

Rome, August 2014

Republic of Bulgaria  
Ministry of Regional Development – DG Territorial  
Cooperation Management  
**EX-ANTE EVALUATION AND SEA OF THE BULGARIA –  
SERBIA IPA CBC PROGRAMME 2014-2020**

Environmental report



## TABLE OF CONTENT

<b>1 NON-TECHNICAL SUMMARY.....</b>	<b>4</b>
<b>2 INTRODUCTION .....</b>	<b>11</b>
2.1 PURPOSE AND OBJECTIVES OF SEA.....	12
2.2 METHODOLOGICAL APPROACH TO THE ASSESSMENT .....	13
2.3 METHOD OF ENVIRONMENTAL ASSESSMENT .....	13
2.4 CONSULTATION ON THE SCOPING REPORT .....	15
2.5 CONSULTATION ON THE ENVIRONMENTAL REPORT.....	15
<b>3 DESCRIPTION OF THE PROGRAMME CBC BULGARIA– SERBIA 2014-2020 .....</b>	<b>16</b>
3.1 GEOGRAPHICAL AREA OF RELEVANCE .....	17
3.2 RELEVANT PERIOD OF TIME .....	18
3.3 CORE CONTENTS OF THE PROGRAMME .....	18
3.3.1 <i>General framework and Programme content</i> .....	18
3.3.2 <i>Key objectives and priorities of the Programme</i> .....	19
3.4 RELATIONS TO OTHER RELEVANT PROGRAMMES AND STRATEGIES .....	29
<b>4 ENVIRONMENTAL POLICY FRAMEWORK: RELEVANT PLANS, PROGRAMMES AND ENVIRONMENTAL PROTECTION OBJECTIVES WHICH ARE RELEVANT TO THE PROGRAMME AND IDENTIFICATION OF SEA OBJECTIVES .....</b>	<b>32</b>
4.1 AIR AND CLIMATE .....	35
4.2 BIODIVERSITY, FAUNA AND FLORA.....	39
4.3 WATER .....	42
4.4 SOIL .....	45
4.5 POPULATION AND HUMAN HEALTH .....	48
4.6 CULTURAL/NATURAL HERITAGE AND LANDSCAPE.....	51
4.7 SEA OBJECTIVES AND EVALUTATION QUESTIONS.....	54
<b>5 CURRENT STATE OF THE ENVIRONMENT AND ITS LIKELY EVOLUTION WITHOUT THE IMPLEMENTATION OF THE PROGRAMME (ZERO-OPTION SCENARIO) .....</b>	<b>63</b>
5.1 AIR AND CLIMATE .....	64
5.2 BIODIVERSITY, FAUNA AND FLORA.....	70
5.3 WATER .....	77
5.4 SOIL .....	87
5.5 CULTURAL/NATURAL HERITAGE AND LANDSCAPE.....	93
5.6 CROSS CUTTING ISSUES.....	97
5.6.1 <i>Energy Overview on the cross-border area</i> .....	97
5.6.2 <i>The current state of mobility and transport system</i> .....	100
5.6.3 <i>Waste system in the Bulgaria - Serbia cross- border area</i> .....	103
<b>6 THE ENVIRONMENTAL CHARACTERISTICS OF AREAS LIKELY TO BE SIGNIFICANTLY AFFECTED .....</b>	<b>109</b>
<b>7 THE EXISTING ENVIRONMENTAL PROBLEMS ASCERTAINED AT DIFFERENT LEVELS WHICH ARE RELEVANT TO THE PROGRAMME INCLUDING, IN</b>	



PARTICULAR, THOSE RELATING TO ANY AREAS OF A PARTICULAR ENVIRONMENTAL IMPORTANCE.....	109
<b>8 POSSIBLE EFFECTS AND IMPACTS ON THE ENVIRONMENT RESULTING FROM THE IMPLEMENTATION OF THE PROGRAMME AND RECOMMENDATIONS TO MITIGATE SIGNIFICANT NEGATIVE EFFECTS.....</b>	<b>110</b>
8.1 EXPECTED EFFECTS AND IMPACTS OF THE ENVISAGED ACTIONS ON THE ENVIRONMENT.....	110
8.1.1 <i>Cumulative effects</i> .....	115
8.2 RECOMMENDATIONS AND SUPPLEMENTARY SUGGESTIONS.....	116
<b>9 REASONS FOR SELECTING THE ALTERNATIVES .....</b>	<b>116</b>
<b>10 DESCRIPTION OF THE MEASURES ENVISAGED CONCERNING MONITORING.....</b>	<b>117</b>
10.1 SEA INDICATORS.....	117
10.2 ENVIRONMENTAL SELF-ASSESSMENT .....	118
<b>11 CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>120</b>



## 1 Non-technical summary

According to the SEA Directive, the assessment of the effects on the environment for Programme IPA CBC Bulgaria Serbia 2014 – 2020 is required. The objective of this directive is *to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development*. For this reason, the **Environmental Report** (the main document of the SEA) evaluates possible environmental impacts related to Priorities Axes and Specific Objectives of the Programme and gives recommendations on how to enhance the quality of the programme in respect to environmental aspects. This Report is presented by the Managing Authority of the Programme and must be made available, together with the Operational Programme (OP), to the relevant authorities and the public in both participating countries for the **public consultation process**.

Main components of the Environmental Report are:

**Chapter 2** includes the description of methodological approach: how to assess environmental impacts, procedures to be followed according to SEA directive.

In **Chapter 3** there is the description of the Programme CBC Bulgaria – Serbia 2014 – 2020. Key objectives and priorities are indicated, as well as the distribution of financial resources:

PRIORITY AXES	% <sup>1</sup>
1. “Sustainable Tourism”	35%
2. “Youths”	25%
3. “Environment”	30%

Each Axis includes Specific Objectives and Indicative actions to be supported:

Priority Axis 1 “Sustainable Tourism”	
Specific Objective	Indicative actions to be supported
<b>SO-1.1.</b> <b>TOURIST ATTRACTIVENESS:</b> Supporting the development of competitive tourist attractions that contribute to the diversification of tourist product(s) in the cross-border region	<ul style="list-style-type: none"> <li>- Preservation of natural and cultural heritage (e.g. restoration and maintenance of sites of historical and cultural importance; conservation and protection of both tangible and non-tangible natural, historical and cultural heritage, etc.).</li> <li>- Development of small-scale support infrastructure to touristic attractions (e.g. rehabilitation of access roads; upgrade of public utilities related to natural, cultural and historic tourism sites; small touristic border crossings and related facilities; ICT facilities development/upgrade, etc.).</li> <li>- Development of additional small scale technical infrastructure, encouraging the visits to the tourist attractions (playgrounds; recreational and sports facilities; landscaping; signing and lighting; other support facilities serving tourist attraction and visitors).</li> </ul>

<sup>1</sup>10% on the total amount will be available for “Technical Assistance”.



	<ul style="list-style-type: none"> <li>- Development of joint transport access schemes and adventure routes (e.g. cross-border public transport to touristic sites; tourist paths and health paths, climbing, horse riding and biking routes, etc.).</li> <li>- Development of tourist attraction accessible to persons with disabilities (e.g. encouraging the modification of access points, washrooms, stairs, transportation vehicles, rough paths, etc.).</li> <li>- Development of information access facilities (e.g. info-centres and/or kiosks to guide potential visitors; joint GIS platforms; joint platforms for online reservations, payment, etc.).</li> </ul>
<b>SO-1.2.</b> <b>CROSS-BORDER</b> <b>TOURISTIC</b> <b>PRODUCT:</b> Valorising the favourable conditions for diversified tourism in the border area through creating common cross-border touristic destinations	<ul style="list-style-type: none"> <li>- Development of joint cross-border touristic destinations (e.g. improve development strategies and action plans based on innovative service concepts and products; carrying out joint researches on tourism demand for new tourist destinations; adoption of joint visitor management plans to ensure that tourism does not damage natural and cultural resources; risk management plans for cultural and natural heritage sites exposed to climate change; elaborating joint monitoring programmes to measure trends and impacts, and facilitate adaptive management of natural, cultural and historical heritage in the region, etc.).</li> <li>- Development of sustainable cross-border touristic products and services (e.g. research activities to identify tourist products with potential for cross-border branding; development of new and innovative tourist products and services; development of local brand/s based on natural, historical and cultural heritage of the border region; establishment of networks/clusters/entities for management of joint tourist products; creating knowledge networks for tourism innovations in the border area, etc.).</li> <li>- Joint marketing and promotion of cross-border tourist destinations and products (e.g. joint market perception analysis with the aim to assess the customer understanding of the border region as a consistent tourism destination; application of best practices in tourism promotion; preparation and dissemination of information and advertising materials; studies of the impact of the implemented marketing and advertising activities; organisation of tourism exhibitions and fairs; visualisation of local tourist products/ brand/s/ destinations, incl. 3D visualisation; mobile applications, social networks, tailor-made internet platforms, and other innovative tools; creating multi-lingual on-line tourist platforms, etc.).</li> </ul>
<b>SO-1.3.</b> <b>PEOPLE-TO-PEOPLE</b> <b>NETWORKING:</b> Capitalise the effect of cultural, historical and natural heritage tourism on border communities	<ul style="list-style-type: none"> <li>- Support for public awareness activities and information services (e.g. awareness raising campaigns on the values of cross-border cultural, historical and natural heritage, incl. joint events among youth; dissemination of relevant information to the touristic providers in the border region; organizing travel forums to promote effective two-way communication; participation and involvement of local touristic enterprises in recognizing and solve common problems; organisation of different events such as conferences, forums, seminars, platforms and networking meetings in order to improve the recognition and trust among existing partners and to assure the political commitment at all levels, etc.).</li> <li>- Capacity building activities addressed to local community and business (e.g. training and consultancy support services for tourist enterprises/establishments to improve skills and performance; organising online forums for exchange of good practices in sustainable tourism management; support the cooperation of public and private institutions in fields of competence, etc.).</li> </ul>



	<ul style="list-style-type: none"> <li>- Organization of joint events to promote cross-border natural and cultural heritage (e.g. promotion and cultivation of the common traditions of the borderland areas; support to activities in the fields of multiculturalism, cultural exchange and the establishment of connections on field of creative industry in order to increase cultural diversity; organisation of festivals, exhibitions, performances, etc.).</li> </ul>
--	--

Priority Axis 2 “Youths”	
Specific Objective	Indicative actions to be supported
<b>SO-2.1.</b> <b>SKILLS &amp; ENTREPRENEURSHIP:</b> Creating an attractive environment for development of young people in the border region	<ul style="list-style-type: none"> <li>- <b>Development of youth-related small-scale infrastructure, and training and information facilities</b> (e.g. construction/ reconstruction/ rehabilitation/ refurbishment of youth, education-related and recreational infrastructure and facilities – for instance: lecture facilities, libraries, laboratories, sport facilities, campuses; investments to ensure physical accessibility to youth and education-related and recreational infrastructure and facilities; investments in ICT- facilities’ development and upgrade, etc.).</li> <li>- <b>Development of small-scale “entrepreneurship” infrastructure</b> (e.g. business incubators, shared workspace, start-up factories and “start-up garage”, equipment provision/sharing, etc.).</li> <li>- <b>Support to youth entrepreneurship schemes and initiatives</b> (e.g. initiatives to encourage learning in support of young people’s innovation, creativity and entrepreneurship; students’ mini-companies, school-entrepreneur/ business activities and events; simulation games [e.g. computer-based]; business skills training, guidance and counselling services [one-stop-shops and youth enterprise centres, on-the-job training and workshops, mentor support and business coaching, online portals and web sites, etc.]; support to joint market initiatives and networking, incl. promotion and marketing campaigns for youth entrepreneurs, etc.).</li> </ul>
<b>SO-2.2.</b> <b>PEOPLE-TO-PEOPLE NETWORKING:</b> Promote sustainable, long-term and collaborative initiatives for and with young people, including enhancing mobility of young people	<ul style="list-style-type: none"> <li>- <b>Support to youth networking initiatives</b> (e.g. promotion of young people’s participation in representative democracy and civil society; cross-border initiatives aimed at combating youth poverty and social exclusion; community initiatives to support and recognize the value of youth volunteering; supporting youth capacity and opportunities to be creative and youth access to culture; cross-border initiatives for promotion of health and well-being of young people, etc.).</li> </ul>

### Priority Axis 3 “Environment”



Specific Objective	Indicative actions to be supported
<b>SO-3.1. JOINT RISK MANAGEMENT:</b> To prevent and mitigate the consequences of natural and man-made cross-border disasters	<ul style="list-style-type: none"> <li>- Establishing joint early warning and disaster management systems (e.g. surveys of actually applied procedures, policies and measures for disaster protection, prevention and provisions; establishing spatial data base for disaster risk assessment, containing terrestrial, meteorological and sociological features; preparing joint plans and procedures for emergency situation liquidation and disaster force accumulation responding to the incidents and emergency situations; developing joint protocols and communication channels for risk prevention and management of natural and man-made disasters, etc.).</li> <li>- Investments in equipment related to disaster resilience (e.g. up-to-date ICT solutions in pre-fire, fire and post-fire activities; supply of specialized fire-fighting equipment; supply of specialized equipment for floods prevention, and for search and rescue interventions; supply of system for air surveillance of the surface and real time transmission of data, etc.);</li> <li>- Support of small-scale interventions/investments (e.g. sanitation and reforestation of river banks; building flood defence like dikes and canals; forestation of non-permanent vulnerable land; cuttings for emergency situations, etc.);</li> <li>- Capacity building related to disaster resilience (e.g. conducting joint theoretical-tactical exercises and field trainings for emergency situations management; trainings in the use of ICT technologies for risk management; exchange of experience and good practice (study visits, round-tables, conferences); joint trainings and raising awareness of public service actors and population (volunteers) for disaster resilience, etc.).</li> </ul>
<b>SO-3.2. NATURE PROTECTION:</b> To enhance the capacity of regional and local stakeholders for improved environmental and natural resources management in the border region	<ul style="list-style-type: none"> <li>- Protection and enhancement of biodiversity, nature protection and green infrastructure (e.g. joint initiatives targeting the effective management of environmental resources; joint initiatives towards the protection and restoration of ecosystems and endangered and protected flora and fauna species; preservation and improvement of the quality of natural resources (air, soil, water); introduction of Low Carbon practices shared for adaptation climate change and mitigation of their consequences, etc..</li> <li>- Capacity building and promotion initiatives (e.g. provision of training to local and regional authorities in the field of environment related matters, such as waste or protected areas management; establishment of help-desks with mobile expert groups helping regions and cities resolving environmental problems; creating networks for exchange of good practices; awareness raising on all levels (individual persons, organizations, businesses, public administration, schools) on issues related to environmental and nature protection, including marginalized communities and other vulnerable groups).</li> </ul>

**Chapter 4** considers the environmental policy framework at European (“7<sup>th</sup> EU Environmental Action Programme (EAP)”, “Europe 2020 Strategy”, “EU Sustainable Development Strategy”, “EUSDR (EU Strategy for the Danube Region) Action Plan”) and national level, both for Bulgaria and Serbia.

The analysis of these documents has allowed pointing out the “SEA Objectives” for each of the environmental issue:





Environmental Issue	SEA Objectives
<b>Air and Climate</b>	<ol style="list-style-type: none"> <li>1. Reduction of air pollution</li> <li>2. Reduction of the GHG emissions</li> <li>3. Improvement of energy efficiency and increase of use of renewable energy resources</li> <li>4. Support of environmentally friendly transports</li> <li>5. Promotion of fire fight management and prevention</li> <li>6. Promotion of resilience to climate change and climate-related disasters</li> <li>7. Promotion of responsible behaviour of the public by involving the citizens into fighting climate change</li> </ol>
<b>Biodiversity, Flora and Fauna</b>	<ol style="list-style-type: none"> <li>1. Preservation of biodiversity, habitats and ecosystems and their services</li> <li>2. Preservation of the natural diversity of fauna, flora, and habitats in protected areas and Natura 2000 sites</li> <li>3. Protection of endangered species (plants and animals)</li> <li>4. Decrease in loss of biodiversity</li> <li>5. Promotion of responsible behaviour of the public by involving the citizens in protecting biodiversity and natural areas</li> <li>6. Promotion of tourism that would ensure high degree of nature conservation</li> </ol>
<b>Water</b>	<ol style="list-style-type: none"> <li>1. Reduction of water pollution from point and diffuse sources</li> <li>2. Reduction of eutrophication</li> <li>3. Improvement of ecological and chemical status of water bodies</li> <li>4. Promotion of sustainable use of water resources</li> <li>5. Reduction of flood risks</li> <li>6. Promotion of sustainable tourism towards water resources preservation</li> <li>7. Promotion of responsible behaviour of the public by involving the citizens into sustainable water use</li> <li>8. Prevention of accidental contamination of surface waters</li> <li>9. Conservation of areas of water protection</li> </ol>
<b>Soil</b>	<ol style="list-style-type: none"> <li>1. Preservation of the soil functionality</li> <li>2. Reduction of soil degradation and pollution</li> <li>3. Promotion of sustainable use of soil resource</li> <li>4. Reduction of waste generation, increase in waste recovery and recycling of all waste</li> <li>5. Promotion of sustainable tourism towards land preservation</li> <li>6. Promotion of sustainable land management preventing risk and hazards</li> <li>7. Promotion of responsible behaviour of the public by increasing education and awareness on soil protection</li> </ol>
<b>Population and Human Health</b>	<ol style="list-style-type: none"> <li>1. Reduction of diseases caused by environmental risks</li> <li>2. Prevention of environmental noise exposure</li> <li>3. Promotion of controls of environmental related health risks and hazards</li> <li>4. Promotion of risk prevention and management of natural and man-made disasters</li> <li>5. Promotion of sustainable waste management to protect human health</li> <li>6. Promotion of environmentally-responsible behavior of the public by involving the citizens into the solution of environmental problems</li> </ol>
<b>Cultural/Natural Heritage and Landscape</b>	<ol style="list-style-type: none"> <li>1. Protection and rehabilitation of cultural and natural heritage</li> <li>2. Promotion of sustainable management and planning of cultural and natural landscape</li> <li>3. Promotion of sustainable use of natural resources towards sustainable tourism</li> <li>4. Promotion of responsible behaviour of the public by increasing education</li> </ol>





Environmental Issue	SEA Objectives
	<i>and awareness on heritage and landscape preservation and protection</i>

Different evaluation questions related to each objective have been identified as well.

**Chapter 5** describes the current state of the environment in the Programme's area for each environmental parameter. This description is functional to the identification of the main characteristics of the area (**Chap. 6**) and the identification of main environmental problems (**Chap. 7**), that indicates the following risks:

- Droughts, floods, forest fires, landslides (high risks)
- Water pollution (moderate risks)
- Air pollution (low risks)

and relevant Weaknesses and Threats:

Weaknesses:

- Low level of disaster management systems and emergency preparedness
- Underdeveloped solid waste treatment infrastructure and waste-water facilities
- Insufficient management systems of hazardous waste

Threats:

- Insufficient financial sources from state budget for financing environmental infrastructure
- Inefficient fire fight management and fire prevention measures

**Chapter 8** describes the expected effects of the envisaged actions on the environment, considering actions foreseen of the Programme, objectives for environmental protection at European and national level, state of the environment, environmental problems.

In general, **likely significant effects** and impacts on the environment resulting from the implementation of the Programme are **primarily of indirect nature**, even if in some case impacts could also be more direct.

Priority Axis 1 Sustainable tourism: the Specific Objective on Tourist attractiveness is expected to produce an augmentation of tourist presence induced by Programme's initiatives. This - if not properly managed - could originate different environmental risks, that the approach promoted by the IPA CBC Programme should be able to avoid:

- negative effects on air pollution caused by increased traffic will be counterbalanced by the improvement of sustainable transportation system;
- in some natural habitat (especially protected areas) threats of negative effect on biodiversity, flora and fauna can be avoided adopting existing regulation concerning restrictions for their utilisation, or identifying appropriate norms, if not existing;
- improvement of water supply and sewerage systems will absorb the increased consumption of water and negative effects on water quality
- Restoration/maintenance of sites of historical and cultural importance and conservation/protection of natural and cultural heritage will allow preserving and improving traditional landscape.



The overall sustainability of this Axis is strengthened by the awareness raising campaigns on the values of regional cultural and natural heritage (particularly important for youths).

Priority Axis 2 Youths: it can be estimated that actions foreseen by the Programme cannot originate significant environmental effects. Nonetheless, some positive consequence can be expected in case - among others subjects considered by business training initiative - also environmental issues should be included, allowing to improve environmental awareness of young entrepreneurs.

Priority Axis 3: Environment: this component tackles directly the most important environmental issues of the project area, namely prevention of natural disasters and water pollution. SO 3.1 deals with risk management, promoting a joint approach between Bulgaria and Serbia in order to set up an early warning and disaster management system, including investments for equipment, small scale intervention (reforestation, flood defence, etc.), as well as immaterial actions such as communication and awareness campaigns for risks prevention. The initiatives of SO 3.2 Nature protection are related to material investments in protected areas and protection/restoration of ecosystems / endangered flora and fauna species, determining positive impacts on biodiversity, traditional landscape, improved resilience to climatic changes.

The following **recommendations** mainly concern interventions of Priority Axis 1 Sustainable tourism:

- Programme's initiatives are expected to induce the development of private initiatives related to tourist sector, but this growth must go hand in hand with the upgrade of related infrastructures (water and sewerage systems, transport facilities, etc.), otherwise the sustainability of the whole system could be weakened;
- Similarly, also an uncontrolled development of tourist structures could lead to a depletion of the natural, historical and traditional heritage of the area and of the related local landscape. Therefore, it could be appropriate to prepare specific legislation on permits for new facilities/tourist accommodation/buildings, that must be coherent with the traditional landscape, utilising possibly local materials and construction techniques;
- Identification/application of specific restrictions for utilisation of natural areas needing of specific protection should be foreseen, where appropriate;

An additional consideration - to be utilised mainly as a contribution to the strengthening of the positive effects of the Programme on the environment – deals with the opportunity to include environmental issues in the framework of general support assured to young entrepreneurs (Priority Axis 2, SO 2.1).

**Chapter 9** states that no alternatives can be found for the Programme, while in **Chapter 10** are illustrated the relevant indicators for the monitoring and an example of Self –assessment questionnaire.



