place on the 31st of March 2014, where the stage of the operational programme elaboration (thematic objectives, priority axes, etc.), the Financial Plan (2014-2020), the detailed specific objectives, the elaboration timing of LIOP were presented. Also, the SEA expert presented the main aspects related to the SEA, the detail level of the assessment, the assessment steps, the environmental aspects and objectives, as well as the relation to other national plans and programs related to the environment (biodiversity, waste, contaminated sites, flood, etc.). The expert noted that an integrated assessment will be done, with analysis focusing on the specific objectives.

In the second Working Group hold on the 19th of May 2014, there was a presentation of the new version of the LIOP and the main elements which were modified. Also, important topics of discussion were: validation of the relevant environmental objectives list (taking into account the proposals submitted by the representative of the Ministry of Health), the Appropriate Assessment for LIOP (according to Art. 6 of the Habitats Directive provisions), the completion of the major projects list, as well as the transboundary effects of LIOP. The SEA expert presented the draft version of the Environmental Report.

The relevant environmental objectives were presented and agreed within the working group. The main relevant environmental objectives refer to the following environmental aspects: biodiversity, population health, soil, water management, air quality and climate changes, climatic factors, material values, cultural heritage preservation, landscape preservation, energy efficiency, sustainable transport, waste management, conservation/efficient use of natural resources and raising public awareness on environmental issues.

During the second working group was agreed that, based on the existing information, the SEA procedure will be continued with the Appropriate Assessment procedure.

The environmental impacts of the proposed LIOP draft activities were assessed, in relation to the established environmental relevant objectives. While the Priority Axes 3, 4, 5, 6, 7 and 8 are expected to have, mostly, positive impacts, the Priority Axes 1 and 2 were found to have potential negative influence especially on the biodiversity and natural landscape.

The entire SEA analysis is structured on environmental aspects, which are the backbone of the analysis: an actual analysis with the formulation of an objective, of measures and indicators for each relevant environmental aspect, especially for those environmental objectives for which it is possible to appear significant effects deriving from LIOP implementation.

A second draft of the Environmental Report, integrating all the comments and suggestions of the 2nd working group was submitted to MEF and working group members on 6th of August 2014.

Currently MEF is conducting the procedure for selecting a consultant to conduct the Appropriate Assessment (AA) study. It is expected that the AA report will be submitted to the MECC until 1st of October. The conclusions of the AA will be included in the Environmental Report.

To conclude, the activities developed in the framework of the SEA so far have been:

- Presentation of the contents and the main objectives of LIOP, as well as identification of other national plans, programmes and strategies, relevant to LIOP priority axes and activities;
- The assessment of the actual environmental situation, as well as the likely evolution in the case of non-implementing of the proposed operational programme;
- Identification of the environmental objectives, established at national, EU or international level, that are relevant to the OP, as well as the way in which these objectives and any environmental considerations were taken into account during the operational programme elaboration;
- Assessment of the potential environmental effects of the development priorities within the LIOP, as well as the degree of the environmental integration in the programme's objectives, priorities, targets and indicators;
- The identification of measures to prevent, mitigate or compensate, as completely as possible, any adverse effect on the environment deriving from the implementation of the operational programme;
- Assessment of alternatives, by ensuring that environmental objectives and priorities are fully integrated into the draft LIOP;
- Establishing indicators for monitoring of the possible significant environmental impacts of LIOP;
- The review of the LIOP according to relevant regional, national and EU environmental policies and legislation;
- Participating at meetings with the representatives of MEF;
- Participating at the first and second Working Group meetings and integrating the observations and comments of the working group representatives into the Environmental report.