## 2 Introduction

The Regulatory framework for the period 2014-2020 drives European policies, as the Cohesion Policy, towards results in order to contribute to the Europe 2020 Strategy for a smart, sustainable and inclusive growth. To this end, the Common Provision Regulation (1303/2013) increases the importance of well-designed programmes taking into great account European, national and regional needs as well as the expected results. In this framework, the role of ex-ante evaluation is reinforced as an essential support to programming authorities in designing Operational Programmes' architecture (clearly organising their intervention logic and defining their contribution to Europe 2020 strategy) and in outlining suitable implementing and monitoring devices to meet evaluation requirements.

Where appropriate, the ex-ante evaluation shall be combine with the **Strategic Environmental Assessment (SEA)** carried out according to the European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, known as the SEA Directive. The objective of this directive is *to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development* by ensuring that an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.

In this context, as it cannot be excluded that the future IPA Cross-border Cooperation Programme Bulgaria-Serbia 2014-2020 might trigger positive and/or negative environmental effects, a Strategic Environmental Assessment (SEA) is therefore required.

For that, the **Environmental Report** at hand – the main document of the SEA – evaluates possible environmental impacts related to Priorities Axes and Specific Objectives of the Programme and gives recommendations on how to enhance the quality of the programme in respect to environmental aspects.

The Environmental Assessment of the IPA CBC Bulgaria-Serbia Programme 2014-2020 follows the SEA process steps corresponding to the typical programming stages within the Cohesion Policy, as defined in the *"Guidance document on ex-ante evaluation (2014-2020)"*.

It has to be noted that the IPA CBC Bulgaria-Serbia Programme 2014-2020 is a European Cross border cooperation programme which aims to support, through Instrument for Pre-accession Assistance (IPA), the reforms in the "enlargement countries" with financial and technical help. The IPA Programme gives support for political reforms and for economic, social and territorial development - with a view to smart, sustainable and inclusive growth - and promotes regional integration and territorial cooperation. This means that the IPA CBC Bulgaria-Serbia Programme 2014-2020 mainly promote "soft factors"<sup>2</sup> (such as the building of and increasing of capacities including exchange of knowledge and good practices among the participating countries) with limited direct effects on the environment that are thought the

---

<sup>2</sup>Anyway, the Programme also provides support for small-scale infrastructures.



process of SEA<sup>3</sup>. Nevertheless, the promotion of “soft factors” forms the basis for further investment activities.

Following the SEA procedure and in accordance with Bulgarian and Serbian legislation on Environmental Assessment, this SEA Report (**Environmental Report**) is presented by the Managing Authority of the Programme and must be made available, together with the Operational Programme (OP), to the relevant authorities and the public in both participating countries for the **public consultation process** (see paragraph 2.5).

## 2.1 Purpose and objectives of SEA

In compliance with the requirements of the Directive 2001/42/EC and the national Bulgarian regulation<sup>4</sup>, the SEA aims at assessing the possible impacts on the environment of the IPA CBC Bulgaria-Serbia Programme 2014-2020 implementation. The purpose of the SEA is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development. The SEA is carried out during the preparation of the programme and will be completed before the submission to the Commission of the programme.

The first step within the SEA, the **scoping process**, was undertaken to decide upon the scope and level of detail of the information which must be included in the Environmental Report. Correspondingly, a Scoping Report was developed and consulted with relevant authorities.

To enable the identification of interactions between the Programme and the environment, this **SEA Report** includes a review of the current state of the environment which is discussed in separate components (biodiversity, soil, water, air, etc.) in Chapter 5, and a description of the core contents of the Programme, in particular the Intervention Logic (overall objective, thematic priorities, priority axes, actions to be supported).

The Environmental Report provides, among other things, an **assessment of likely significant effects of the Programme** including secondary, cumulative, short-term and long-term, positive and negative effects of the activities under the Priority axes, taking into account the objectives and the geographical scope agreed upon within the scoping phase. Another important part of the Environmental Report are the recommendations on how to enhance the environmental impact of the Programme and to prevent, reduce and offset adverse effects. Alternatives are also considered, including the zero-option, which is defined

<sup>3</sup>In this context it should be noted that the Programme sets a framework for cross-border cooperation in small budget and “networking” projects activities with environmental considerations strongly present in it. This cannot be connected with significant immediate adverse environmental impacts. In this context, what has been primarily analysed is whether the Programme contribute to a development framework with indirect, long-term negative impacts. At the same time, long-term environmental benefits have been brought out and enhanced.

<sup>4</sup>Bulgaria transposed the SEA Directive through the Environmental Protection Act No. 91/2002 and by the Ordinance for the conditions and the order for implementing ecological assessment of plans and programmes (Adopted by Council of Ministers Decision № 139 of 24.06.2004, as last amended SG 94 of 30.11.2012).



as the “baseline” for the overall assessment process. Finally the Environmental Report present different types of measures which can contribute to monitoring of possible significant environmental effects resulting from the implementation of the IPA CBC Bulgaria-Serbia Programme 2014-2020.

## 2.2 The Environmental Report is based on the draft of the Programme June 2014 vers. 1 – which, together with the Environmental Report, will be subject to public consultation. The environmental report is updated in response to the consultation process and to the final version of the OP approved in August 2014<sup>5</sup>. Methodological approach to the assessment

---

With regard to the **assessment methodology**, the SEA of the Programme has been done in an **iterative process**, based on interim results of the programming process and in close co-ordination with the programming and the ex-ante evaluation team. The assessment is based, *in primis*, on a **quality approach**<sup>6</sup>.

More specifically, **methods and techniques** utilised for environmental assessment and completion of this Environmental Report are those listed in the Commission guidance documents and reports on the application of the SEA Directive, in particular in the following documents:

- Handbook on SEA for Cohesion Policy 2007-2013" (Handbook on SEA) - January 2006, "Green/environmentally friendly regional development programmes";
- Guidance on "Implementation of Directive 2001/42 on the assessment of the effects of certain plans and programmes on the environment;
- Guidance on integrating climate change and biodiversity into Strategic Environmental Assessment - EA, 2013.

National specific legislation, manuals and guidelines developed by Bulgaria and Serbia were also taken into account.

## 2.3 Method of environmental assessment

---

The **environmental assessment** has been performed with an identification of the possible effects and impacts resulting from the implementation of the Programme, taking into account their probability, scale, frequency/duration, reversibility, transboundary dimension, uncertainty.

The **assessment of likely effects on environment resulting from the Programme** has been **conducted at the level of Priority Axis and their corresponding Specific Objectives**, taking into account the cross-border actions to be supported.

In this context the assessment at the programme level can only provide a general outline of possible environmental effects. This is due to the fact that more detailed information on the likely environmental effects will occur at the implementation phase of the funded projects.

---

<sup>5</sup> The Final Draft version of IPA CBC Bulgaria-Serbia Programme 2014-2020 was approved during the final Joint Working Group meeting on the 19 of August 2014 in Sofia

<sup>6</sup> Anyway, the "toolbox" used includes both qualitative (checklists, matrices, etc.) and quantitative (indicators, simple or synthetic indices) tools, as well as intermediate tools.



The environmental assessment have been guided by the following **central question**:

*“Do the Specific objectives (and corresponding cross-border actions) related to the Priority axes identified in the in the Bulgaria-Serbia IPA CBC Programme 2014-2020 have a significantly positive or negative effect on the environmental issues (air and climate; biodiversity, fauna and flora; water ;soil; population and human health; cultural/natural heritage and landscape – and their related cross-cutting themes) in the Programme’s area?”*

To answer the central question the assessment has been supported by guiding **Evaluation Questions** consolidated through the identified SEA Objectives (see § 4.7).

The environmental assessment has been carried out on the basis of the following 5-point-scale

POINT SCALE	DESCRIPTION
+	Possible positive environmental effects
-	Possible negative environmental effects
+/-	Both possible positive and negative environmental effects
0	No significant environmental effects
/	Assessment is not possible (limited availability of information)

The results of the analysis are given in an **environmental assessment matrix**. Cross-cutting themes have been integrated into the assessment of the respective environmental issues. Accordingly, the themes “use of renewable energy sources”, “energy efficiency” and “mobility and transport” have been assigned to “air and climate”; the theme “risk management” have be assigned to the issues “population and human health”, “air and climate”, “soil” and “water”; the theme “sustainable use of natural resources” have be assigned to the issues “water” and “soil”; the theme “waste management and prevention” have be assigned to “soil” and “population and human health”; the theme “adaptation to climate change” have be assigned to the issues “air and climate”, “biodiversity, fauna and flora” and “water”; the theme “sustainable tourism” have be assigned to the issues “biodiversity, fauna and flora”, “water”, “air and climate”, “soil” and “cultural/natural heritage and landscape”; finally the cross-cutting theme “environmental education and awareness raising on environmental issues” have be integrated into the assessment of all the issues selected.

In the context of environmental assessment matrix, the Environmental Report provides a **qualitative description of the potential positive or negative effects (direct, indirect and**





**cumulative**) of the Programme's Specific Objectives and activities on the respective environmental issues ("**findings**" of the analysis), with **recommendations to prevent, reduce** and as fully as possible **offset** any significant **adverse effects** on the environment of implementing the Programme. These recommendations are also referred to criteria to use in course of the project selection, including eligibility and quality criteria in terms of environmental impact.

## 2.4 Consultation on the Scoping report

According to the SEA Bulgarian Regulation for the terms and conditions of the Environmental Assessment of plans and programmes (EA Regulation, Art. 19a) a public consultation of the Scoping Report is obligatory.

The **Scoping Report** was made available to the relevant authorities<sup>7</sup> which by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans and programmes, in order to receive their professional comments.

All the environmental authorities and relevant bodies of both participating countries consulted on the Scoping Report had **14 days to send their remarks**. In this period of time were received the remarks from:

- **Basin Directorate for Water Management Danube region;**
- **Regional Inspectorate of Environment and Waters – Montana (Bulgaria);**
- **Regional Inspectorate of Environment and Waters – Pernik (Bulgaria);**
- **Ministry of Environment and Water of the Republic of Bulgaria;**
- **Basin Directorate for Water Management West Aegean – Blagoevgrad;**
- **Ministry of Health of the Republic of Bulgaria.**

All of the observations received were taken into account for the implementation of the assessment of the environmental effects of the Programme and the implementation of the Environmental Report.

## 2.5 Consultation on the Environmental report

According to the SEA Directive and the national SEA laws, the **Environmental Report**, its **Non Technical Summary** and the draft of the Operational Programme (OP) must be made available to the relevant authorities and the public in both participating countries for the consultation phase of **30 days**.

The SEA directive makes the following requirements concerning the consultation of the Environmental Report:

- *"2. The authorities referred to in paragraph 3 and the public referred to in paragraph 4 shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme or its submission to the legislative procedure.*

<sup>7</sup>As identified in the Scoping Report.





- 3. Member States shall designate the authorities to be consulted which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans and programmes.
- 4. Member States shall identify the public for the purposes of paragraph 2, including the public affected or likely to be affected by, or having an interest in, the decision-making subject to this Directive, including relevant non-governmental organisations, such as those promoting environmental protection and other organisations concerned.
- 5. The detailed arrangements for the information and consultation of the authorities and the public shall be determined by the Member States."

In the **SEA public consultation process** of Bulgaria-Serbia IPA CBC Programme 2014-2020 should at least be involved:

- the **competent authority** and other interested and relevant **environmental authorities**<sup>8</sup>;
- the **Districts authorities** of the eligible area of the Programme;
- **representatives of the public and third parties**, which can be affected by the programme implementation;
- **non-governmental organizations** (NGOs);
- environmental agencies, professional associations, employer's organizations, trades unions, associations of local self-government, foundations, independent research institutes, the not-for profit media, etc..

The consultations will be formal and (eventually) informal. Formal consultations will be conducted by: official letters (on paper or by e-mail), publications in mass media and/or website of the Managing Authority of the Programme, and the competent authorities; official letters and publications in the press and on the Internet for consultations with the public, the interested authorities and third parties who are likely to be affected by the Programme. Informal consultation could be conducted through informal meetings between SEA experts and representatives of the Managing Authority, representatives of the competent authorities, national authorities.

After the consultation process all the responses will be collected and explanation shall be given showing how the Environmental Report and the consultation replies have been taken into account in the final Programme.

### 3 Description of the Programme CBC Bulgaria– Serbia 2014-2020

<sup>8</sup>As identified for the Scoping Report **Ministry of Environment and Water; Ministry of Health; Regional Inspectorates of Environment and Water (Montana, Sofia, Pernik and Vratsa); Basin Directorates "Danube River" and "West Aegean region"**. In Serbia the **Ministry for Energy, Development and Environmental Protection** (departments for planning and management in environment sector, for Environmental Protection, for Energy Efficiency and Renewable Energy Sources) – competent authority; the **Agency for Environmental Protection**; the **Energy Agency** of the Republic of Serbia and **Institute for Nature Conservation** of Serbia.



### 3.1 Geographical area of relevance

Geographically, the analysis of the current state of the environment, the description of development trends (zero-option scenario) and the assessment of possible effects resulting from the implementation of the IPA CBC Programme between Bulgaria and the Serbia cover the eligible area of the Programme (see Figure 1), located in the Central part of the Balkan peninsular with a territory of 43.933 km<sup>2</sup> and a population of 2.144.054 inhabitants, which represents 14.7% of the total population of both countries. The common Bulgarian-Serbian border area includes, at NUTS 3 level, 13 administrative units: 6 districts in Bulgaria: Vidin, Montana, Vratsa, Sofia, Pernik, Kyustendil; and 7 districts in Serbia: Zaječarski, Jablanički, Nišavski, Pirotski, Pčinjski, Toplički, Borski.

The core Programme area remains in larger part the same as in the period 2007-2013, with the addition of 2 districts: on the Bulgarian side – the Vratsa district, and on the Serbian side – the Toplička district.

**Fig. 1 Eligible area of the Programme**



Source: Description of the CBC Programme Region



## 3.2 Relevant period of time

Environmental trends and Programme effects will be assessed throughout the programming period 2014-2020, until the Programme implementation deadline and, when programme effects are considered as long term, even further on (**relevant period for trend and effects**).

## 3.3 Core contents of the Programme

### 3.3.1 General framework and Programme content

The IPA CBC Bulgaria-Serbia Programme 2014-2020 is an European cooperation Programme, which aims to *foster territorial cohesion by increasing cross-border relations mainly through the implementation of actual interventions on the territory and its economy and through the support of inter-linkages among the local actors and the local communities (Overall Objective)*.

The strategic orientation of the Programme considers both EU policies and regulatory framework as well as the specific situation and needs of the Programme area<sup>9</sup>.

Regarding EU strategic and regulatory documents, the most relevant<sup>10</sup> for the Programme are:

- the **Europe 2020 Strategy**<sup>11</sup>;
- the Framework regulation on the implementation of **ETC initiatives**<sup>12</sup>;
- the **IPA II regulation**<sup>13</sup>;
- the Commission staff working document “**Elements for a Common Strategic Framework 2014 to 2020**”<sup>14</sup>;
- the (draft) **EC Partnership Agreement of the Republic of Bulgaria**<sup>15</sup>;
- the **Stabilisation and Association Agreement (SAA) between the EU and Serbia**<sup>16</sup>.

<sup>9</sup>The strategic orientation further reflects the CBC relevance of potential interventions.

<sup>10</sup>See par. 3.4 for more documents.

<sup>11</sup>This Union Strategy put forward three mutually reinforcing priorities:

- Smart growth: developing an economy based on knowledge and innovation;
- Sustainable growth: promoting a more resource efficient, greener and more competitive economy;
- Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.

<sup>12</sup>Regulation (EU) No 1299/2013 of the EP and the Council of 17 December 2013.

<sup>13</sup>Regulation (EU) No 231/2014 of the EP and the Council of 11 March 2014.

<sup>14</sup>The document suggests, in Annex II, a number of characteristics of transnational and cross-border cooperation. Cross-border cooperation, in particular, is characterised by some features, which can be summarised as: coverage of large areas with a high diversity of regions and often conflicting interests; limited budgets in relation to the covered area, population and time frame, which often contradict the scope and objectives of cooperation initiatives; limited ability to deliver direct investment effects, acting as an auxiliary to mainstream programmes; mainly intangible results.

<sup>15</sup>Draft Partnership Agreement of the Republic of Bulgaria outlining the Support from the European Structural and Investment Funds for the 2014-2020 Period, submitted to the EC in April 2014. The Partnership Agreement between Bulgaria and the European Commission defines as main priority areas for cooperation: environmental protection, promotion and development of natural and cultural heritage, tourism and education and social infrastructure, with special emphasis on employment promotion, labour mobility and poverty reduction.



The Bulgaria-Serbia IPA CBC Programme (2014-2020) also considers how it could potentially contribute to implementing **Macro-regional strategies**—in particular, **EU Strategy for the Danube Region (EUSDR)**—and takes into consideration and seeks the respective complementarity and demarcation with **National and regional strategies of Bulgaria and Serbia**(see par. 3.4).

In addition, the following **horizontal principals** are taken into consideration for the strategic orientation of the Programme:

- **Sustainable development;**
- Equal opportunities and non discrimination, and
- Equality between man and women.

In particular, sustainable development is one of the main pillars of IPA CBC Programme Bulgaria-Serbia (2014-2020) that supports several specific objectives that focus fully on sustainable development.

### 3.3.2 Key objectives and priorities of the Programme

The process carried on for the definition of Programme priorities has been characterized by the elaboration of a Regional Analysis and the Analysis of Strengths, Weaknesses, Opportunities, Threats (SWOT) and Needs/Challenges for the Programme's intervention area.

In a final analytical step the results, *in primis*, of the territorial situation as well as the results of the SWOT analysis and need assessment have been “translated” into a “priorisation” and a list of 3 out of 8 **Thematic Priorities** for assistance for territorial cooperation for the period from 2014-2020, as identified in the Annex III of the IPA II regulation:

1. Thematic priority 4:**Encouraging Tourism and cultural and natural heritage;**
2. Thematic priority 5:**Investing in Youth education and skills;**
3. Thematic priority 2:**Protecting the environment and promoting climate change adaption, risk prevention and management.**

The selected thematic priorities have been structured into **three Priority Axes (PA)**, which reflect the needs and challenges as identified in the situation analysis of the Programme area:

**Tab. 1 Priority Axes identified**

THEMATIC PRIORITY	PRIORITY AXIS
4.Encouraging Tourism and cultural and natural heritage	1. “Sustainable Tourism”
5.Investing in Youth education and skills	2. “Youths”
2.Protecting the environment and promoting climate change adaption, risk prevention and management	3. “Environment”

<sup>16</sup>Entered into force in September 2013.



The provisional Programme's budget is set out at max. 29 Mio EUR (EU contribution). The programming team have proposed the following proportionate distribution of the financial resources available among the 3 Priority Axes:

**Tab. 2 Distribution of the Programme's financial resources**

PRIORITY AXES	% <sup>17</sup>
2. "Sustainable Tourism"	35%
4. "Youths"	25%
5. "Environment"	30%

The proposed **Intervention Logic of the Bulgaria-Serbia IPA CBC Programme 2014-2020**<sup>18</sup>(see the tables below) is structured in **Specific Objectives (SO)** for each PA, the **results** that are seek to be achieved with the Programme, and the **indicative actions** to be supported under each specific objective.

The selection of the projects will be made at level of 'SO and carried out following a standardized assessment procedure using the following **sets of criteria**:

- **Strategic coherence**: this criterion examines the coherence and contribution of each project application to the relevant Programme's SO, while addressing in a coherent way the achievement of the Programme's specific results envisaged. Furthermore, the cross-border added value of the operation, its territorial dimension and the relevance of the partnership will also be assessed in this context.
- **Operational quality**: this criterion examines the design of the project application in relation to clarity and coherence of the operational objectives, activities and means, feasibility, efficiency, communication of the project and its specific results, potential for uptake and embedment into operative procedures of the partners involved.
- **Compliance to horizontal principles**: this criterion examines the coherence and contribution of each project application to the Programme's Horizontal Principles and the demonstration of their integration and advancement within the project proposal intervention logic.

**Tab. 3 Priority Axis 1 intervention Logic**

**Thematic Priority: "Encouraging Tourism and cultural and natural heritage"**

Priority Axis 1 "Sustainable Tourism"		
Specific Objective	Results	Indicative actions to be supported
<b>SO-1.1.TOURIST ATTRACTIVENESS:</b> Supporting the development of competitive tourist attractions that contribute to the diversification of	<b>R-1.1.1</b> Increased tourist attractiveness of the cross-border area through better utilisation of natural, cultural and historical heritage and	<ul style="list-style-type: none"> <li>- <b>Preservation of natural and cultural heritage</b> (e.g. restoration and maintenance of sites of historical and cultural importance; conservation and protection of both tangible and non-tangible natural, historical and cultural heritage, etc.).</li> <li>- <b>Development of small-scale support infrastructure to touristic attractions</b></li> </ul>

<sup>17</sup> 10% on the total amount will be available for "Technical Assistance".

<sup>18</sup> As presented in the Draft Programme, Version 1.0 – June 2014.



tourist product(s) in the cross-border region	related infrastructure	<p>(e.g. rehabilitation of access roads; upgrade of public utilities related to natural, cultural and historic tourism sites; small touristic border crossings and related facilities; ICT facilities development/upgrade, etc.).</p> <ul style="list-style-type: none"> <li>- <b>Development of additional small scale technical infrastructure, encouraging the visits to the tourist attractions</b> (playgrounds; recreational and sports facilities; landscaping; signing and lighting; other support facilities serving tourist attraction and visitors).</li> <li>- <b>Development of joint transport access schemes and adventure routes</b> (e.g. cross-border public transport to touristic sites; tourist paths and health paths, climbing, horse riding and biking routes, etc.).</li> <li>- <b>Development of tourist attraction accessible to persons with disabilities</b> (e.g. encouraging the modification of access points, washrooms, stairs, transportation vehicles, rough paths, etc.).</li> <li>- <b>Development of information access facilities</b> (e.g. info-centres and/or kiosks to guide potential visitors; joint GIS platforms; joint platforms for online reservations, payment, etc.).</li> </ul>
<p><b>SO-1.2.</b> <b>CROSS-BORDER TOURISTIC PRODUCT:</b> Valorising the favourable conditions for diversified tourism in the border area through creating common cross-border touristic destinations</p>	<p><b>R-1.2.1</b> Strengthened joint and integrated approaches to preserve and manage the diversity of natural and cultural assets in the border area as a basis for sustainable tourism development and growth strategies</p>	<ul style="list-style-type: none"> <li>- <b>Development of joint cross-border touristic destinations</b> (e.g. improve development strategies and action plans based on innovative service concepts and products; carrying out joint researches on tourism demand for new tourist destinations; adoption of joint visitor management plans to ensure that tourism does not damage natural and cultural resources; risk management plans for cultural and natural heritage sites exposed to climate change; elaborating joint monitoring programmes to measure trends and impacts, and facilitate adaptive management of natural, cultural and historical heritage in the region, etc.).</li> <li>- <b>Development of sustainable cross-border touristic products and services</b> (e.g. research activities to identify tourist products with potential for cross-border branding; development of new and innovative tourist products and services; development of local brand/s based on natural, historical and cultural heritage of the border region;</li> </ul>





		<p>establishment of networks/clusters/entities for management of joint tourist products; creating knowledge networks for tourism innovations in the border area, etc.).</p> <ul style="list-style-type: none"> <li>- <b>Joint marketing and promotion of cross-border tourist destinations and products</b> (e.g. joint market perception analysis with the aim to assess the customer understanding of the border region as a consistent tourism destination; application of best practices in tourism promotion; preparation and dissemination of information and advertising materials; studies of the impact of the implemented marketing and advertising activities; organisation of tourism exhibitions and fairs; visualisation of local tourist products/ brand/s/ destinations, incl. 3D visualisation; mobile applications, social networks, tailor-made internet platforms, and other innovative tools; creating multi-lingual on-line tourist platforms, etc.).</li> </ul>
<p><b>SO-1.3.</b> <b>PEOPLE-TO-PEOPLE NETWORKING:</b> Capitalise the effect of cultural, historical and natural heritage tourism on border communities</p>	<p><b>R-1.3.1</b> Enhanced community involvement and awareness about sustainable use of cross-border tourist resources</p>	<ul style="list-style-type: none"> <li>- <b>Support for public awareness activities and information services</b> (e.g. awareness raising campaigns on the values of cross-border cultural, historical and natural heritage, incl. joint events among youth; dissemination of relevant information to the touristic providers in the border region; organizing travel forums to promote effective two-way communication; participation and involvement of local touristic enterprises in recognizing and solve common problems; organisation of different events such as conferences, forums, seminars, platforms and networking meetings in order to improve the recognition and trust among existing partners and to assure the political commitment at all levels, etc.).</li> <li>- <b>Capacity building activities addressed to local community and business</b> (e.g. training and consultancy support services for tourist enterprises/establishments to improve skills and performance; organising online forums for exchange of good practices in sustainable tourism management; support the cooperation of public and private institutions in fields of competence, etc.).</li> <li>- <b>Organization of joint events to promote cross-border natural and cultural heritage</b> (e.g. promotion and cultivation of the common traditions of the borderland areas; support to activities in the fields of</li> </ul>





		multiculturalism, cultural exchange and the establishment of connections on field of creative industry in order to increase cultural diversity; organisation of festivals, exhibitions, performances, etc.).
--	--	--

For each SO the table below shows the target groups and the potential beneficiaries of the individuated indicative action that will be supported within PA 1.

**Tab. 4 Target groups and potential beneficiaries of Priority Axis 1 actions**

Priority Axis 1	Specific Objectives		
	TOURIST ATTRACTIVENESS	CROSS-BORDER TOURISTIC PRODUCT	PEOPLE-TO-PEOPLE NETWORKING
<b>Target groups</b>			
All levels of regional/local authorities			
Administrations of protected areas	<b>x</b>		
Touristic organisations and associations	<b>x</b>	<b>x</b>	<b>x</b>
Residents of the cross-border area	<b>x</b>	<b>x</b>	<b>x</b>
Visitors and guests of tourist attractions and cross-border destinations	<b>x</b>		
People with disabilities (improving of the accessibility will contribute to their social inclusion)	<b>x</b>		
Tourist enterprises/establishments in the border region			<b>x</b>
Touristic operators		<b>x</b>	
SMEs operating in the field of tourism and hospitality sector		<b>x</b>	
Young entrepreneurs		<b>x</b>	
Cultural institutes (museum, library, art gallery, community centres, etc.)		<b>x</b>	
Youth organisations			<b>x</b>
<b>Potential beneficiaries</b>			
All levels of regional/local authorities	<b>x</b>	<b>x</b>	<b>x</b>
Regional and sector development agencies	<b>x</b>	<b>x</b>	
Central and regional offices and structures of relevant government institutions/ administrations	<b>x</b>	<b>x</b>	



Public cultural institutes (museum, library, community centres, etc.)	<b>x</b>		
Non-government organizations and tourist associations	<b>x</b>		
Regional touristic associations		<b>x</b>	<b>x</b>
NGOs		<b>x</b>	
Business support structures - chamber of commerce, business association, business cluster		<b>x</b>	<b>x</b>
Education / Training Centres			<b>x</b>
Civil society structure (association/foundation/NGOs)			<b>x</b>
Cultural institutes (museum, library, art gallery, community centres, etc.)			<b>x</b>

**Tab. 5 Priority Axis 2 intervention Logic**

**Thematic Priority: “Investing in Youth education and skills”**

<b>Priority Axis 2 “Youths”</b>		
<b>Specific Objective</b>	<b>Results</b>	<b>Indicative actions to be supported</b>
<b>SO-2.1.SKILLS &amp; ENTREPRENEURSHIP:</b> Creating an attractive environment for development of young people in the border region	<b>R-2.1.1</b> Improved environment for youth development	<ul style="list-style-type: none"> <li>- <b>Development of youth-related small-scale infrastructure, and training and information facilities</b> (e.g. construction/ reconstruction/ rehabilitation/ refurbishment of youth, education-related and recreational infrastructure and facilities – for instance: lecture facilities, libraries, laboratories, sport facilities, campuses; investments to ensure physical accessibility to youth and education-related and recreational infrastructure and facilities; investments in ICT- facilities’ development and upgrade, etc.).</li> <li>- <b>Development of small-scale “entrepreneurship” infrastructure</b> (e.g. business incubators, shared workspace, start-up factories and “start-up garage”, equipment provision/sharing, etc.).</li> <li>- <b>Support to youth entrepreneurship schemes and initiatives</b> (e.g. initiatives to encourage learning in support of young people’s innovation, creativity and entrepreneurship; students’ mini-companies, school-entrepreneur/ business activities and events; simulation games [e.g. computer-based]; business skills training, guidance and counselling services [one-stop-shops and youth enterprise centres, on-the-job</li> </ul>



		training and workshops, mentor support and business coaching, online portals and web sites, etc.]; support to joint market initiatives and networking, incl. promotion and marketing campaigns for youth entrepreneurs, etc.).
<b>SO-2.2.</b> <b>PEOPLE-TO-PEOPLE NETWORKING:</b> Promote sustainable, long-term and collaborative initiatives for and with young people, including enhancing mobility of young people	<b>R-2.2.1</b> Enhanced networking between young people in the border region	- - <b>Support to youth networking initiatives</b> (e.g. promotion of young people's participation in representative democracy and civil society; cross-border initiatives aimed at combating youth poverty and social exclusion; community initiatives to support and recognize the value of youth volunteering; supporting youth capacity and opportunities to be creative and youth access to culture; cross-border initiatives for promotion of health and well-being of young people, etc.).

For each SO the table below shows the target groups and the potential beneficiaries of the individuated indicative action that will be supported in PA2.

**Tab. 6 Target groups and potential beneficiaries of Priority Axis 2 actions**

Priority Axis 2	Specific Objectives	
	SKILLS & ENTREPRENEURSHIP	PEOPLE-TO-PEOPLE NETWORKING
<b><u>Target groups</u></b>		
Pupils of primary and secondary schools	<b>x</b>	<b>x</b>
Young people (up to age of 29)	<b>x</b>	<b>x</b>
Youth organisations	<b>x</b>	
Marginalised minority communities	<b>x</b>	<b>x</b>
Children and youth with special needs	<b>x</b>	<b>x</b>
Employment services	<b>x</b>	
<b><u>Potential beneficiaries</u></b>		
All levels of regional/local authorities	<b>x</b>	<b>x</b>
Vocational training institutions	<b>x</b>	
Universities, knowledge / research institutes	<b>x</b>	<b>x</b>
Youth organisations/NGOs		<b>x</b>
Business support structures	<b>x</b>	<b>x</b>
Local and national education institutions, and training service providers	<b>x</b>	<b>x</b>
Civil society structure	<b>x</b>	<b>x</b>



(association/foundation)/NGOs		
Cultural institutes, local community centres	<b>x</b>	<b>x</b>

**Tab. 7 Priority Axis 3 intervention Logic**

**Thematic Priority: “Protecting the environment and promoting climate change adaption, risk prevention and management”**

<b>Priority Axis 3 “Environment”</b>		
<b>Specific Objective</b>	<b>Results</b>	<b>Indicative actions to be supported</b>
<b>SO-3.1.</b> <b>JOINT RISK MANAGEMENT:</b> To prevent and mitigate the consequences of natural and man-made cross-border disasters	<b>R-3.1.1</b> Increased joint interventions in risk prevention, ensuring preparedness of public authorities, civil organisations and targeted volunteers for better management of the natural and man-made hazards and disasters	<ul style="list-style-type: none"> <li>- <b>Establishing joint early warning and disaster management systems</b> (e.g. surveys of actually applied procedures, policies and measures for disaster protection, prevention and previsions; establishing spatial data base for disaster risk assessment, containing terrestrial, meteorological and sociological features; preparing joint plans and procedures for emergency situation liquidation and disaster force accumulation responding to the incidents and emergency situations; developing joint protocols and communication channels for risk prevention and management of natural and man-made disasters, etc.).</li> <li>- <b>Investments in equipment related to disaster resilience</b> (e.g. up-to-date ICT solutions in pre-fire, fire and post-fire activities; supply of specialized fire-fighting equipment; supply of specialized equipment for floods prevention, and for search and rescue interventions; supply of system for air surveillance of the surface and real time transmission of data, etc.);</li> <li>- <b>Support of small-scale interventions/investments</b> (e.g. sanitation and reforestation of river banks; building flood defence like dikes and canals; forestation of non-permanent vulnerable land; cuttings for emergency situations, etc.);</li> <li>- <b>Capacity building related to disaster resilience</b> (e.g. conducting joint theoretical-tactical exercises and field trainings for emergency situations management; trainings in the use of ICT technologies for risk management; exchange of experience and good practice (study visits, round-tables, conferences); joint trainings and raising awareness of public service actors and</li> </ul>



		population (volunteers) for disaster resilience, etc.).
<b>SO-3.2.</b> <b>NATURE PROTECTION:</b> Enhancing the capacity of regional and local stakeholders for improved environmental and natural resources management in the border region	<b>R 3.2.1</b> Improved capacity for nature protection and sustainable use of common natural resources in the border region	<ul style="list-style-type: none"> <li>- <b>Protection and enhancement of biodiversity, nature protection and green infrastructure</b> (e.g. joint initiatives targeting the effective management of environmental resources; joint initiatives towards the protection and restoration of ecosystems and endangered and protected flora and fauna species; preservation and improvement of the quality of natural resources (air, soil, water); introduction of Low Carbon practices shared for adaptation climate change and mitigation of their consequences, etc..</li> <li>- <b>Capacity building and promotion initiatives</b> (e.g. provision of training to local and regional authorities in the field of environment related matters, such as waste or protected areas management; establishment of help-desks with mobile expert groups helping regions and cities resolving environmental problems; creating networks for exchange of good practices; awareness raising on all levels (individual persons, organizations, businesses, public administration, schools) on issues related to environmental and nature protection, including marginalized communities and</li> </ul>



		other vulnerable groups).
--	--	---------------------------

For each SO the table below shows the target groups and the potential beneficiaries of the individuated indicative action that will be supported within PA3.

**Tab. 8 Target groups and potential beneficiaries of Priority Axis 3 actions**

Priority Axis 3	Specific Objectives	
	JOINT RISK MANAGEMENT	NATURE PROTECTION
<b>Target groups</b>		
All levels of regional/local authorities	<b>x</b>	
Administrations of protected areas	<b>x</b>	
Affected population of the CBC region	<b>x</b>	
Young people (up to age of 29)	<b>x</b>	
Groups of population of the CBC region		<b>x</b>
Economic operators in the CBC region		<b>x</b>
Civil society structure in the CBC region		<b>x</b>
<b>Potential beneficiaries</b>		
All levels of regional/local authorities		<b>x</b>
Regional and sector development agencies	<b>x</b>	<b>x</b>
Central and regional offices and structures of relevant government institutions/administrations	<b>x</b>	<b>x</b>
Administrations of protected areas		<b>x</b>
Relevant local and regional structures for dealing with emergency situations	<b>x</b>	
Research and academic institutes		<b>x</b>
Environmental NGOs		<b>x</b>

Under Priority axis 1 and 3, **strategic projects** could be identified outside calls for proposals for the achievement of the SO that should contribute to a bigger impact through real and strong cross-border impact and long-term results. Strategic Projects must be effective and answer the territorial needs and result in a significant and long-lasting change or



improvement on the whole or large parts of Programme area. The basic principles for the eligibility of a strategic project should be the following:

- to address key SO that can be achieved only through the involvement of large partnerships and /or of key stakeholders on the two sides of the border;
- to be based on a larger financial size than common project applications under open call for proposals.

Concerning “**sustainable development**” into the Programme’s text it is stated (page n. 90):

*The Programme supports several PA and SO that focus fully on sustainable development, notably:*

*PA1-SO1.1: Tourism attractiveness*

*PA1-SO1.2: Cross-border touristic product*

*PA3-SO3.2: Nature protection*

*Under these PAs and respective SO, the Programme will support cross-border cooperation projects that have as their primary aim to improve the implementation of cross-border cooperation initiatives related to sustainable development issues. Projects will have to clearly demonstrate in their application that the activities they propose will make the implementation of those initiatives better, in order to eventually contribute to the sustainable development of the border area. Projects that fail to demonstrate this clear contribution to improving cross-border sustainable development policies will not be selected.*

*PA2 is targeted entirely on policy learning related to youth entrepreneurship and do not directly focus on sustainable development issues. However, it is quite likely that projects supported under this priority also address aspects of sustainable development in their work. This may for instance be the case for innovation related projects that focus on capacities and skills for eco-innovation, or projects that concentrate on the internationalisation of young people in green technology sectors. Project applicants under this PA will be invited to explain in their application how their project will comply with and possibly even strengthen sustainable development. At the end of the project, the partners will be asked to report how their project activities and outputs actually contributed to this horizontal principle.*

*Based on the aggregated contributions reported by projects the IPA CBC Programme will be able to monitor and demonstrate how the Programme concretely contributed to sustainable development. However, no specific selection criteria are foreseen to favour the development of projects dealing with this issue. The activities may address relevant cross-border cooperation experiences and practices related to the principle of sustainable development.*

*The activities of IPA CBC Programme are likely to generate a lot of travel, which leads to related CO<sub>2</sub> emissions. While these travels are an essential aspect of cross-border cooperation activities, beneficiaries of the Programme will be encouraged to use modes of interaction that do not require travelling when possible.*

### **3.4 Relations to other relevant programmes and strategies**

---

The Bulgaria-Serbia IPA CBC Programme (2014-2020) is designed in the framework of the European strategy for a smart, inclusive and sustainable growth and of the Common Strategic Framework 2014 to 2020, in which employment, demographic change and education are addressed as issues of cross-border relevance. Additionally, sustainable





development, climate change mitigation and natural disasters (developing integrated cross-border natural risk management) as well as biodiversity are outlined as relevant issues.

The framework of the Programme also includes the European Territorial Cooperation (ETC)<sup>19</sup> strategy that, in general – and Cross-border cooperation, in specifics – contributes under the ETC goal *“to the thematic objectives of developing an economy based on knowledge, research and innovation, including through the fostering of cooperation between businesses, particularly between SMEs, and through the promotion of the establishment of systems for cross border information exchange in the area of ICT; promoting a greener, more resource efficient and competitive economy, including through the promotion of sustainable cross border mobility; fostering high employment that results in social and territorial cohesion, including through activities supporting sustainable tourism, culture and natural heritage as part of a territorial strategy aimed at achieving employment-friendly growth; and developing administrative capacity”*.

In this context, the Instrument for Pre-Accession Assistance (IPA), as an instrument of the implementation of the EU cohesion policy, supports cross-border co-operation along the external borders of the Union and its general objective aims at supporting *“beneficiaries [...] in adopting and implementing the political, institutional, legal, administrative, social and economic reforms required by those beneficiaries in order to comply with the Union’s values and to progressively align to the Union’s rules, standards, policies and practices, with a view to Union membership”*.

The overall context for the cooperation programmes and the strategic anchor of the IPA CBC is the EU Cohesion policy framework that supports the objectives of the Europe 2020 Strategy.

The **Bulgaria- Serbia IPA CBC Programme** (2014-2020) is also directly linked to other EU policy documents which are developed in order to support EU 2020 Strategy. The ex ante evaluation assess the coherence (see chapter 2.2.1: *External coherence including Europe 2020 strategy*<sup>20</sup>) of the Programme to these documents, hereafter identified:

- European Strategy for the Danube Region (EUSDR);
- URBACT;
- INTERREG;
- Horizon 2020 – Framework Programme for Research and Innovation 2014-2020;
- Programme for the Environment and Climate Action (LIFE Programme) for the period 2014-2020;
- Community Mechanism for Civil Protection (CMCP).

The Programme is also related with a number of national and regional level planning strategies/programmes and documents of both countries. The ex ante evaluation also applies the assessment of the external coherence to the following documents:

- National Development Programme: Bulgaria 2020;
- National Reform Programme of the Republic of Bulgaria in the implementation of strategy Europe 2020, 2014;
- the (draft) EC Partnership Agreement (PA) of the Republic of Bulgaria<sup>21</sup>;

<sup>19</sup>as defined in regulation 1299/2013.

<sup>20</sup>Ex ante evaluation IPA CBC Bulgaria-Serbia, Final Report–DRAFT, 30 June 2014.

<sup>21</sup>Draft Partnership Agreement of the Republic of Bulgaria outlining the Support from the European Structural and Investment Funds for the 2014-2020 Period, submitted to the EC in April 2014.



- Bulgarian Position Paper (PP);
- National Strategy for Regional Development of Bulgaria (NSRD) 2012-2022;
- Bulgarian OP Human Resources Development 2014-2020;
- Bulgarian OP Environment 2014-2020;
- Bulgarian OP Transport and Transport Infrastructure 2014-2020;
- Bulgarian OP Innovation and Competitiveness 2014-2020;
- Bulgarian OP Science and Education for Smart Growth 2014-2020;
- Bulgarian OP Regions in Growth 2014-2020;
- Bulgarian OP Good governance 2014-2020;
- Bulgarian Rural Development Programme (RDP) 2014-2020 Bulgaria;
- OP for ETC Romania-Bulgaria 2014-2020;
- Stabilisation and Association Agreements for Serbia (SAA);
- National programme for integration with the European Union (NPI), Serbia 2009;
- National Priorities for International Assistance in the Republic of Serbia 2014-17 (NAD);
- The National Strategy of Regional Development;
- National Strategy for Sustainable Use of Natural Resources and Goods (NSSUNRG) in the Republic of Serbia (2012-2021);
- Serbian Poverty Reduction Strategy Paper (SPRDP);
- National Employment Strategy 2011-2020 (NES);
- National Programme for Environmental Protection (NPEP) 2010-2019;
- National Strategy for Tourism Development until 2015 (NSTD);
- Strategy for Development of Education in Serbia by 2020 (SDE);
- Strategy for the Development of Vocational Education and Training (SDCETT);
- National Strategy for Economic Development 2006-2012 (NSED);
- Strategy for Development of Competitive and Innovative Small and Mediumsized Enterprises 2008-2013(SDCISME);
- Strategy for Industrial Policy 2011-2020(SIP);
- Strategy of Scientific and Technological Development of the Republic of Serbia (2010-2015) (SSTD);
- Strategy for the Development of Information Society until 2020 (SDIS);
- Strategy of Development and State Support for the Information Technology Industry (SDSSIT).



#### 4 Environmental policy framework: relevant plans, programmes and Environmental protection objectives which are relevant to the Programme and identification of SEA Objectives

For each of the defined environmental issues **(1) air and climate; 2) biodiversity, fauna and flora; 3) water; 4) soil; 5) population and human health; 6) cultural/natural heritage and landscape)** and cross-cutting themes<sup>22</sup>, this chapter presents an overview of the environmental policy framework that has been taken into account for the identification of all of the relevant **environmental protection objectives**, in order to evaluate the consistency of the IPA CBC Bulgaria-Serbia 2014-2020 with international, EU, regional and national environmental goals and objectives. The choice of environmental policies is based on the relevance of their objectives to each of the defined environmental issues and cross-cutting themes.

Besides the specific policies for each of the defined environmental issues, superordinate strategies and programmes, at EU and regional level, will also be considered. Ad example:

- The **7<sup>th</sup> EU Environmental Action Programme (EAP)** “*Living well, within the limits of our planet*” which will be guiding European environment policy until 2020 and its key objectives:
  - To protect, conserve and enhance EU’s natural capital;
  - To turn the EU into a resource efficient, green and competitive low-carbon economy;
  - To safeguard EU citizens from environment-related pressures and risks to health and wellbeing;
  - To maximize the benefits of EU environment legislation;
  - To improve the evidence base for environmental policy;
  - To secure investment for environment and climate policy and get the prices right;
  - To improve environmental integration and policy coherence;
  - To enhance the sustainability of EU cities;
  - To increase the EU’s effectiveness in addressing regional and global environmental and climate challenges.
- The **Europe 2020 Strategy** with the three priorities: smart growth: developing an economy based on knowledge and innovation; sustainable growth: promoting a more resource efficient, greener and more competitive economy; inclusive growth: fostering a high-employment economy delivering social and territorial cohesion;
- and the underpinning **flagship initiative Resource Efficient Europe** (to help decouple economic growth from the use of resources, by decarbonising the economy, increasing the use of renewable sources, modernising the transport sector and promoting energy efficiency);

---

<sup>22</sup>issues like “use of renewable energy sources”, “energy efficiency”, “adaptation to climate change”, “mobility and transport”, “waste management and prevention”, “risk management”, “sustainable tourism”, “sustainable use of natural resources” and “environmental education and awareness raising on environmental issues”.



- The **EU Sustainable Development Strategy** with the overall aim to develop actions to enable the EU to achieve a continuous long-term improvement of quality of life through the creation of sustainable communities able to manage and use resources efficiently, able to tap the ecological and social innovation potential of the economy and in the end able to ensure prosperity, environmental protection and social cohesion.
- The **EUSDR** (EU Strategy for the Danube Region) **Action Plan** to make the **Danube Region** environmentally sustainable, prosperous, accessible and attractive, as well as safe and secure.

Also at the national level superordinate strategies and policies can be relevant for the identification of **environmental protection objectives**.

For Bulgaria, the legal and environmentally relevant policy framework considered includes, among all:

- **National Development Programme “Bulgaria 2020”** (adopted by the Council of Ministers on 19/12/2012), a leading strategic and programming document which defines the objectives and policies for the development of the country by 2020. The main purpose is to achieve quality and balanced long-term economic growth. Three goals are set out:
  1. raising the standard of living through competitive education and training, creating conditions for quality employment and social inclusion and ensuring accessible and quality health care.
  2. building of infrastructure networks, providing optimal conditions for the development of the economy and quality and healthy environment for the population.
  3. enhancing the competitiveness of the economy by ensuring a favourable business environment, promotion of investments, application of innovative solutions and improving resource efficiency.
- **National Regional Development Strategy (NRDS) 2012-2022** fundamental document defining the strategic framework of the government policy for attaining balanced and sustainable development of the country's regions and for overcoming the intra- and interregional differences/disparities in the context of the all-European policy of cohesion and achieving smart, sustainable and inclusive growth. The key strategic goal of NRDS is to achieve sustainable integrated regional development based on the utilization of local potential and cohesion between the regions in an economic, social and territorial aspect.
- **Guidelines for Mainstreaming the Environment Policy (EP) and the Climate Change Policy (CCP) into the Funds of the Cohesion Policy, the Common Agricultural Policy and the Common Fisheries Policy for the period 2014-2020**, developed by the Ministry of Environment and Water, Bulgaria (approved by the Council of Ministers on 01.03.2013);

For the Republic of Serbia the environmental strategic framework is based on the **National Environmental Approximation Strategy** (NEAS), focussed on Chapter 27 (“Environment”) of the *Acquis communautaire*, the process by which Serbia aligns its legislation, institutional



structures and work practices with the requirements of the European legislation (as a part of the accession process)<sup>23</sup>. The framework also includes:

- **National Priorities for International Assistance in the Republic of Serbia 2014-17**, with projections until 2020: a strategic programming document which provides a means for increasing the alignment of international assistance with national priorities so that targeted donor interventions will support mainstream public spending on policy reforms from the national budget. As major priority sector for international assistance are selected: Competitiveness; Environment and Climate Change; Human Resource and Social Development; Public Administration Reform; Local /Regional Development;
- **National Programme for Environmental Protection (NPEP) 2010-2019**, which defines strategic objectives for environment protection policy as well as specific objectives. The NPEP covers all aspects of environmental policy and planning, financing and economic instruments, institutional capacity-building, education, legislation, monitoring, enforcement, and policy in the areas of water quality, waste management, chemicals and risk management, air quality and climate change, nature protection, biodiversity and forests, fisheries, soil protection, noise, radiation, industry, energy, agriculture, forestry and hunting;
- **National Strategy for Sustainable Use of Natural Resources and Goods in the Republic of Serbia (2012-2021)**, which covers seven key natural resources (priorities) in Serbia: mineral resources (metallic, non-metallic and fossil fuels); renewable energy sources; forest resources; biodiversity and geodiversity; water resources; and soil.
- the **National Sustainable Development Strategy (NSDS)** with five key national priorities. Among them the 1) Development of infrastructure and balanced regional development with the objective “sustainable development of energy infrastructure in line with the expected dynamic economic growth” and the 2) Protection and improvement of environment and rational use of natural resources that can be achieved through:
  - ✓ Establishing a system of protection and sustainable use of natural values or resources (air, water, mineral resources, forests, fish, wild flora and fauna);
  - ✓ Strengthening the inter-relations and achieving significant effects between environmental protection and economic growth, integrating environmental policy in other sectorial development policies;
  - ✓ Investing in reduced pollution of the environment and development of cleaner technologies;
  - ✓ Reducing the high energy intensity of the Serbian economy and provide for a more efficient use of fossil fuels;
  - ✓ Promoting the use of renewable energy sources;
  - ✓ Planning sustainable production and consumption and reducing waste generation by unit of product.

In the following chapters are available for each of the defined environmental issue and cross-cutting themes the corresponding **relevant environmental legislation and policies** and

<sup>23</sup>According to the “Progress Monitoring Report for the year of 2013”, the majority of EU directives relating to the so-called horizontal sector - nature protection, management of chemicals and noise - are completely or almost completely transposed into national legislation.



their qualitative **environmental objectives** as well as the resulting **guiding questions** which will be used as a valid instrument for the environmental assessment (chapter 8).

#### 4.1 Air and climate

For the environmental issue **Air and Climate** the main pressure is air pollution that needs to be reduced in order to win the battle against climate change as to prevent from acidification, eutrophication and ground-level ozone pollution. At the international level climate change has been addressed by the United Nations Framework Convention on Climate Change (UNFCCC). The long-term objective is to stabilise atmospheric greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. The **Kyoto Protocol** sets international binding emission targets for GHG emissions. The first commitment period ended in 2012, while the follow-up protocol **Kyoto II** defines the second one from 2013 to 2020.

Furthermore, energy and transport sectors are interlinked and tightly related to this issue where they have been analysed. In fact, the cross-cutting themes integrated in the environmental issue Air and Climate are: “use of renewable energy sources”, “energy efficiency”, “adaptation to climate change”, “risk management” “environmental education and awareness raising on environmental issues” and “mobility and transport”.

The following table shows the list of relevant EU and national legal and policy framework from which the environmental objectives and the corresponding evaluation questions have been driven:

Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
<p>EU Directive on ambient air quality and cleaner air for Europe (2008/50/EC)</p> <p>Thematic Strategy on Air pollution (COM(2005) 446)</p> <p>EU climate and energy package 2020</p> <p>EU Energy Efficiency Directive (2012/27/EU)</p> <p>EU Renewable Energy Directive</p>	Climate change mitigation Act	Regulation on monitoring conditions and air quality requirements	<i>Reduction of air pollution</i>	Will the specific objective have an effect on the reduction of air pollution?
	Energy Strategy of Bulgaria to 2020	Law on Air Protection	<i>Reduction of the GHG emissions</i>	Will the specific objective have an effect on the reduction of the GHG emissions?
	Energy Act	Regulation on emission limit values of pollutants in the air	<i>Improvement of energy efficiency and increase of use of renewable energy resources</i>	Will the specific objective have an effect on the improvement of energy efficiency and increase of use of renewable energy resources?
	National action plan for renewable energy sources 2020	Law for Environment Protection	<i>Support of environmentally friendly transports</i>	Will the specific objective have an effect on the support of
	Energy from Renewable Sources Act	Law on Energy Efficiency		
	Third National Action Plan on			





(RED) (2009/28/EC)  <b>EU Strategy on adaptation to climate change</b> (COM(2013) 216)  <b>EU White Paper for Transport</b> (COM(2011)144)	<b>Climate Change 2013-2020</b>	Energy Law		environmentally friendly transports?
	<b>Ambient Air Purity Act</b>		<b>Promotion of fire fight management and prevention</b>	Will the specific objective have an effect on the promotion of forest fire fight management and prevention?
	<b>Strategy for the development of the transport system of the republic of Bulgaria until 2020</b>		<b>Promotion of resilience to climate change and climate-related disasters</b>	Will the specific objective have an effect on the promotion of resilience to climate change and climate-related disasters?
	<b>National Strategy for the Development of Forestry</b>		<b>Promotion of responsible behaviour of the public by involving the citizens into fighting climate change</b>	Will the specific objective have an effect on the promotion of responsible behaviour of the public by involving the citizens into fighting climate change?

The protection of air and climate is reflected in several regulations at the EU level. First of all the **EU Directive on ambient air quality and cleaner air for Europe** (2008/50/EC) in order to attain "levels of air quality that do not give rise to significant negative impacts on, and risks to human health and environment", establishes specific long-term objectives for air pollution and proposes measures for achieving them by 2020:

- 47% reduction in loss of life expectancy as a result of exposure to particulate matter;
- 10% reduction in acute mortalities from exposure to ozone;
- reduction in excess acid deposition of 74% and 39% in forest areas and surface freshwater areas respectively;
- 43% reduction in areas or ecosystems exposed to eutrophication.

In addition the **EU Thematic Strategy on Air pollution** (COM(2005) 446) sets objectives for reducing certain air pollutants (as SO<sub>2</sub>, NH<sub>3</sub>, VOC, NO<sub>x</sub> and PM 2.5).

In light of the Kyoto protocol that have been ratified by the EU Member States the EU adopted the **climate and energy package 2020**: a set of binding legislations which aims to ensure the European Union meets its ambitious climate and energy targets for 2020:

- A 20% reduction in EU greenhouse gas emissions from 1990 levels and a 20% improvement in the EU's energy efficiency, main goals linked to the **EU Energy Efficiency Directive** (2012/27/EU);





- Raising the share of EU energy consumption produced from renewable resources to 20%, objective promoted by the **EU Renewable Energy Directive (RED)** (2009/28/EC);

Not least, in the climate and energy policy framework for 2030, the European Commission proposes that the EU set itself a target of reducing emissions to 40% below 1990 levels by 2030.

In the contest of climate policy the overall aim of the **EU Strategy on adaptation to climate change** (COM(2013) 216) is to contribute to a more climate-resilient Europe. This means enhancing the capacity to respond to the impacts of climate change at local, regional, national and EU levels, developing a coherent approach and improving coordination.

Mobility and transport is viewed as a cross-cutting theme and is related also to the air and climate issue due to his high contribution to climate change. The transport related carbon emissions must be reduced and according to the roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system (**EU White Paper for Transport** (COM(2011)144) – sustainable mobility must be promoted. The roadmap of 40 concrete initiatives for the next decade, proposes to reduce Europe's dependence on imported oil and cut carbon emissions in transport by 60 % by 2050).

#### In Bulgaria:

The main priorities of the **Energy Strategy of Bulgaria to 2020** can be summarized in the following five directions: to guarantee the security of energy supply; to attain the targets for renewable energy; to increase the energy efficiency; to develop a competitive energy market and policy for the purpose of meeting the energy needs, and to protect the interests of the consumers.

The principal purposes of the **Energy Act** are to create conditions for:

- high-quality and secure supply of electricity, heat and natural gas to the general public;
- energy development and energy security through efficient use of energy and resources;
- generation, import, export, transmission, distribution and trade in electricity, heat, natural gas, oil and oil products shall be carried out under the guaranteed protection of the life and health of citizens, the property, the environment, the security of supplies, etc..

The **National action plan for renewable energy sources 2020** has the following objectives:

- promoting the development and use of technologies for production and consumption of: energy from renewable and alternative energy sources; biofuels and other renewable fuels;
- diversification of energy supplies;
- increase the capacity of small and medium producers of energy from renewable and alternative sources of energy and producers of biofuels and other renewable fuels;
- environmental protection;
- create conditions for achieving sustainable development at local and regional level.

The objectives of the **Energy from Renewable Sources Act** include among all:

- promotion of production and consumption of energy produced from renewable sources;



- creating conditions for achieving sustainable and competitive energy policy and economic growth through innovation, and implementation of new products and technologies;
- creating conditions for achieving sustainable development at regional and local levels;
- environmental protection and restricting climate change.

The **Climate Change Mitigation Act** (promulgated in March 2014) codifies the entire regulation in the field of climate change mitigation and fully transposes the current European legislation on climate change.

The main strategic objective of the **Third National Action Plan on Climate Change 2013-2020** is to outline the framework for action in the fight against climate change for the period 2013-2020, and to turn the country's effort to actions that reduce the negative impact of climate change and the implementation of international and European commitments. The main goal of the plan is to reducing greenhouse gases in Bulgaria and implementation of existing EU legislation in the field of climate change.

The goal of the **Ambient Air Purity Act** (reinforced by the Environment Protection Act) is to protect the people's and their generation's health, the animals and the plants, their communities and habitats, the natural and cultural values from harmful effects, as well as to prevent the occurrence of dangers and damages to society in case of changes in the ambient air quality resulting from various activities.

The vision of the **National Strategy for the Development of Forestry 2013-2020** is to have vibrant, productive and multifunctional forests, sustainable, competitive and innovative forestry and biodiversity preserved, quantity and quality of water resources in forest areas. The sector will contribute the utmost to mitigate the effects of climate change and ensure the maintenance of a healthy environment. One of the strategic objectives is to Increase the contribution of the forest sector in the green economy.

In relation to the cross-cutting theme of mobility and transport one of the strategic goals of the **Strategy for the Development of the Transport System of the Republic of Bulgaria for the period until 2020** is the development of sustainable transport sector through: Reduction of the negative impact of transport on the environment and change; Integration of the Bulgarian transport system in Europe; provision of high level of safety and security of transport systems.

#### In Serbia:

The **Regulation on monitoring conditions and air quality requirements** (Official Gazette No.11/10 and 75/10) stipulates limit values for many substances (es. sulphur dioxide, nitrogen dioxide, particulate matter (PM10 PM2.5), lead, benzene and carbon monoxide; ground-level ozone, arsenic, cadmium, nickel, etc.)

The **Law on Air Protection** regulates air quality management and establishment of environmental protection measures, their organization and control of their implementation, as well as control of air quality improvement, since it is the natural value of general interest that enjoys special protection. The law provides for the adoption of a rulebook on volatile organic compounds emissions the **Regulation on emission limit values of pollutants in the air**.

In the Article 50 of the **Law for Environment Protection** with the aim of monitoring of emissions and quantities of removed of greenhouse gases, the National Greenhouse Gas Emissions Inventory, kept by the Serbian Environmental Protection Agency, is laid down.



The **Energy Law** includes measures and activities taken for achieving long-term objectives among which, namely:

- reliable, safe and quality supply of energy and energy sources;
- creating conditions for the safe and reliable energy systems operation and sustainable development;
- creating economic, commercial and financial conditions for generating energy from renewable energy sources and combined heat and electricity generation;
- creating conditions for use of new energy sources;
- promoting environmental protection in all energy related areas;
- creating conditions for investments into the energy sector;
- energy and energy sources' customers protection.

For the **Law on Energy Efficiency**, energy efficiency shall be implemented to achieve the following objectives:

- Increased security of energy supply and improved efficiency in energy use;
- Improvement of economic competitiveness levels;
- Reduction of negative environmental impacts of the energy sector;
- Support to responsible energy use, based on implementation of energy efficiency policy and energy efficiency measures in energy generation, transmission, distribution and consumption.

## 4.2 Biodiversity, fauna and flora

One sphere of environmental policy that the programme could not neglect concerns Biodiversity, fauna and flora issue. At the international level the **UN Convention on Biological Diversity (CBD, 1992) with its commitments (Nagoya protocol - 2010, Cartagena protocol on biosafety - 2000)** aims to the conservation of biological diversity, the sustainable use of the components of biological diversity.

The cross-cutting themes integrated in this environmental issue are and “sustainable tourism”, “environmental education and awareness raising on environmental issues”.

The following table shows the list of relevant EU and national legal and policy framework from which the environmental objectives and the corresponding evaluation questions have been driven:

Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
EU 2020 Biodiversity Strategy	Environment Protection Act	Law on Nature Protection	<i>Preservation of biodiversity, habitats and ecosystems and their services</i>	Will the specific objective have an effect on the preservation of biodiversity, habitats and ecosystems and their services?
EU Habitats Directive (92/43/EEC)	Protected Areas Act	Law on Wildlife and Hunting		
EU Birds	Biological Diversity Act	The Biodiversity	<i>Preservation of the natural diversity of</i>	Will the specific objective have an



<b>Directive</b> (2009/147/EC)  EU Thematic Strategy on sustainable use of natural resources (COM(2005) 670)	<b>National priority action framework for Natura 2000</b>  Plant Protection Act  <b>National Strategy for the Development of Forestry</b>  National Wetland Protection Plan for the Period 2013-2020  Tourism Act	<b>Strategy for the period 2011-2018</b>  <b>Law for Environment Protection</b>  <b>Forest Act</b>	<b><i>fauna, flora, and habitats in protected areas and Natura 2000 sites</i></b>	effect on the preservation of the natural diversity of fauna, flora, and habitats in protected areas and Natura 2000 sites?
			<b><i>Protection of endangered species (plants and animals)</i></b>	Will the specific objective have an effect on the protection of endangered species (plants and animals)?
			<b><i>Decrease in loss of biodiversity</i></b>	Will the specific objective have an effect on the decrease in loss of biodiversity?
			<b><i>Promotion of responsible behaviour of the public by involving the citizens in protecting biodiversity and natural areas</i></b>	Will the specific objective have an effect on the promotion of responsible behaviour of the public by involving the citizens in protecting biodiversity and natural areas?
			<b><i>Promotion of tourism that would ensure high degree of nature conservation</i></b>	Will the specific objective have an effect on the promotion of tourism that would ensure high degree of nature conservation?

The **EU Biodiversity Strategy**, adopted in 2012 “Our life insurance, our natural capital: the EU biodiversity strategy to 2020” calls to halt the loss of biodiversity and ecosystem services in the EU by 2020. There are six main targets, and 20 actions to help Europe reach its goal. The six targets cover:

- Full implementation of EU nature legislation to protect biodiversity;
- Better protection for ecosystems, and more use of green infrastructure;
- More sustainable agriculture and forestry;
- Better management of fish stocks;
- Tighter controls on invasive alien species;



- A bigger EU contribution to averting global biodiversity loss.

The protection of endangered species is another objective. In relation to this is useful to remark the IUCN Global Species Programmes that provides the “red list of threatened species” in order to assess the conservation status and the degree to which they are endangered by extinction.

Biodiversity conservation and protection of wild birds and natural habitats are the core of the two **EU directives: Habitats and Birds**. In particular, the Habitats Directive establishes the Natura 2000 network of protected areas which aims to promote and assure long-term protection of threatened species and habitats.

In Bulgaria:

**The National priority action framework for Natura 2000** Bulgaria sets specific strategic conservation priorities for the period 2014 - 2020 to be implemented in the territory of protected areas NATURA 2000. These strategic priorities are the following: 1) Management planning of NATURA 2000 protected areas; 2) Sustainable management of NATURA 2000 protected areas; 3) Sustainable use of ecosystem services for optimum public benefits, and other factors for socio-economic development of regions; 4) Elaboration, development and maintenance of a shared vision for the ecological network Natura 2000 in Bulgaria; 5) technical assistance.

The purpose of the **Protected Areas Act** is to conserve and preserve protected areas as a national and universal human wealth and asset and as a special form of conservation of Bulgarian nature, conducive to the advancement of culture and science and to public welfare.

The **Biological Diversity Act** have the following objectives:

- conservation of natural habitat types representative of the Republic of Bulgaria and of Europe and habitats of endangered, rare and endemic plant and animal species within a National Ecological Network;
- conservation of the protected plant and animal species of the flora and fauna of the Republic of Bulgaria, as well as of those as are subject to use and trade;
- conservation of the genetic resources and the diversity of plant and animal species outside the natural surroundings thereof;
- regulation of the introduction of non-native and the reintroduction of native plant and animal species into the wild;
- regulation of trade in specimens of endangered species of wild flora and fauna;
- conservation of centuries-old and remarkable trees.

The vision of the **National Strategy for the Development of Forestry** is: by 2020, Bulgaria will have vibrant, productive and multifunctional forests, sustainable, competitive and innovative forestry and biodiversity preserved, quantity and quality of water resources in forest areas. The sector will contribute to the economic development of the country, will contribute to mitigate the effects of climate change and ensure the maintenance of a healthy environment. Realization of the vision is to achieve strategic objectives in the medium term assuring sustainable development of the forestry sector by achieving optimal balance between environmental functions and their ability to provide long-term tangible benefits and services.

In Serbia:

The **Law on Nature Protection** regulates protection and conservation of nature, biological, geological and landscape diversity as an integral part of the environment; Certain Articles of



EU Birds Directive are transposed into national legislation through the **Law on Wildlife and Hunting**.

The **Biodiversity Strategy for the period 2011-2018** is the implementation of all the international agreement on the protection of biodiversity signed by the country.

The **Law for Environment Protection** regulates the integral system of environmental protection which shall ensure human right to live and develop in healthy environment as well as balanced economy growth and protection of the environment in the Republic. The system of environmental protection shall comprise measures, conditions and instruments for:

- sustainable management, preservation of nature balance, integrity, diversity and quality of natural values and conditions for survival of all living beings;
- prevention, control, reduction and rehabilitation of all kinds of environmental pollution;
- sustainable management of natural values and environmental protection.

The **Forest Act** regulates the conservation, protection, planning, cultivation and forest use, management of forests and forest lands, and provides the conditions for sustainable forest management and forest land as good of public interest, in the manner and to the extent that permanently maintain and enhance their productive capacity, biological diversity, regeneration capacity and vitality and improve their potential to mitigate climate change, as well as their economic, ecological and social functions, and that when it does not cause damage to the surrounding ecosystems.

### 4.3 Water

The main general objective for this issue is the protection of all the different water body types (surface, transitional, coastal waters and groundwater). In relation to the issue "Water" the analysis takes into account also the following cross-cutting themes: "risk management", "sustainable use of natural resources", "sustainable tourism" "environmental education and awareness raising on environmental issues" and "adaptation to climate change".

The following table shows the list of relevant EU and national legal and policy framework from which the environmental objectives and the corresponding evaluation questions have been driven:

Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
EU Water Framework Directive(2000/60/EC)	Water Act	Law on Waters	<b>Reduction of water pollution from point and diffuse sources</b>	Will the specific objective have an effect on the reduction of water pollution from point and diffuse sources?
EU Groundwater Directive (2006/118/EC)	National Strategy for Management and Development of the Water Sector	Law for Environment Protection		
EU Floods Directive (2007/60/EC)				
EU Urban Waste Water Directive	Strategy for the		<b>Reduction of eutrophication</b>	Will the specific objective have an effect on the reduction of eutrophication?





Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
<p>(91/271/EEC)</p> <p>EU Thematic Strategy on <b>sustainable use of natural resources</b> (COM(2005) 670)</p> <p>EU <b>Nitrate Directive</b> (91/676/EEC)</p> <p>EU Landfill Directive (99/31/EC)</p> <p>EU Waste Framework Directive (2008/98/EC)</p>	<p><b>management and development of water supply and sewerage</b></p> <p><b>National Wetland Protection Plan for the Period 2013-2020</b></p> <p><b>Danube River Basin Management plan (2010-2015)</b></p> <p><b>West Aegean River Basin Management plan (2010-2015)</b></p> <p>Management Plans for River Basins for the period 2016-2021</p> <p>Flood Risk Management Plans</p>		<b>Improvement of ecological and chemical status of water bodies</b>	Will the specific objective have an effect on the improvement of ecological and chemical status of water bodies?
			<b>Promotion of sustainable use of water resources</b>	Will the specific objective have an effect on the promotion of sustainable use of water resources?
			<b>Reduction of flood risks</b>	Will the specific objective have an effect on the reduction of flood risks?
			<b>Promotion of sustainable tourism towards water resources preservation</b>	Will the specific objective have an effect on the promotion of sustainable use of sustainable tourism towards water resources preservation?
			<b>Promotion of responsible behaviour of the public by involving the citizens into sustainable water use</b>	Will the specific objective have an effect on the promotion of responsible behaviour of the public by involving the citizens into sustainable water use?
			<b>prevention of accidental contamination of surface waters</b>	Will the specific objective have an effect on the prevention of accidental contamination of surface waters?





Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
			<i>conservation of areas of water protection</i>	Will the specific objective have an effect on the conservation of areas of water protection?

The EU **Water Framework Directive** (WFD) is the main EU policy for the “Water” issue. The Directive aims to different aspects:

- Improvement of the ecological and chemical state of all surface water bodies, of the quantitative and chemical status of groundwater, to achieve good qualitative and quantitative status by 2015;
- ;
- Prevention and reduction of water pollution;
- Promotion of sustainable water resource use;
- Contribution to mitigate the effects of floods and droughts.

In order to achieve the good state and Member states have to adopt and continuously revise management plans for river basin districts.

Complementary to the WFD the **EU Groundwater Directive** (2006/118/EC) includes quality standards for the chemical state of groundwater and aims to reduce and prevent indirect pollution resulting from the penetration of pollutant into the soil.

Other EU directives are relevant for the water sector and are the basis for several of the protection objectives mentioned above. The **EU Urban Waste Water Directive** aims for a better management of waste waters and provides for the mitigation of negative effects of discharges of urban waste water. The **EU Nitrates Directive** promotes the protection from water pollution caused, in particular, by nitrates from agricultural sources.

The **EU Floods Directive** (RL 2007/60/EG) aims at prevention and limitation of floods, possible risks and resulting negative impacts on human health, environment, cultural heritage, infrastructures and economic activities after flood events.

The objective of the **EU Landfill Directive** is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, by introducing stringent technical requirements for waste and landfills. The Directive is intended to prevent or reduce the adverse effects of the landfill of waste on the environment, in particular on soil, water and human health. Also the disposal of the **EU Waste Framework Directive** concerns the environmental issue “Water” as discharged harmful substances (waste) pollute water bodies and soil.

#### In Bulgaria:

The objective of the **Water Act** is to ensure integrated water management in the interest of society and for protection of public health, as well as to create conditions to:



- ensure a sufficient supply and good quality of surface waters and groundwater for sustainable, balanced and equitable water use;
- reduce the pollution of waters;
- protect surface waters and groundwater and the waters of the Black Sea;
- eliminate the pollution of the marine environment with natural or synthetic substances;
- eliminate the discharges, emissions and losses of priority hazardous substances;
- prevent or reduce the harmful consequences for human life and health, the environment, cultural heritage and economic activity associated with water-related damage and loss.

The long-term strategic objective of the country in the water sector is “Sustainable use of water resources, providing optimum levels for present and future needs of the population and the economy, and aquatic ecosystems”. Main aims of the **National Strategy for Management and Development of the Water Sector** (to 2037) are: 1) Ensure the provision of water for households and businesses in terms of climate change leading to drought; 2) Maintaining and improving the condition of surface and underground waters; 3) Improving performance in integrated water management as economic resource; 4) Reduce the risk of flood damage.

The main objective of **Strategy for the management and development of water supply and sewerage** the is to improve the management of water and wastewater sector and to improve the quality of water and sewerage services. It is based on this four objectives: 1) Creating conditions for effective management of the sector and an integrated approach to solving problems; 2) Creating conditions for the involvement of the private sector, the interests of society; 3) Application of structural management approach, taking into account regional planning and to ensure economies of scale; 4) Improving the quality of water and sewerage services and reaching levels and standards of these services in the European Union.

#### In Serbia:

The **Law on Waters** regulates legal status of waters, integrated water management, management of water structures and underwater land, sources and means of funding water management, monitoring and implementation of this law and other relevant issues regarding water management. The Law has established that the water district is an area for which water management plan is adopted, regardless of the fact that it is not always hydrological rounded zone, and the plan is also adopted for the Danube river basin.

## 4.4 Soil

---

The Seventh Environment Action Programme recognizes that soil degradation is a serious challenge. It provides that by 2020 land is managed sustainably in the Union, soil is adequately protected and the remediation of contaminated sites is well underway and commits the EU and its Member States to increasing efforts to reduce soil erosion and increase soil organic matter and to remediate contaminated sites.

In relation to the issue “Soil” the analysis takes into account also the following cross-cutting themes: “risk management”, “sustainable use of natural resources”, “waste management and prevention” “environmental education and awareness raising on environmental issues” and “sustainable tourism”.



The following table shows the list of relevant EU and national legal and policy framework from which the environmental objectives and the corresponding evaluation questions have been driven:

Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
<b>EU Thematic Strategy on Soil protection</b> (COM(2006) 231)  <b>EU Thematic Strategy on sustainable use of natural resources</b> (COM(2005) 670)  <b>EU Landfill Directive</b> (99/31/EC)  <b>EU Waste Framework Directive</b> (2008/98/EC)	<b>Environment Protection Act</b>  <b>Soils Act</b>  <b>Disaster protection Act</b>  <b>Tourism Act</b>  <b>National Waste Management Plan</b>  <b>National Plan for Reduction of biodegradable Waste for Landfilling</b>	<b>Law for Environment Protection</b>  <b>Spatial Plan for the Republic of Serbia</b>	<b>Preservation of the soil functionality</b>	Will the specific objective have an effect on the preservation of the soil functionality
			<b>Reduction of soil degradation and pollution</b>	Will the specific objective have an effect on the reduction of soil degradation and pollution
			<b>Promotion of sustainable use of soil resource</b>	Will the specific objective have an effect on the promotion of sustainable use of soil resource
			<b>Reduction of waste generation, increase in waste recovery and recycling of all waste</b>	Will the specific objective have an effect on the reduction of waste generation, increase in waste recovery and recycling of all waste
			<b>Promotion of sustainable tourism towards land preservation</b>	Will the specific objective have an effect on the promotion of sustainable tourism towards land preservation?
			<b>Promotion of sustainable land management preventing risk and hazards</b>	Will the specific objective have an effect on the promotion of sustainable land management preventing risk and hazards?
			<b>Promotion of</b>	Will the specific



			<b>responsible behaviour of the public by increasing education and awareness on soil protection</b>	objective have an effect on the promotion of responsible behaviour of the public by increasing awareness on soil protection?
--	--	--	---	--

The overall objective of the EU **Thematic Strategy for Soil Protection** is the protection, the preservation of its capacity to perform its functions and the sustainable use of soil, based on the following guiding principles:

(1) Preventing further soil degradation and preserving its functions:

- when soil is used and its functions are exploited, action has to be taken on soil use and management patterns, and
- when soil acts as a sink/receptor of the effects of human activities or environmental phenomena, action has to be taken at source.

(2) Restoring degraded soils to a level of functionality consistent at least with current and intended use, thus also considering the cost implications of the restoration of soil.

The strategy calls for soil protection by preventing and reducing contamination and degradation processes such as desertification, erosion or sealing: objectives outlined also in the Proposal for a Soil Framework Directive (COM(2006) 232).

Furthermore, the strategy is in line with the general provision of the **UN Convention to combat Desertification** (UNCCD, 1994) that aims to prevent and reduce soil degradation through the preparation of national and regional action programmes for its implementation.

Also the overall objective of the Thematic Strategy on sustainable use of natural resources, to reduce the negative environmental impacts generated by the use of natural resources, is taken into account in the identification of the environmental objectives for the "Soil" issue.

The objective of the **EU Landfill Directive** is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, in particular on soil, water and human health. Also the disposal of the **EU Waste Framework Directive** concerns the environmental issue "Soil" as discharged harmful substances (waste) pollute soil and water bodies.

#### In Bulgaria:

The purposes of the **Soil Act** are:

- prevention of soil degradation and damage to soil functions;
- lasting protection of soil functions;
- restoration of damaged soil functions.

The same Act explicates that, soil protection, use and restoration shall be based on the following principles:

- an ecosystem and comprehensive approach;
- sustainable use of soils;
- a priority of preventive control to forestall or limit soil degradation and damage to soil functions;
- applying good practices in soil use;
- the polluter pays for the damage caused;



- public awareness of the environmental and economic benefits of soil protection from degradation and of measures to preserve soils.

The main objective of the **National Waste Management Plan for the programming period 2014-2020** is to break the link between economic growth and waste, improve the hierarchy of waste management by developing the first sub-program and measures to prevent waste generation, set concrete targets for preparation for reuse, recycling and other recovery of specific waste streams. The plan sets 10 strategic objectives, including on the prevention and reduction of waste, increasing quantities of recycled and recovered waste, environmentally friendly waste disposal and others.

#### In Serbia:

The **Law on Environmental Protection** regulates soil protection and its sustainable use. The **Spatial Plan for the Republic of Serbia** is the planning document for the entire territory of Serbia. It defines main strategic priorities for territorial development and contributes to horizontal cooperation at national level and vertical coordination between different levels of planning. Other types of spatial plans have to be coordinated with the Spatial plan of the Republic of Serbia. Time horizon of the national spatial plan, as defined by law is at least 10. The first Spatial Plan of the Republic of Serbia was adopted in 1996 for the period of 15 years. The second Spatial Plan of the Republic of Serbia entered into force on the 1st of December 2010 for the period of 10 years.

### 4.5 Population and human health

The environment is a major determinant of human health and the prevention and reduction of adverse effects is a main goal at international and EU level. In 2010 was signed the **Parma Declaration on Environment and Health** (WHO, World Health Organization) pledging to reduce the adverse health impact of environmental threats. In Europe, the major environment-related health concerns are related to outdoor and indoor air pollution, poor water quality, poor sanitation, waste management and hazardous chemicals. In this content, the cross-cutting themes considered under this issue are: "risk management", "environmental education and awareness raising on environmental issues" and "waste management and prevention".

The following table shows the list of relevant EU and national legal and policy framework from which the environmental objectives and the corresponding evaluation questions have been driven:

Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
EU Health Strategy "Together for Health"  Third EU health programme (2014-2020)  EU Environmental	Environment Protection Act	Waste Management Strategy for period 2010-2019  Law on Waste Management	<i>Reduction of diseases caused by environmental risks</i>	Will the specific objective have an effect on the reduction of diseases caused by natural hazards?
	Disaster protection Act  Waste Management		<i>Prevention of environmental noise exposure</i>	Will the specific objective have an effect on the prevention of environmental noise



Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
<b>Noise Directive</b> (2002/49/EC)  EU Waste Framework Directive (2008/98/EC)  EU Landfill Directive (99/31/EC)  EU Floods Directive (2007/60/EC)  EU Urban Waste Water Treatment Directive (91/271/EEC)	<b>Act</b>  <b>National Waste Management Plan</b>  <b>National Plan for Reduction of biodegradable Waste for Landfilling</b>  Water Act	<b>Public Health Strategy</b>  <b>Law on Noise Protection</b>		exposure?
			<i>Promotion of controls of environmental related health risks and hazards</i>	Will the specific objective have an effect on the promotion of controls of environmental related health risks and hazards?
			<i>Promotion of risk prevention and management of natural and man-made disasters</i>	Will the specific objective have an effect on the promotion of risk prevention and management of natural and man-made disasters?
			<i>Promotion of sustainable waste management to protect human health</i>	Will the specific objective have an effect on the promotion of sustainable waste management to protect human health?
			<i>Promotion of environmentally-responsible behavior of the public by involving the citizens into the solution of environmental problems</i>	Will the specific objective have an effect on the promotion of environmentally-responsible behavior of the public by involving the citizens into the solution of environmental problems?

The **EU Health Strategy "Together for Health"** supports the overall Europe 2020 strategy one prerequisite of which is a population in good health. The EU Health Strategy has 3 main objectives

- fostering good health in an ageing Europe,
- protecting citizens from health threats,
- supporting dynamic health system and new technologies,

and express the need to protect human health tackling health risks and determining factors, including the environment.

The **third EU health programme** (2014-2020)<sup>24</sup> is the main instrument the EC uses to implement the EU health strategy. The programme has **4 overarching objectives**. It seeks to:

<sup>24</sup> Adopted with the EU Regulation No 282/2014 of 11 March 2014.





1. Promote health, prevent diseases and foster supportive environments for **healthy lifestyles** taking into account the 'health in all policies' principle,
2. Protect Union citizens from serious **cross-border health threats**,
3. Contribute to innovative, efficient and sustainable **health systems**,
4. Facilitate access to **better and safer healthcare** for Union citizens.

The Seventh Environment Action Programme recognizes that human health and well-being must be protected from environmental affects. In this content, in many EU Directives (Noise Directive, Landfill Directive, Floods Directive, Waste Framework Directive, etc.) human health protection is a main objective.

The **Environmental Noise Directive** relates to the assessment and management of environmental noise. As part of the effort to tackle noise pollution, the European Union has laid down a common approach to avoiding, preventing or reducing on a prioritised basis the harmful effects on human health from environmental noise.

The **EU Waste Framework Directive** aims to reduce the amount of waste generated and to promote sustainable waste management contribution to the protection of the environment and of human health from adverse effects. It introduces the "polluter pays principle" and the "extended producer responsibility", including two new recycling and recovery targets to be achieved by 2020: 50% preparing for re-use and recycling of certain waste materials from households and other origins similar to households, and 70% preparing for re-use, recycling and other recovery of construction and demolition waste.

The **EU Floods Directive**(RL 2007/60/EG) aims at prevention and limitation of floods, possible risks and resulting negative impacts on human health, environment, cultural heritage, and economic activities after flood events.

The objective of the **EU Landfill Directive** is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, in particular on human health, soil and water.

#### In Bulgaria:

The **Disaster Protection Act** settle providing in case of disasters caused by natural phenomena and/or human activity, leading to negative consequences for the life or health of the population, property, economy and the environment and which the capacity of the system servicing the routine activities related to protection of society would be insufficient to prevent, bring under control and overcome.

The **Waste Management Act** promotes and provides that waste shall be managed for the purpose of prevention, mitigation or limitation of the harmful impact of waste on human health and on the environment. The main objective of the **National Waste Management Plan for the programming period 2014-2020** is to break the link between economic growth and waste, improve the hierarchy of waste management by developing the first sub-program and measures to prevent waste generation, set concrete targets for preparation for reuse, recycling and other recovery of specific waste streams. The plan sets 10 strategic objectives, including on the prevention and reduction of waste, increasing quantities of recycled and recovered waste, environmentally friendly waste disposal and others. Furthermore, the main goal of the **National Plan for Reduction of biodegradable Waste for Landfilling** is the reduction of the amount of biodegradable organic waste incoming for disposal.

The objective of the **Water Act** is to ensure integrated water management in the interest of society and for protection of public health, as well as to create conditions to:





- prevent or reduce the harmful consequences for human life and health, the environment, cultural heritage and economic activity associated with water-related damage and loss.

#### In Serbia:

The **Law on Waste Management** regulates: types and classification of waste, waste management planning, waste management agents, responsibilities and obligations in waste management, waste management organization, specific waste streams management, conditions and procedure of authorisation, cross-border movement of waste, waste information and database, waste management funding, monitoring and other relevant issues regarding waste management. The purpose of the law shall be to provide and secure conditions for the following:

- Waste management in a way that does not endanger the health of people and the environment;
- Prevention of waste generation, particularly by developing cleaner processes and rational use of natural resources, as well as the elimination of the danger of their harmful effect on the health of people and the environment;
- Reuse and recycling of waste, separation of secondary raw materials from waste and use of waste as an energy source;
- Development of the waste disposal procedures and methods;
- Rehabilitation of disorderly landfills;
- Monitoring the state of the existing and newly-formed landfills;
- Development of the awareness of waste management.

The **Waste Management Strategy for period 2010-2019** provides requisites for rational and sustainable waste management at the level of the Republic. Key steps include strengthening of existing and development of new measures for establishment of integral waste management system.

The **Public Health Strategy** encourages the responsibility of the state and society in providing well-being for all citizens by improving the health and preservation of a healthy environment.

The **Law on Noise Protection** determines: beneficiaries of environmental noise protection, noise protection measures and requirements, noise level estimation, public access to noise information system, monitoring and other relevant issues regarding the protection of the environment and public health.

## **4.6 Cultural/natural heritage and landscape**

---

The protection and preservation of cultural heritage (sites, monuments and **groups of buildings**) and of natural heritage (**natural features, geological and physiographical formations and natural sites**) is ensured at the international level by the **UNESCO World Cultural and Natural Heritage Convention 1972**. The Convention initiated the World Heritage Programme which promote the conservation of several tangible and intangible significant sites. Interlinked and often included in the protection of natural and cultural heritage can be considered the protection of the landscape. The cross-cutting themes hereafter considered are “sustainable tourism” and “environmental education and awareness raising on environmental issues”.



The following table shows the list of relevant EU and national legal and policy framework from which the environmental objectives and the corresponding evaluation questions have been driven:

Relevant EU legislation and policies	Relevant Bulgarian legislation and policies	Relevant Serbian legislation and policies	Environmental Objectives	Evaluation questions
<b>EU Landscape convention 2000</b>  <b>2010 communication on tourism</b>  EU Floods Directive (2007/60/EC)	Environment Protection Act  <b>Biological Diversity Act</b>  <b>Water Act</b>  <b>Protected Areas Act</b>  <b>Strategic Plan for the Development of Cultural Tourism</b>  <b>Tourism Act</b>	<b>Law on Tourism</b>  <b>Law on Heritage Protection</b>	<i>Protection and rehabilitation of cultural and natural heritage</i>	Will the specific objective have an effect on the protection and rehabilitation of cultural and natural heritage?
			<i>Promotion of sustainable management and planning of cultural and natural landscape</i>	Will the specific objective have an effect on the promotion of sustainable management and planning of cultural and natural landscape?
			<i>Promotion of sustainable use of natural resources towards sustainable tourism</i>	Will the specific objective have an effect on the promotion of sustainable use of natural resources towards sustainable tourism?
			<i>Promotion of responsible behaviour of the public by increasing education and awareness on heritage and landscape preservation and protection</i>	Will the specific objective have an effect on the promotion of responsible behaviour of the public by increasing awareness on heritage and landscape preservation and protection?

The aims of the **European Landscape Convention** are to promote cultural and natural landscape protection, management and planning, and to organise European co-operation on landscape issues.



After the Agenda for a sustainable and competitive European Tourism, 2007, the Communication “**Europe, the world's No 1 tourist destination – a new political framework for tourism in Europe**”(COM(2010) 352) identifies four priorities for action:

- stimulate competitiveness in the European tourism sector
- promote development of sustainable, responsible, high-quality tourism
- consolidate Europe's images as a collection of sustainable, high-quality destinations
- maximise the potential of EU financial policies for developing tourism.

This European action framework aims first of all to encourage the prosperity of tourism in Europe, but it must also respond to concerns relating to social matters, territorial cohesion and the protection of and capitalisation on natural and cultural heritage.

The **EU Floods Directive** aims at prevention and limitation of floods, possible risks and resulting negative impacts on human health, environment, cultural heritage, and economic activities after flood events.

#### In Bulgaria:

The objective of the **Water Act** is to ensure integrated water management in the interest of society and for protection of public health, as well as to create conditions to:

- prevent or reduce the harmful consequences for human life and health, the environment, cultural heritage and economic activity associated with water-related damage and loss.

The **Biological Diversity Act** have, among others, the following purposes that can be linked to the issue “Cultural/natural heritage and landscape”:

- conservation of natural habitat types representative of the Republic of Bulgaria and of Europe;
- conservation of centuries-old and remarkable trees.

The purpose of the **Protected Areas Act** is to conserve and preserve protected areas as a national and universal human wealth and asset. Protected sites shall be managed for the purpose of preservation of the features of the landscape and provision of opportunities for tourism and public appreciation.

The purpose of the **Strategic Plan for the Development of Cultural Tourism** is to create a plan for sustainable development of the regions in order to meet the needs of Bulgarian and foreign tourists who are in search of new places and experiences, establishing social contacts with local people learning of local products and others. In addition, the **Tourism Act** regulates the social relations associated with the implementation of governance and control in tourism, the interaction of the State and municipalities in the implementation of activities related to tourism, as well as the participation of not-for-profit legal entities and natural persons in the said activities.

#### In Serbia:

The **Law on Tourism** regulates the tourism industry relations based on the following principles:

- Integral development of tourism and complementary activities, as factors of overall economic and social development;
- Sustainable development of tourism as a harmonized system of technical and technological, economic and social activities, based on economic development, preservation of natural and cultural heritage, as well as maintenance and development of local communities;



- Raising efficiency and responsibility in the fields of utilization, management, preservation and promotion of tourist areas;
- Protection of national economy, tourism product consumers and professions in the tourism industry.

The **Law on Heritage Protection** defines public services in this field. A number of special decrees and regulations have further outlined rules on how to conduct inventories, to valorise and categorize cultural heritage as well as define the responsibilities of archives, museums, film archives and libraries. Cultural heritage protection is one of the top priorities of the Ministry of Culture and Media because it represents the national traditions and identities of all people and cultures in Serbia. The system and means of heritage protection is regulated by the, dating back to 1994. A new law is still in the process of being enacted.

According to the **Cultural Properties Law**, the activities to be carried out by the heritage protection institutes consist of: research, registration, valorisation, proposing and determining cultural properties, categorization, maintaining registers and the Central Register, preparing studies, proposals and projects, providing owners and users with expert assistance in preserving and maintaining cultural properties, proposing and overseeing how technical protective measures are carried out, publishing the results of cultural property protection activities, and participating in the preparation of urban and territorial plans.

#### 4.7 SEA Objectives and Evaluation Questions

The table below summarizes, for each environmental issue (and cross-cutting theme), the **qualitative SEA Objectives** and related **Evaluation Questions** defined taking into account the above mentioned environmental legislation and policy framework, all the corresponding environmental objectives and Programme's characteristics.

As already mentioned, these Objectives and Evaluation Questions are the basis of the methodological approach to assess the environmental effects of the CBC Operational Programme (OP) Bulgaria-Serbia 2014-2020.

Environmental Issue	SEA Objectives	Evaluation questions
<b>Air and Climate</b>	<ol style="list-style-type: none"> <li>1. Reduction of air pollution</li> <li>2. Reduction of the GHG emissions</li> <li>3. Improvement of energy efficiency and increase of use of renewable energy resources</li> <li>4. Support of environmentally friendly transports</li> <li>5. Promotion of fire fight management and prevention</li> <li>6. Promotion of resilience to climate change and climate-related disasters</li> <li>7. Promotion of responsible</li> </ol>	<ol style="list-style-type: none"> <li>1. Will the specific objective have an effect on the reduction of air pollution?</li> <li>2. Will the specific objective have an effect on the reduction of the GHG emissions?</li> <li>3. Will the specific objective have an effect on the improvement of energy efficiency and increase of use of renewable energy resources?</li> <li>4. Will the specific objective have an effect on the support of environmentally friendly transports?</li> <li>5. Will the specific objective have an effect on the promotion of forest fire fight management and prevention?</li> </ol>



Environmental Issue	SEA Objectives	Evaluation questions
	<i>behaviour of the public by involving the citizens into fighting climate change</i>	<p>6. <i>Will the specific objective have an effect on the promotion of resilience to climate change and climate-related disasters?</i></p> <p>7. <i>Will the specific objective have an effect on the promotion of responsible behaviour of the public by involving the citizens into fighting climate change?</i></p>
<b>Biodiversity, Flora and Fauna</b>	<ol style="list-style-type: none"> <li><i>Preservation of biodiversity, habitats and ecosystems and their services</i></li> <li><i>Preservation of the natural diversity of fauna, flora, and habitats in protected areas and Natura 2000 sites</i></li> <li><i>Protection of endangered species (plants and animals)</i></li> <li><i>Decrease in loss of biodiversity</i></li> <li><i>Promotion of responsible behaviour of the public by involving the citizens in protecting biodiversity and natural areas</i></li> <li><i>Promotion of tourism that would ensure high degree of nature conservation</i></li> </ol>	<ol style="list-style-type: none"> <li><i>Will the specific objective have an effect on the preservation of biodiversity, habitats and ecosystems and their services?</i></li> <li><i>Will the specific objective have an effect on the preservation of the natural diversity of fauna, flora, and habitats in protected areas and Natura 2000 sites?</i></li> <li><i>Will the specific objective have an effect on the protection of endangered species (plants and animals)?</i></li> <li><i>Will the specific objective have an effect on the decrease in loss of biodiversity?</i></li> <li><i>Will the specific objective have an effect on the promotion of responsible behaviour of the public by involving the citizens in protecting biodiversity and natural areas?</i></li> <li><i>Will the specific objective have an effect on the promotion of tourism that would ensure high degree of nature conservation?</i></li> </ol>
<b>Water</b>	<ol style="list-style-type: none"> <li><i>Reduction of water pollution from point and diffuse sources</i></li> <li><i>Reduction of eutrophication</i></li> <li><i>Improvement of ecological and chemical status of water bodies</i></li> <li><i>Promotion of sustainable use of water resources</i></li> <li><i>Reduction of flood risks</i></li> <li><i>Promotion of sustainable tourism towards water resources preservation</i></li> <li><i>Promotion of responsible behaviour of the public by involving the citizens into</i></li> </ol>	<ol style="list-style-type: none"> <li><i>Will the specific objective have an effect on the reduction of water pollution from point and diffuse sources?</i></li> <li><i>Will the specific objective have an effect on the reduction of eutrophication?</i></li> <li><i>Will the specific objective have an effect on the improvement of ecological and chemical status of water bodies?</i></li> <li><i>Will the specific objective have an effect on the promotion of sustainable use of water resources?</i></li> <li><i>Will the specific objective have an effect on the reduction of flood risks?</i></li> <li><i>Will the specific objective have an effect on the promotion of sustainable use of</i></li> </ol>



Environmental Issue	SEA Objectives	Evaluation questions
	<p>sustainable water use</p> <p>8. Prevention of accidental contamination of surface waters</p> <p>9. Conservation of areas of water protection</p>	<p>sustainable tourism towards water resources preservation?</p> <p>7. Will the specific objective have an effect on the promotion of responsible behaviour of the public by involving the citizens into sustainable water use?</p> <p>8. Will the specific objective have an effect on the prevention of accidental contamination of surface waters?</p> <p>9. Will the specific objective have an effect on the conservation of areas of water protection?</p>
Soil	<p>1. Preservation of the soil functionality</p> <p>2. Reduction of soil degradation and pollution</p> <p>3. Promotion of sustainable use of soil resource</p> <p>4. Reduction of waste generation, increase in waste recovery and recycling of all waste</p> <p>5. Promotion of sustainable tourism towards land preservation</p> <p>6. Promotion of sustainable land management preventing risk and hazards</p> <p>7. Promotion of responsible behaviour of the public by increasing education and awareness on soil protection</p>	<p>1. Will the specific objective have an effect on the preservation of the soil functionality?</p> <p>2. Will the specific objective have an effect on the reduction of soil degradation and pollution?</p> <p>3. Will the specific objective have an effect on the promotion of sustainable use of soil resource?</p> <p>4. Will the specific objective have an effect on the reduction of waste generation, increase in waste recovery and recycling of all waste?</p> <p>5. Will the specific objective have an effect on the promotion of sustainable tourism towards land preservation?</p> <p>6. Will the specific objective have an effect on the promotion of sustainable land management preventing risk and hazards?</p> <p>7. Will the specific objective have an effect on the promotion of responsible behaviour of the public by increasing education and awareness on soil protection?</p>
Population and Human Health	<p>1. Reduction of diseases caused by environmental risks</p> <p>2. Prevention of environmental noise exposure</p> <p>3. Promotion of controls of environmental related health</p>	<p>1. Will the specific objective have an effect on the reduction of diseases caused by natural hazards?</p> <p>2. Will the specific objective have an effect on the prevention of environmental noise exposure?</p> <p>3. Will the specific objective have an effect</p>





Environmental Issue	SEA Objectives	Evaluation questions
	<p><i>risks and hazards</i></p> <p>4. <i>Promotion of risk prevention and management of natural and man-made disasters</i></p> <p>5. <i>Promotion of sustainable waste management to protect human health</i></p> <p>6. <i>Promotion of environmentally-responsible behavior of the public by involving the citizens into the solution of environmental problems</i></p>	<p><i>on the promotion of controls of environmental related health risks and hazards?</i></p> <p>4. <i>Will the specific objective have an effect on the promotion of risk prevention and management of natural and man-made disasters?</i></p> <p>5. <i>Will the specific objective have an effect on the promotion of sustainable waste management to protect human health?</i></p> <p>6. <i>Will the specific objective have an effect on the promotion of environmentally-responsible behavior of the public by involving the citizens into the solution of environmental problems?</i></p>
<b>Cultural/Natural Heritage and Landscape</b>	<p>1. <i>Protection and rehabilitation of cultural and natural heritage</i></p> <p>2. <i>Promotion of sustainable management and planning of cultural and natural landscape</i></p> <p>3. <i>Promotion of sustainable use of natural resources towards sustainable tourism</i></p> <p>4. <i>Promotion of responsible behaviour of the public by increasing education and awareness on heritage and landscape preservation and protection</i></p>	<p>1. <i>Will the specific objective have an effect on the protection and rehabilitation of cultural and natural heritage?</i></p> <p>2. <i>Will the specific objective have an effect on the promotion of sustainable management and planning of cultural and natural landscape?</i></p> <p>3. <i>Will the specific objective have an effect on the promotion of sustainable use of natural resources towards sustainable tourism?</i></p> <p>4. <i>Will the specific objective have an effect on the promotion of responsible behaviour of the public by increasing education and awareness on heritage and landscape preservation and protection?</i></p>

An assessment of the **consistency of the Priority Axes and Specific Objectives of the IPA CBC Bulgaria-Serbia Programme 2014-2020 to the defined SEA Objectives** is given in a matrix summarizing the integration of the environmental objectives in the Draft OP (see matrix at the following page). This consistency assessment has been carried out on the basis of the approach described in the table below:

Coerencelevel	Quality assessment
High	
Neutral	
Uncertain	



Coerencelevel	Quality assessment
Low	



SEA Objectives	PriorityAxis 1 “SustainableTourism”			PriorityAxis2 “Youth”		PriorityAxis 3 “Environment”	
	SO 1.1 Tourist Attractiveness	SO 1.2 Cross-border touristic product	SO 1.3 People-to- people networking	SO 2.1 Skills & entrepreneurship	SO 2.2 Ppeople-to- people networking	SO 3.1 Joint risk management	SO 3.2 Nature protection
Reduction of air pollution							
Reduction of the GHG emissions							
Improvement of energy efficiency and increase of use of renewable energy resources							
Support of environmentally friendly transports							
Promotion of fire fight management and prevention							
Promotion of resilience to climate change and climate-related disasters							
Promotion of responsible behaviour of the public by involving the citizens into fighting climate change							
Preservation of biodiversity, habitats and ecosystems and their services							
Preservation of the natural diversity of fauna, flora, and habitats in protected areas and Natura 2000 sites							
Protection of endangered species (plants and animals)							
Decrease in loss of biodiversity							
Promotion of responsible behaviour of the public by involving the citizens in protecting biodiversity and natural areas							



Promotion of tourism that would ensure high degree of nature conservation							
Reduction of water pollution from point and diffuse sources							
Reduction of eutrophication							
Improvement of ecological and chemical status of water bodies							
Promotion of sustainable use of water resources							
Reduction of flood risks							
Promotion of sustainable tourism towards water resources preservation							
Promotion of responsible behaviour of the public by involving the citizens into sustainable water use							
Prevention of accidental contamination of surface waters							
Conservation of areas of water protection							
Preservation of the soil functionality							
Reduction of soil degradation and pollution							
Promotion of sustainable use of soil resource							
Reduction of waste generation, increase in waste recovery and recycling of all waste							
Promotion of sustainable tourism towards land preservation							
Promotion of sustainable land management preventing risk and hazards							



Promotion of responsible behaviour of the public by increasing education and awareness on soil protection							
Reduction of diseases caused by environmental risks							
Prevention of environmental noise exposure							
Promotion of controls of environmental related health risks and hazards							
Promotion of risk prevention and management of natural and man-made disasters							
Promotion of sustainable waste management to protect human health							
Promotion of environmentally-responsible behavior of the public by involving the citizens into the solution of environmental problems							
Protection and rehabilitation of cultural and natural heritage							
Promotion of sustainable management and planning of cultural and natural landscape							
Promotion of sustainable use of natural resources towards sustainable tourism							
Promotion of responsible behaviour of the public by increasing education and awareness on heritage and landscape preservation and protection							







## 5 Current state of the environment and its likely evolution without the implementation of the Programme (zero-option scenario)

Alongside other **data sources**, the data used in the Environmental report is primarily based on **statistical sources**.

Data used for the **description of the current state of the environment** within the cross-border area and its **likely evolution without Programme implementation (zero-option scenario)**<sup>25</sup> are based, for example, on the analysis of **secondary data**. The evaluation of the initial status and trends are mainly based on data at national level. Nevertheless, when regional/territorial specific environmental information and database has been available, the evaluation is undertaken at that level. The description of the current state of the environment include also an overview of the relevant environmental characteristics of areas likely to be significantly affected as well as of any existing environmental problems which are relevant to the Programme including, in particular, those relating to any areas of a particular environmental importance (e.g. areas designated pursuant to **Directives 2009/147/EC and 92/43/EEC**)<sup>26</sup>. In order to depict the current state of the environment within the Programme, the *status quo* of the environmental issues has been considered. The description cover only those environmental issues<sup>27</sup> which have been identified as relevant in, as well as in the case of the assessment of likely significant effects on the environment. The main characteristic of these environmental issues has been described using corresponding indicators. Alongside other sources (as an example: ESPON 2013 Database), the description is based on data provided by Eurostat Publications as well as on data published by **European Environmental Agency (EEA)**. An outline of the environmental state (and trends) for the cross-border region is given using as a basic source the publication of EEA **"The European Environment-State and Outlook 2010"**. Other national data sources, as the ones mentioned in the following list, has been used:

- Statistical Reference Book, 2010-2013, National Statistical Institute of the Republic of Bulgaria (NSI);
- Statistical Yearbook, 2010-2012, National Statistical Institute of the Republic of Bulgaria (NSI);
- Bulgarian District Development Strategies (2014-2020) – Vidin, Montana, Vratsa, Sofia, Pernik, Kyustendil;
- Study on Strategic Evaluation on Transport Investment Priorities under Structural and Cohesion funds for the Programming Period 2007-2013- Bulgaria;
- Municipalities and regions of the Republic of Serbia, 2010-2012, Statistical Office of the Republic of Serbia;

<sup>25</sup>The zero-option scenario will describe the anticipated development of environmental factors in the Programme area without the implementation of the future OP 2014-2020. Thus, it will form the baseline for the subsequent assessment of the potential effect of the Programme on the environment. The possible evolution of the environment will be estimated on the basis of data trends providing an appropriate forecast horizon up to 2020.

<sup>26</sup>Relevant for the procedure of **Compatibility Assessment (CA)** that must be carried out on the Programme with the object and purpose of the conservation of the protected areas of the ecological network "Natura 2000" (according to the Bulgarian legislation: Ordinance on CA).

<sup>27</sup>The description of cross-cutting themes will be integrated into the description on respective environmental issues.



- Ministry of Spatial Planning, Biodiversity Strategy of the Republic of Serbia for the period 2011-2018;
- Survey of resource efficiency policies in EEA member and cooperating countries 2012;
- Republic of Serbia Ministry of Energy, Development and Environmental Protection, National Renewable Energy Action Plan, Belgrade 2013.

Furthermore, secondary sources (background documents, specific sector database, etc.) has been gathered during detailed and systematic **literary review**.

The assessment of likely significant effects on the environment has been elaborated upon the relevant information based on the different stages of Programme development. Thus lead to an optimized version of the CBC Programme.

## 5.1 Air and climate

Air pollution is recently becoming so significant that it demands special attention regarding taking protection measures. The need to protect the air from pollution, secure life quality in housing estates and industrial centres and to keep the ecological potential of natural ambience is one of the development imperatives.

Moreover, the problems with pollution will not be easy to overcome – there is a persistent lack of funding in the municipal budgets and there are no sufficient national funds available for improving the waste management of the localities. With the restructuring of the economy and Bulgaria's membership in EU, industrial pollution is being controlled. Together with harmonization of environmental protection legislation, Serbian Ministry for environmental protection proposed significant changes in existing legislation. However, this will take years due to the heavy financial burden on Bulgarian and Serbian enterprises to meet the environmental standards and to introduce environmentally-friendly technologies<sup>28</sup>.

In general, the **level of pollution in the cross-border region Bulgaria- Serbia is relatively low**. Since the beginning of the nineties of the last century, the environmental situation in the border region improved mainly due to the decline of the industrial enterprises which seriously damaged the environment

The cross-border area is featured by a **few regional black spots with heavy industrial pollution**, mainly related to coal mining and heavy industries still exist. The industrial complexes in **Negotin** and **Bor** (Serbia), **Sofia** and **Pernik** (Bulgaria) impose serious **air-pollution problems**.

At the same time, **Climate** is influenced by many factors among which is the quantity of greenhouse gases in the atmosphere that in turn depends on the greenhouse gas emissions in the atmosphere at global level.

In the cross-border area, the climate is favourable. In particular, the climate is temperate-continental with very hot summers, small amounts of precipitation, and cold winters marked by irregular intervals with strong snowstorms and frequent warming.

Due to the ongoing climate change, future increase of natural risks like droughts, floods, forest fires, land slides has to be assumed for the programme area. The Southern part of the area face greater risks from droughts, fires and land slides in the mountainous regions, while the Northern part of the area face greater risks from floods in the plains.

<sup>28</sup> Cfr. OP IPA Cross border area Bulgaria – Serbia, p. 26



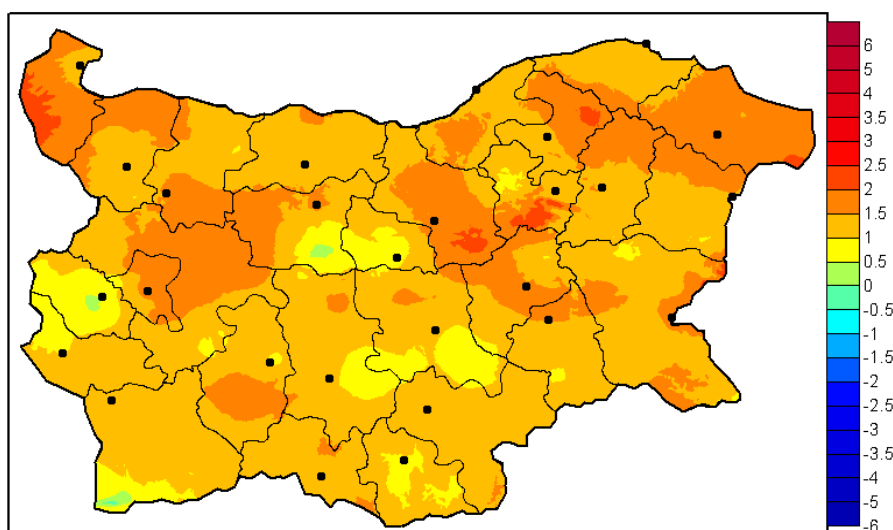
The following description shows an overview on Bulgaria and on Serbia in order to illustrate the current state of two countries in terms of climate change and of air pollution.

## Bulgaria

The climate of Bulgaria is temperate continental with a transition towards a subtropical climate in its Mediterranean version (in the southern parts of the country), with four seasons.

In recent years, increased frequency of extreme weather and climate events were registered. In 2012, the average annual temperature in Bulgaria is  $1,3 \pm 0,3$  ° C above normal climate rate (average annual temperature for the period 1961-1990), which keeps the trend of more than 1 ° C in the last 5-6 years. According to simulations of climate change made on the basis of the main emission scenarios temperatures in Bulgaria are expected to increase between 2 and 5 degrees by the end of the 21st century.

### Deviation of the annual climatic norm (10,5 ° C) of air temperature in Bulgaria in 2012



Source: NIMH (National report on the status and conservation of the environment, 2014)

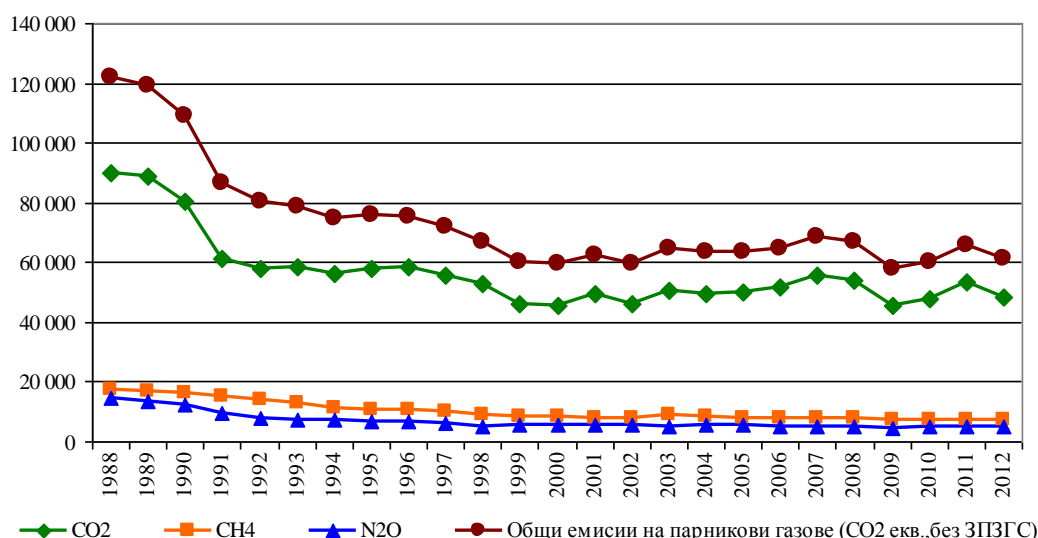
In 2012 the **total GHG emissions** are **61,045.63 Gg CO<sub>2</sub>-eq.** or 50.1% of the emissions in the base year.

The following Figure shows the decrease of the basic air pollutants. For a 10 year period the atmospheric **concentration of nitrogen dioxide** has **decreased with 53%**, of **sulphur dioxide with 65%** (mainly because of the decrease of Thermal power plant emissions as a result of installing sulphur-cleaning installations), of ammonium with 62%, of the non-metal volatile organic compounds with 85%<sup>29</sup>.

### Trend in emissions of GHGs - CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O and total GHG emissions (including HFCs, PFCs and SF<sub>6</sub>) for the period 1988-2012, Gg CO<sub>2</sub> - eq.

<sup>29</sup>Cfr: SEA report 2014 - 2020, Bulgaria – Romania, p. 76-78





Source: EEA, National inventory report on GHG emissions for 2012

#### Characteristics of RAMAAQ concerning air pollution with NO2

RAMAAQ	AHR (1 HOUR)		AYR (1 YEAR)	
	>AHR	□AHR	>AYR	□AYR
North Region		+		+

Source: EEA (National report on the status and conservation of the environment, 2014)

During the year, exceedance of AHR and AYR for PM10 is registered in all RAMAAQ. Among the cross border districts, **Vidin** is one of the areas in which the highest number of exceedances of the ADR (157 days) is registered. Sources of registered excess pollution are household, transportation and industrial activities in the territory of the municipalities, as well as polluted and poorly maintained road pavements. Additional contribution to air pollution by particulate matter has the impact of adverse weather conditions in the country as low dilution of locally emitted pollutants, including as a result of low wind speeds (less than 1.5 m/s), and prolonged droughts.

#### Characteristics of RAMAAQ concerning air pollution with PM10

RAMAAQ	ADR (24 HOURS)		AYR (1 YEAR)	
	>ADR	□ADR	>AYR	□AYR
North Region	+		+	

Source: EEA (National report on the status and conservation of the environment, 2014)

The average annual rate of PM2.5 is exceeded in North RAMAAQ (VelikoTarnovo and Ruse). The main source of pollution are emissions from transport, households, industry, and poorly maintained roads.

No concentrations above the average rate of lead aerosols in the atmosphere are registered in 2012, nor exceedances for carbon monoxide.



In 2012 in Ruse are registered exceedances of the threshold for informing the population in terms of **values for ozone ( $180\mu\text{g}/\text{m}^3$ )**, where also are calculated and the highest critical level of OVP40<sup>30</sup> (May-July) were calculated - more than  $22\,000\,\mu\text{g}/\text{m}^3\cdot\text{h}$ .

The average target rate for cadmium, nickel and arsenic is not exceeded in the area concerned. In 2012, North RAMAAQ recorded exceedances of the target AYR on PAH in ambient air. Main sources of pollution are the burning of various fuels, including in the household sector.

**Characteristics of RAMAAQ concerning air pollution with arsenic, cadmium, nickel and PAH**

RAMAAQ	AYR (1 year)							
	Arsenic		Cadmium		Nickel		PAH	
	>AYR	□AYR	>AYR	□AYR	>AYR	□AYR	>AYR	□AYR
North Region						+	+	

Source: EEA (National report on the status and conservation of the environment, 2014)

According to the analysis of socio-economic development, presented at the National Regional Development Strategy 2012 – 2022, the region of lowest greenhouse gas emissions is the North West Region, where Vidin, Vratsa, Montana and Pleven districts are located.

Moreover according to data published by the National Statistics Institute, household and construction waste parameters for the Bulgarian part of the cross-border area are as follows:

**Emissions of harmful substances into the air from road\* and other transport in 2012, t / y**

No	REGION	TOTAL MUNICIPAL WASTE – THOUSANDS OF TONS	SERVICED SETTLEMENTS - NUMBER	POPULATION IN SERVICED SETTLEMENTS - NUMBER	HOUSEHOLD LANDFILLS - NUMBER
1	Vidin	31	139	97.544	6
2	Vratsa	39	122	181.568	3
3	Montana	42	130	143.662	1

Transport is a major source of emissions of nitrogen oxides, as their quantity reaches 28.3% of national emissions. As regards other substances, precursors of ozone, transport is a less important source, as only carbon monoxide emissions represent 9.25% of national emissions.

### Serbia

Considering the climate in Serbia is in the north continental (cold winters and hot, humid summers with well-distributed rainfall); in other parts, continental and Mediterranean climate (relatively cold winters with heavy snowfall and hot, dry summers and autumns). In light of this fact, Serbia plans to fulfill the duties falling on its part in tackling global climate change.

The **effects of global warming** on the territory of Serbia are evident from a long series of meteorological data. Over the past years, there was an **increase in mean annual**

<sup>30</sup> Critical ozone threshold for vegetation protection



**temperatures** in almost all parts of Serbia. The rises in temperatures were higher in the northern than in the southern parts of the country.

Particularly, the trend of increasing air temperature in Serbia since 1990 is several times higher than in the previous period. Summer 2008 was the 19th successive summer that was warmer than normal<sup>31</sup>.

The mean annual air temperatures are between 10 and 12°C in the lowlands and Metohija, below 10°C at altitudes higher than 600 metres, around 6°C at altitudes above 1,000 metres, and around 3°C at altitudes above 1,500 metres. The sum of the annual precipitation increases with altitude. The lowest precipitation, under 600 mm, is characteristic for northern Serbia and parts of Kosovo. The amounts of precipitation in the Sava region as well as in the Great Morava and South Morava valley regions ranges between 600 and 700 mm, in the mountainous areas between 800 and 1000 mm a year, and above 1,000 mm a year on some mountain peaks in Southwest Serbia.

Furthermore, in the area of **climate change**, no progress was made on general policy development and comprehensive climate strategy is still to be developed, according to the EC 2012 Serbia Progress Report. Limited progress was achieved in alignment with climate acquis, but significant efforts are required to strengthen the country's monitoring, reporting and verification capacities because the respective EU legislation sets the foundation for progress with the entire EU climate acquis<sup>32</sup>.

Serbian's national vision within the scope of climate change is to become a country fully integrating climate change-related objectives into its development policies, **disseminating energy efficiency**, increasing the **use of clean and renewable energy resources**, actively participating in the efforts for tackling climate change within its special circumstances and providing its citizens with a high quality of life and welfare with **low-carbon intensity**.

In order to improve the state of the environment, the Republic introduced a new legal framework for environmental protection harmonised with the EU acquis. Thirteen new laws in the field of the environment, such as the Law on Air Quality, the Law on Waste Management and the Law on Packaging and Packaging Waste, were adopted by the Serbian Parliament in May 2009. Taking into account the provisions of EU Directives and Decisions transposed into these laws, it is expected that their implementation will affect future **GHG emission reductions**.

In 2010, the **Total CO<sub>2</sub> of emission** in Serbia amounted to **6.3 metric tons per capita**. The table below shows the level of Serbian's emission over the EU average<sup>33</sup>.

<sup>31</sup>Cfr. EEA - Climate change mitigation - State and impacts (Serbia), url:

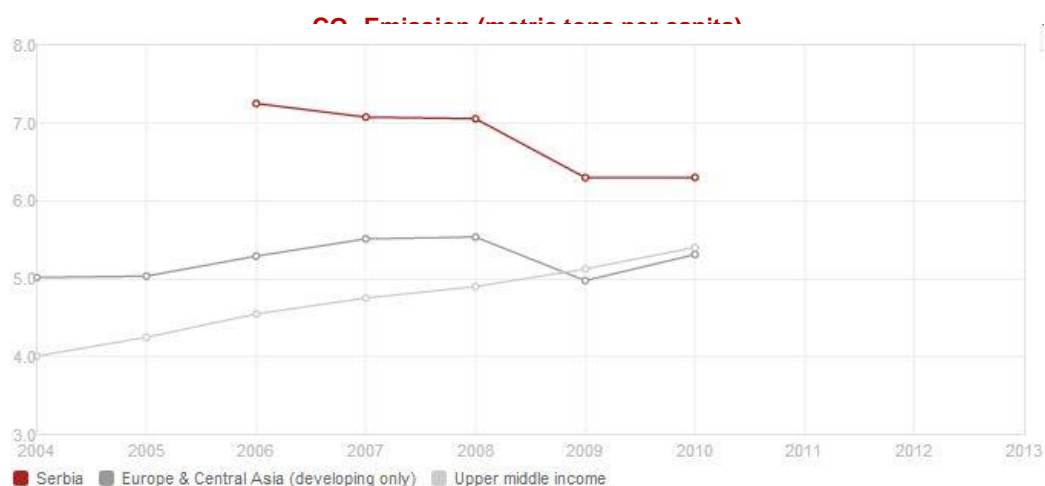
<http://www.eea.europa.eu/soer/countries/rs/climate-change-mitigation-state-and>

<sup>32</sup>Cfr. IPA 2007-2013 Sector fiche – IPA National programmes / Component Environment and Climate Change Sector, p.

<sup>33</sup>Cfr. See World Bank : <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC/countries/RS-7E-XT?display=graph>







Source: Worldbank (2010)<sup>34</sup>

Concerning the Serbian's **air quality**, in the past three years air quality in Serbia has, with little variation, been defined by the impacts of basic pollutants – sulphur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>) and black soot. Their impact can best be assessed in terms of the temporary air quality index, AQI\_S\_07, defined in the State of Environment Report of the Serbian Environmental Protection Agency (SEPA). Air quality monitoring in 2008 was carried out at more than 90 locations, with data from 20 urban and urban/industrial locations being selected for AQ assessment. The poor quality of ambient air in many areas and cities results from emissions of SO<sub>2</sub>, nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), soot and particular matter. Air quality deteriorates particularly during calm weather conditions and during winter when heating is used.

Air quality assessment using AQI\_S\_07 indicates that air quality during 2008 was excellent T in 84 % of the monitoring sites in terms of daily mean concentrations of SO<sub>2</sub>, but only excellent in 43 % of the monitoring sites in terms of daily mean concentration of black soot. It was polluted in 9.3 % of sites, or very polluted in 2.4 % of sites, mainly as a result of daily black soot concentrations exceeding the limit value (LV). Polluted and very polluted air is a frequent event in Bor, due to SO<sub>2</sub> daily values exceeding the limit value<sup>35</sup>.

In Serbia, the biggest environmental polluters are the Mining and Smelting basin **Bor** and industrial complex in **Kladovo**.

In Bor, the air pollution is present, more specifically sulphur dioxide. It is a by-product of the production process. Beside the air pollution there is also a land and water pollution from the mullock. According to the available data (American Agency for protection of the environment, the SO<sub>2</sub> that is released in the air is causing respiratory infections, heavily breathing and early death. There are no official studies in Serbia or data about the increase of percentage of people with cancer comparing to rest of Serbia<sup>36</sup>.

<sup>34</sup>Cfr. url: <http://data.worldbank.org/indicator/EN.ATM.CO2E.PC/countries/RS-7E-XT?display=graph>

<sup>35</sup>Cfr. EEA, The state and impacts - Air pollution (Serbia ), url: <http://www.eea.europa.eu/soer/countries/rs/air-pollution-state-and-impacts-serbia>

<sup>36</sup>Cfr. Situation Analysis – Final draft, BG-RS, p.11





## Main environmental problems to be faced in the cross-border area BG/RS

Among the relevant problems to be faced in the cross border region is the **urbanization** and **industrialization**. These phenomena impacted directly to the local climate conditions changing the values of the meteorological elements above the air dome that is formed over these (urbanized and industrialized) territories. The incorrect distribution of the urbanization elements results in the formation of areas with prevailing calm weather and no opportunity for normal air exchange. This results in the creation of conditions for keeping the pollutants from transport and other sources in the ground air layer that directly influences the health of the population.

Specifically, the **districts of Vidin** and **Vratsa** (Bulgaria) have measured in 2012 the highest levels in the country for fine dust particles. In total 34% of the population within the Danube environment-monitoring area on the Bulgarian territory is affected by this pollution, measured with average daily norm of 50 µg/m<sup>3</sup> being surpassed more than 35 days per year. The reasons for the levels of fine dust particles that are registered over the admissible limit are emissions caused by the transport, the industrial and the housing sectors, and the poor maintenance of the roads.

In the Municipalities where the programmes upon article 27 of the Air Quality Act are being implemented, continuous control is performed (with the automated measuring stations) and abnormal pollution was established in view of the indicator FDP10 in the following cities within the cross-border area: Vidin, Vratsa, Montana. The main reasons for the abnormal rates of FDP10, according to the programmes are:

- The domestic heating in the winter season in the most cases is combined with the supplementing effect of transport;
- The prevailing influence of the transport sector – in view of the largest cities;
- The prevailing influence of the non-organized sources – for some cities in proximity to large industrial regions<sup>37</sup>;

### Zero-option scenario:

No scenarios have been developed to date (EEA outlook, 2010).

## 5.2 Biodiversity, fauna and flora

A distinctive feature of the Bulgarian-Serbian border region is its **wide biological diversity**. It is rich in **natural parks**, protected areas and natural reserves which guarantying an high value in terms of protection of biodiversity in this region.

### **Bulgaria**

Bulgaria is one of the **richest countries in biological diversity** in Europe with high amount of endemic species (e.g. 5% in case of plant species of the entire flora, or almost 9% of invertebrates – excluding insects). Bulgaria also offers almost all main types of natural

<sup>37</sup>Cfr. National Regional Development Strategy of the Republic of Bulgaria for the period 2012-2022 (Ministry of Regional Development and Public Works, 2012)



habitats represented in Europe. Bulgaria is one of the countries with the greatest biodiversity in Europe.

A variety of landscapes, geology and microclimates and thousands of years of human activity have resulted in a **rich diversity of species**, communities and natural habitats. Bulgaria contains three bio-geographic areas (Alpine, Black Sea and Continental), a variety of communities and ecosystems and almost all major European habitat types. Bulgaria's genetic plant and animal resources play an important economic, cultural and biological role. They represent a variety of wild and semi-wild relatives of crops, local types and breeds, many of which are under threat.

**Some major risk could affect this asset**, in fact still exist a lot of anthropogenic threats to the biodiversity in Bulgaria. The loss and degradation of the natural habitats and ecosystems, as well as pollution of air, soils and waters are the main dangers for the biodiversity. Sectors like forestry, industry – energy and mining, agriculture, tourism have in some cases quite negative impacts to the biodiversity especially on the local level. These includes also e.g. illegal collection of edible mushrooms, medicinal plants, snails, reptiles and amphibians, sport hunting of big animals and birds etc. Changes in land's ownership also creates some threats for the biodiversity – especially if farmers and local authorities are not fully informed about and warned to protect and restore land, taking into account the necessity to preserve the biodiversity within and outside of the protected areas. The fires represent quite significant adverse effect to the biodiversity at present.

Over the past few years the protection of the environment and biodiversity is one of the top priorities of Bulgaria. **In 2012, the area of protected natural scenery in Bulgaria amounts to 583.876 ha** or 5.3 % of the country's territory and compared to 2011 there is an increase by 1 754 ha. At the end of 2012 in Bulgaria exist 973 protected natural areas, which is by 19 more compared to the previous year.<sup>38</sup>

**Protected Natural Scenery in 2013**

PROTECTED NATURAL AREAS	NUMBER	AREA (HA)
<b>Total Natural Areas</b>	<b>1.009</b>	<b>584.587,1</b>
Reserves	55	77.044,1
Natural landmarks	344	16.844,2
Protected areas	561	79.353,4
National parks	3	150.362,3
Natural parks	11	256.455,7
Maintained reserves	35	4.518,0

Source: Republic of Bulgaria- NSI, Statistical Reference Book 2014.

The diversity of Bulgarian flora and fauna has a significant economic dimension as a biological resources of importance to the Bulgarian people and the national economy. The most important source of flora and fauna is **Bulgaria's forests which cover a third of the**

<sup>38</sup>Source: Republic of Bulgaria- NSI, Statistical Reference Book 2013.



**country.** Although there is still no economic assessment of the ecosystem services they offer, they play a vital environmental role as a source of oxygen, water, timber and non-timber products, including grassland, forest fruit and herbs, habitats for plant and animal species and a place for tourism, sports and recreation.<sup>39</sup>

The implementation of the **NATURA 2000 network** in Bulgaria will bring the significant positive effects to the biodiversity protection. On the other hand, it is also possible to suppose further pressures to the biodiversity out of the protected areas due to economic development of the country.

The following table illustrate the number and surface which is under Natura 2000 in Bulgaria on 2012.

**Protected Zones from “Nature 2000” in 2012**

	NUMBER	AREA (HA)			SHARE OF PROTECTED ZONES IN THE TOTAL COUNTRY'S TERRITORY (%)
		TOTAL	TERRITORY	AQUATORY	
<b>By directive of birds</b>					
Approved by Decision of the Council of Ministers	118	2.566.588	2.512.559	54.029	22,6
of which: announced by Order of the Minister of environment and water	114	1.781.026	1.729.192	51.937	15,7
<b>By directive of habitats</b>					
Approved by Decision of the Council of Ministers	231	3.391.225	3.330.115	61.110	30,0
of which: announced by Order of the Minister of environment and water	-	-	-	-	-
<b>Total by both directives</b>					
Approved by Decision of the Council of Ministers	336	3.905.989	3.808.430	97.559	34,3
of which: announced by Order of the Minister of environment and water	114	1.781.026	1.729.192	51.937	15,7

Source: Republic of Bulgaria- NSI, Statistical Reference Book 2013.

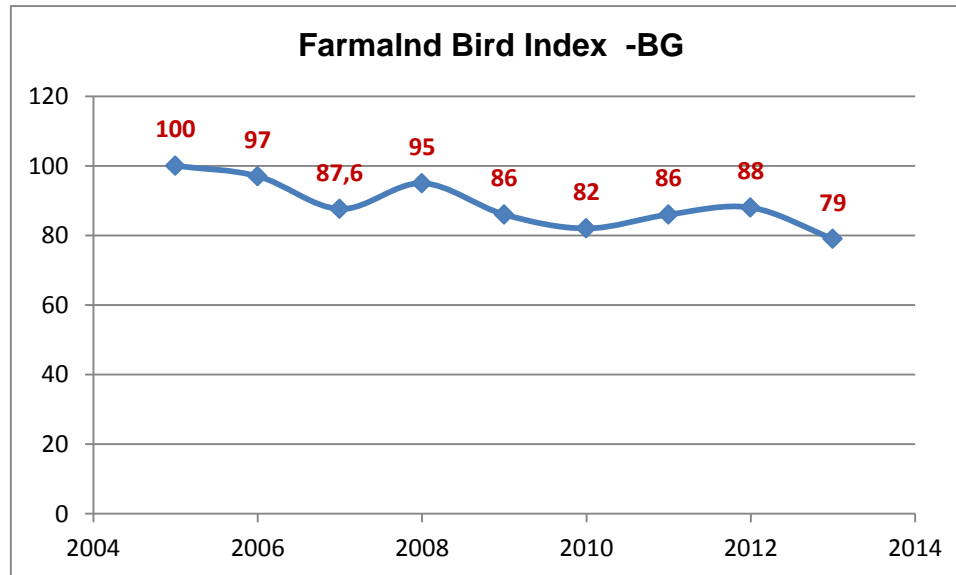
Bulgaria has some of the most diverse cave fauna in Europe, with 33 species of bat. The first ever trend projections for **38 common bird** species were published in 2007, along with an index of birds in agricultural habitats – an important indicator of sustainability in farmland management. Of the 38 species tracked in the period 2005-2007, a total of **17 were classified as farmland birds**. In the first eight years of its existence, the **FBI index**

<sup>39</sup>[http://www.eea.europa.eu/soer/countries/bg/soertopic\\_view?topic=biodiversity](http://www.eea.europa.eu/soer/countries/bg/soertopic_view?topic=biodiversity)



declined as shown on the figure below, highlighting the risk of decreasing of birds in agricultural area, and loss of biodiversity.

Index of farmland birds in Bulgaria (17 species), (%)



Source: Bird Life Bulgaria – [www.bsp.org/monitoring](http://www.bsp.org/monitoring)

The **cross-border region** has unique flora and fauna, rich species kinds, including mammals, birds, reptiles, insects, plants, and mushrooms also with numerous endemic species. The part of the Bulgarian largest national park – **The Rila National Park**– is located there in **Kyustendil district**. Also the Vitosha Park is located in the neighbourhood of Sofia.

To the north of Sofia, in the **Vidin district**, there exist the **Chuprene area** which is a natural reserve included in the UNESCO and UNO list of protected areas. The biodiversity in Vidin district is comparatively rich.<sup>40</sup> The floral variety of the region is a result from the diversity in the conditions and habitations. Almost all typical for Bulgaria habitats are spread on approximately small territory. At the same time there are places where unique conditions have been created for the origin and differentiation of the so called endemics, local species which are spread only in a particular region. Species of that kind is for example the Bulgarian eranthis (*Eranthis bulgaricus*). Among the most interesting Balkan endemics are the Siberian melic grass (*Melisa altissima*), Simphy and rawanery and Serbian ramonda (*Ramonda serbica*), which is a tertiary relict. In many places as a result from human activities, mainly timber industry, the original vegetation has been replaced by industrial species, for example hornbeam with manna-ash, hazel bush, thorny bush and others. Also '**Belograd chishkiskali**' are a group of strange shaped sandstone and conglomerate rock formations located on the western slopes of the Balkan Mountains (Stara Planina) near the town of Belogradchik. The central group of rocks is situated just to the south and adjacent to the town of Belogradchik. Located here are the most interesting and impressive formations: Adam and Eve, the Mushrooms, the Schoolgirl, the Bear, the Dervish, the Shepherd Boy, the Lion, the

<sup>40</sup>Source: [http://en.vidin.government.bg/094/60-16-16/sidebar/oblast\\_vidin/okolna\\_sreda2.html](http://en.vidin.government.bg/094/60-16-16/sidebar/oblast_vidin/okolna_sreda2.html)



Camel, the Madonna, the Horseman, the Monks, the goddess Bendida, the Rebel Velko, and many other stone figures

Diversity of plant and animal species in the southern part of **Vratsa** region and the Danube Valley is extremely high. The extensive rock complexes of Nature Park "Vrachanski Balkan" are habitat for over 250 species of vertebrates, among which the largest group comprises over 180 bird species. This is an esting area of Alpine chough (*Pyrhocorax graculus*), Alpine swift (*Tachymarptes melba*), Wall creeper (*Tichodromamuraria*), Water pipit (*Anthus spinoletta*), various woodpeckers, Egyptian vulture (*Neophron perc nopterus*). Even rarely, in the region occur Golden eagle (*Aquila chrysaetos*), Common buzzard (*Buteo buteo*), Sparrow hawk (*Accipiter nisus*) and other raptors using the area for hunting. Also occyrringare Marbledpolecat (*Vormella peregusna*), Meadow lizard (*Darevskia praticola*) and Balkan wall lizard (*Podar cistauricus*), Horned viper (*Vipera ammodytes*), etc. Cave fauna is one of the greatest treasures of the area. Some of the cave species are found only here. Much of the animal species are included in the Red Data Book of Bulgaria as endangered and rare.<sup>41</sup>

The flora is also rich, with many rare and threatened species, as only within "Vrachanski Balkan" there are more than 700 species of plants comprising 1/5 of the Bulgarian Flor. 51 of them are identified as rare or threatened with extinction, 25 species are protected by the Nature Protection Act. Critically endangered plants within the area are: *Campanula jordanovii*, *Centranthus kellererii*, *Chamaecytisus kovacevii*, *Juniperus sabina*, *Lilium jankae*, *Slene velcevii* and *Traunsteneira globosa*.<sup>42</sup>

Forest wealth of **Montana** region include arrays of beech, oak, white pine, black pine and spruce. Spread are many herbs, some of which are St. John's wort, marjoram, lemon balm, yarrow, lime, black elderberry, black and red haw, red peony, etc. Some of the endemic species are Bulgarian eranthis (*Eranthis bulgaricus*) (the only locality in the world is located within the protected area "Vrashkachuka"), *Crocus tommasinianus*, *Potentilla nicicii*, *Paeonia mascula*, *Centaurea calocephala*, *Galanthus elwesii*, *Anemone sylvestris*, and other.<sup>43</sup> Common animal species are deer, red deer, fallow deer, wild boar, hare, rabbits, pheasant. There are over 100 bird species, most of which are permanent, while others are passing.<sup>44</sup> Among the rich avifauna occur a number of water birds, such as swans, pelicans, ibises, geese, ducks, grebes, etc., and necrophages - vultures, ravens - gravediggers, as well as owls, eagles, etc.

### Serbia

The Republic of Serbia is characterized by **high genetic, species, and ecosystem diversity**. The highland and mountainous regions of the Republic of Serbia, as a part of Balkan Peninsula, are one of six European biodiversity centers. Moreover, in terms of the wealth of its flora, the Republic of Serbia is potentially one of the global centers of plant diversity. Although the Republic of Serbia's 88,361 km<sup>2</sup> represent only 2.1% of European territory, biodiversity of different groups of organisms remains high.

The Republic of Serbia hosts:

- ✓ 39 % of European vascular flora,

<sup>41</sup>Source: [http://riosv.vracakarst.com/pic/RIOSV\\_Vratsa\\_2013.pdf](http://riosv.vracakarst.com/pic/RIOSV_Vratsa_2013.pdf)

<sup>42</sup>Source: <http://vr-balkan.net/en/home>

<sup>43</sup>Source: [http://www.riosv-montana.com/kd/2010-10-28-13-17-00/cat\\_view/61--/64-----](http://www.riosv-montana.com/kd/2010-10-28-13-17-00/cat_view/61--/64-----)

<sup>44</sup>Source: <http://oblastmontana.org/en/index.php?do=cat&category=oblast>



- ✓ 51 % of European fish fauna,
- ✓ 49 % of European reptile and amphibian fauna,
- ✓ 74 % of European bird fauna,
- ✓ 67 % of European mammal fauna<sup>45</sup>.

The great scope of **biological diversity in Serbia** is caused by the biogeographical position, the openness of the territory to other surrounding regions and the past processes of flora and fauna genesis. The territory of Serbia includes three biomes: sub-Mediterranean (as part of the Mediterranean), Middle-European and Pontian-Southsiberian; and thanks to the high zoning of eco-systems in the mountains, there are elements of boreal, middle-European mountainous (including Arctic-Alpine) and southern-European mountainous biomes.

The protection of nature within the Republic of Serbia, as well as basic categorization of protected resources, is defined by the Law on Environmental Protection ("Official Gazette of the Republic of Serbia", Issues 135/04 and 36/09) and the Law on Nature Protection.

**Protected natural goods** are:

- ✓ protected landscapes (strict nature reserve, special nature reserve, national park, monument of nature, protected habitat, landscape of exceptional characteristics, nature park);
- ✓ protected species (strictly protected wild species, protected wild species);
- ✓ mobile protected natural specimens.

The total area currently covered by the protected area system amounts to 518,204 Hectares and represents 5.86% of the Republic of Serbia's territory. Apart from national parks (5), nature reserves (98), landscape protected areas (16), nature monuments (296) and nature parks (24), there are also 215 plant species and 426 fauna species which fall under the category of protected natural rarities. International status of nature protected areas according to the Ramsar Convention criteria is assigned to Laduško Lake, Obedska Bara, Stari Begej – Carska Bara, and Slano Kopovo. According to the Convention on Natural and Cultural Heritage, the Golija- Studenica is declared biosphere reserve. The following Table evidence the status of protected area but also the sites which has been identified by different Programme as area to be eligible as area of protection of nature.

**Protected area system in the Republic of Serbia, 2010**

PROTECTED AREAS SYSTEM	N° OF SITES	AREA (HA)	%
Protected areas	464	518.204	5,86
Unesco - Man and Biosphere Programme	1	53.804	0,61
Ramsar Site	9	55.627	0,63
Important Bird Area (IBA)	42	1.259.624	14,25
Instrument for Pre-Accession Assistance (IPA)	61	747.300	8,5

<sup>45</sup>Source Republic of Serbia Ministry of Spatial Planning, "Biodiversity Strategy of the Republic of Serbia for the period 2011-2018",





PROTECTED AREAS SYSTEM	N° OF SITES	AREA (HA)	%
Prime Butterfly Areas	40	903.643	10,22

Source: Institute for Nature and Conservation of Serbia, 2010

The Djerdap National Park, located in the Serbian Bor district, belonging to the CBC eligible area near the towns of Golubac, Kladovo and Majdanpek and the Nature Park Stara Planina are currently undergoing a procedure for designation as a **biosphere reserves**. Nature Park Sićevačka gorge and the landscape of outstanding qualities Vlasina are also located here. Area envisaged for protection in Serbia includes following sites (approximately 140.000 ha): Kučaj as National Park, Suva Planina as special nature reserve, Jerma as nature park and Radan as landscape of outstanding qualities. The Lazar Canyon is one of the most important centres of plant and trees diversity on the Balkans. The Mali and Veliki Krš mountains are interesting, being the habitat of 11 species of birds of prey that are endangered species in Europe<sup>46</sup>.

Pressure on biodiversity in Serbia is most strongly reflected by the status of forest eco-systems and sensitive eco-systems (aquatic eco-systems, humid and wetlands, steppe and forest-steppe, sand eco-systems, continental marshes, high mountain habitats, etc.) and they cause loss of biodiversity. The impacts of uncontrolled tourism, illegal construction activities, transport and forest management on nature protected areas is of particular concern.

The cross-border region is rich in natural parks, protected areas and natural reserves. The Djerdap National Park, located in the Serbian eligible **district of Bor** arpart of the region near the towns of Golubac, Kladovo and Majdanpek is currently undergoing a procedure for designation as a biosphere reserve.

The surroundings of the town of Bor represent one of the most interesting geographical locations in Serbia. The area has more than 200 explored caves.

#### Zero-option scenario:

For the **Bulgaria** side of the OP the Outlook 2020 highlight how “the area covered by protected areas is set to increase in stages from 2008-2018 to reach about 7 % of the country's surface area, mainly at the expense of the natural monuments and protected sites categories. Plans are also envisaged for the adoption of 48 new protected area management plans and an update of the 30 plans currently being implemented.”<sup>47</sup>

Concerning the Serbian context is important to observe that according to “EEA data”, increase of critical loads for acidification by deposition of nitrogen and sulphur compounds, assuming only current legislation, will be more than halved in 2020 compared with 2000. In the best solution with maximum feasible reductions there will be no increase at all. With the development of legislation for air pollution and strong monitoring and control, the pressures on forests will be reduced and the state of forest ecosystems will become more stable. This is very important for many forest and also non-forest endangered species. Populations of

<sup>46</sup>Source: Situation Analysis Preparation of Bulgaria – Serbia IPA Cross-border Programme 2014 – 2020, p.12

<sup>47</sup>See [http://www.eea.europa.eu/soer/countries/bg/soertopic\\_view?topic=biodiversity](http://www.eea.europa.eu/soer/countries/bg/soertopic_view?topic=biodiversity)





plants and animals will be more stable and the ecosystem chain will be far less sensitive to external influences<sup>48</sup>.

### 5.3 Water

Apart from their commitment to comply with EU water and environmental legislation, Bulgaria and Serbia are effectively involved in transboundary cooperation within the frame of international conventions, particularly within the **Danube river basin** in the two relevant district: **Vidin and Bor**.

As signatories to the Danube River Protection Convention, both countries have agreed to cooperate on fundamental water management issues by taking *"all appropriate legal, administrative and technical measures to at least maintain and where possible improve the current water quality and environmental conditions of the Danube river and of the waters in its catchments area, and to prevent and reduce as far as possible adverse impacts and changes occurring or likely to be caused."*

But also there exist other **surface water** on the cross border area, the following map highlights the mean of annual concentrations of BOD (Biochemical oxygen demand) measured at Eionet-Water River monitoring stations from 1992 till 2011. All data are annual means. The purpose of the map is to provide an overview of the annual concentrations of BOD in rivers. BOD (Biological - or biochemical - Oxygen Demand) refers to the amount of organic matter present in water that will consume oxygen as it is decomposed by micro-organisms. Large quantities of organic matter (microbes and decaying organic waste) in water are a potential risk to aquatic ecosystems and human health. A reduction in the amount of oxygen in water as a result of the decomposition of organic matter can endanger aquatic life through asphyxiation and disrupt the ecological balance of the water. It can also pollute water used for drinking and bathing. High levels of BOD can indicate such pollution.

**WISE SoE BOD in rivers in Cross Border Area Bulgaria and Serbia- 2011**

<sup>48</sup>See [http://www.eea.europa.eu/soer/countries/rs/soertopic\\_view?topic=biodiversity](http://www.eea.europa.eu/soer/countries/rs/soertopic_view?topic=biodiversity)





Source: European Environmental Agency<sup>49</sup>

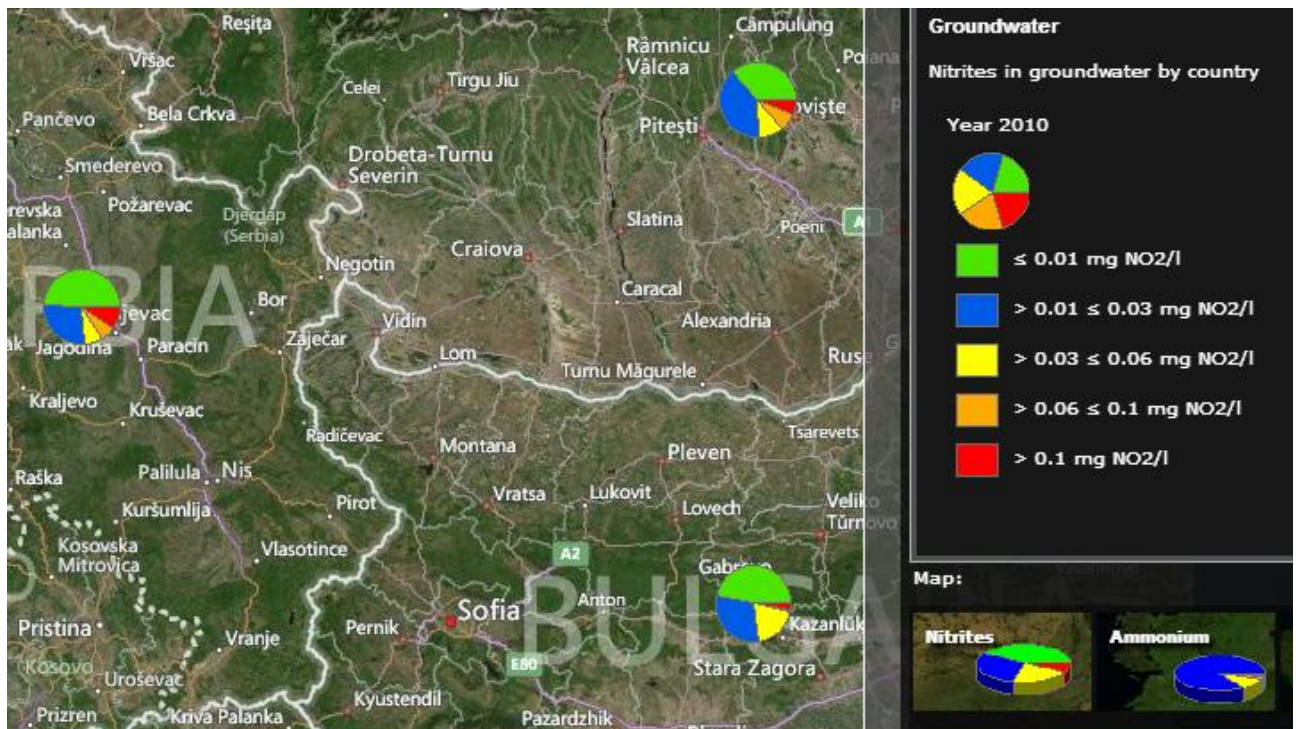
There is an evidence that the area of the CBC Programme in terms of surface water shows an average quality of surface water in terms of oxygen consume, thus due also to limited human presence in the wall area.

Also concerning the status of **nitrates in Groundwater** the following figure highlighted the average level for country of mg of NO<sub>2</sub>/l. Both countries seems to have a reasonable quality of water.

**Water quality in groundwater (mg NO<sub>2</sub>/l), 2010**

<sup>49</sup>See <http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/wise-soe-bod-in-rivers>





Source: European Environmental Agency<sup>50</sup>

## Bulgaria

Water management in the Republic of Bulgaria is carried out at national and basin level. The following regions water management at basin level are designated:

- Danube region with the center in Pleven;
- Black Sea region with the center in Varna;
- East Aegean Region with the center in Plovdiv; and
- West Aegean Region with the center in Blagoevgrad.

The indicative activities of the CBC Programme have the potential to affect the surface water bodies at one of the:

- **Danube Region Basin Directorate** for Water Management (which is relevant for the Bor, Vidin, Montana and Vratsa districts).
- West Aegean Region with the center in Blagoevgrad.

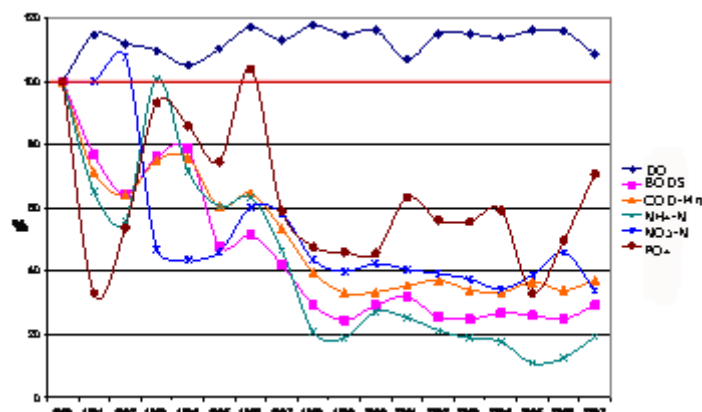
**Surface waters are in good condition.** The rivers are contaminated in areas around big settlements, especially those with no treatment plants for wastewater. Transition to market economy and the decline in production from industry and agriculture has led to a reduction in pollutants discharged into water, including reducing the loads of major nutrients (nitrogen and phosphorus). As a result, nearly 75 % of the length of rivers in the country meet the standards for good quality. The improvement of water quality started 1998 - there is a clear

<sup>50</sup> See <http://www.eea.europa.eu/themes/water/interactive/water-quality-in-groundwater>



trend of sustainability and slight improvement of all indicators for water quality between 1998 and 2007.

**Change of the concentration of the main indicators:  
NH4-N, NO3-N, DO, COD-Mn, BOD5, PO4 (1990 = 100%) for the period 1990-2007.**



Source: EEA- The European environment – state and outlook 2010<sup>51</sup>

Nevertheless it is important to note that In relation with the quality of the water, the specific Districts in which the Programme will be implemented has a number of river parts with **destroyed ecological status**. The Ogosta artificial lake, in **Montana District**, and the Ogosta river valley are polluted with heavy metals, mainly arsenic and lead.

The following tables show the natural surface water bodies: ecological status and chemical status in 2009 and expected status in 2015, 2021 and 2027<sup>52</sup>. The Danube basin (code BG1000) and the West Aegean basin (code BG4000).

RBD	Total	Ecological status					Good ecological status 2021		Good ecological status 2027		Ecological exemptions (% of all SWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 - 2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
BG1000	111	59	53.2	87	78.4	25.2	103	92.8	111	100	18.9	2.7	0	0
BG2000	108	60	55.6	94	25.0	32.4	101	93.5	108	100	14.8	0	0	0
BG3000	205	80	39.0	149	96.1	33.7	198	96.6	205	100	27.3	0	0	0
BG4000	108	53	49.1	84	63.9	28.7					20.4	4.6	0	3.7
Total	532	252	47.4	414	77.8	30.6					21.4	1.7	0	0.8

**Table 6.8:** Natural surface water bodies: ecological status in 2009 and expected status in 2015, 2021 and 2027<sup>9</sup>

Source: WISE and BG (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

<sup>51</sup> Cfr <http://www.eea.europa.eu/data-and-maps/data/waterbase-rivers-6>

<sup>52</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs





RBD	Total	Chemical status					Good chemical status 2021		Good chemical status 2027		Chemical exemptions (% of all SWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 - 2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
BG1000	111	109	98.2	109	98.2	0	109	98.2	111	100	0.9	0	0	0
BG2000	108	27	25.0	27	25.0	0					0	0	0	0
BG3000	205	196	95.6	197	96.1	0.5	203	99	205	100	3.4	0	0	0
BG4000	108	69	63.9	69	63.9	0					0	0	0	0
Total	532	401	75.4	402	75.6	0.2					1.5	0	0	0

Source: WISE and BG (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

## Groundwater

Groundwater quality assessment for 2007 has been carried out in compliance with European Water Framework Directive by groundwater bodies (GWBs) and by River Basin Districts.

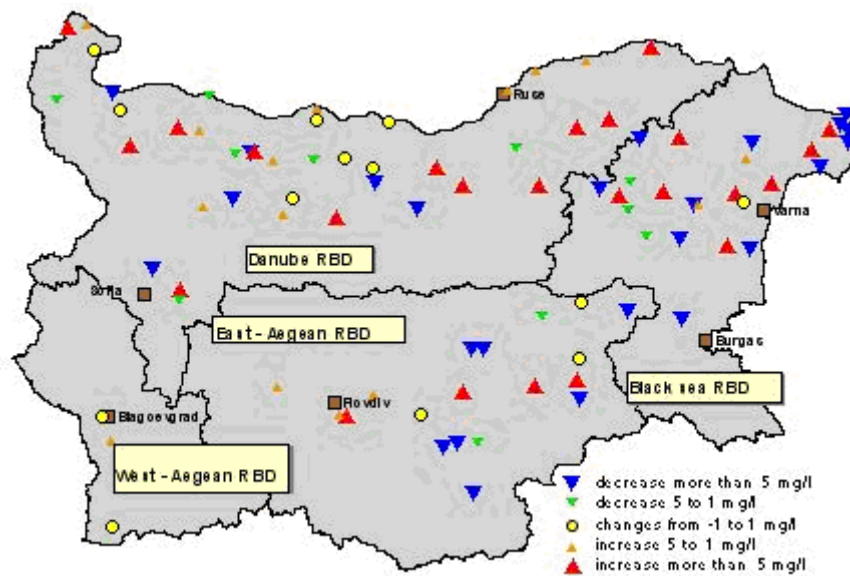
Groundwater status was estimated as mean values of Nitrate contents of all the country for a four-year period, corresponding to the different groundwater monitoring types of points. **Nitrates are the main pollutant of groundwater in the country.** Groundwater were classified by nitrates content in four quality classes for the average nitrate concentrations in groundwater

The results of trend analyses by monitoring station types shows prevalence of trend of decrease in water type 0 phreatic (shallow) groundwater; for type 1, deep phreatic groundwater slow predominance have increasing trends, while decrease trends are predominantly detected in Captive groundwater. Increasing trends predominate for Type 3 - Karstic groundwater (inclusive Karstic springs) with 64,71%.<sup>53</sup>

## Trend classes between previous and current monitoring period for Nitrates \u2013 2000-2003 and 2004-2007

<sup>53</sup>Cfr. EEA, Bulgaria State and Outlook 2010, Fresh Water [http://www.eea.europa.eu/soer/countries/bg/soertopic\\_view?topic=freshwater](http://www.eea.europa.eu/soer/countries/bg/soertopic_view?topic=freshwater)





Source: EEA- The European environment – state and outlook 2010<sup>54</sup>

The following tables show the chemical status and quantitative status of Groundwater bodies: in 2009 and expected status in 2015, 2021 and 2027<sup>55</sup> in the Danube basin (code BG1000) and the West Aegean basin (code BG4000).

<sup>54</sup> Cfr <http://eea.government.bg/eng>

<sup>55</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.



RBD	Total	GW chemical status					Good chemical status 2021		Good chemical status 2027		GW chemical exemptions (% of all GWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 - 2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
BG1000	50	32	64.0	32	64.0	0	32	64	50	100	22	14	0	0
BG2000	40	23	57.5	25	62.5	5.0	36	90	40	100	28	3	8	0
BG3000	48	29	60.4	29	60.4	0	29	60	48	100	40	0	0	0
BG4000	39	39	100	39	100	0	39	100	39	100	0	0	0	0
Total	177	123	69.5	125	70.6	1.1	136	76.8	177	100	23	5	2	0

**Table 6.10:** Groundwater bodies: chemical status in 2009 and expected status in 2015, 2021 and 2027<sup>11</sup>

**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

RBD	Total	Groundwater quantitative status					Good quantitative status 2021		Good quantitative status 2027		GW quantitative exemptions (% of all GWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 - 2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
BG1000	50	43	86.0	43	86.0	0	49	98	50	100	2	12	0	0
BG2000	40	40	100	40	100	0	40	100	40	100	0	0	0	0
BG3000	48	48	100	48	100	0	48	100	48	100	0	0	0	0
BG4000	39	39	100	39	100	0	39	100	39	100	0	0	0	0
Total	177	170	96.0	170	96.0	0	176	99.4	177	100	1	3	0	0

**Table 6.11:** Groundwater bodies: quantitative status in 2009 and expected status in 2015, 2021 and 2027<sup>12</sup>

**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

In general is possible to underline how due to the geographical location, specific atmospheric circulation and landscape structure, the **water balance in Bulgaria is unfavorable**. Concerning water resources per capita, Bulgaria takes the bottom position on the Balkan Peninsula. Bulgaria also faces serious challenges, mainly related to the location of Bulgaria in the dry area in relation to global climate change, unequal distribution of water resources in its territory, high degree of amortization of water supply systems and low level of building of sewerage systems. Long-term priorities are a reduction of the negative effects of the increasing air temperature and decreasing rainfall. Building of the sewerage and wastewater treatment plants lags in comparison to building of the water supply system, and many aquatic ecosystems in Bulgaria are still at risk.

**Water supply** is carried out by water suppliers and through self-supply. Main **water users are:** agriculture, industry and domestic sector (households and services).

The level of water use in the country is mainly determined by **water usage of the energy production**, which requires significant volumes of water for cooling processes.

**After use**, water is discharged into public sewerage network and water bodies. Two categories are distinguished – wastewater and water from cooling processes. Wastewater discharged into water bodies is formed by public sewerage network (incl. of non-point sources), economic units and households.

**Wastewater treatment** is done locally or in urban wastewater treatment plants. The estimate on population supplied with services on wastewater discharge and treatment is based on information from PWS operators and municipalities with organized discharge of water into urban wastewater treatment plant (UWWTP). It is possible that the share of this population to





be overestimated due to settlements with partially built sewerage network. Population, whose waters are transported in tanks to the sewerage system or UWWTP, is not included.

**Water abstraction, water use, wastewater (Million m<sup>3</sup>/year)**

	2008	2009	2010	2011	2012
<b>Gross fresh water abstraction</b>	<b>6.425</b>	<b>6.121</b>	<b>5.960</b>	<b>6.385</b>	<b>5.715</b>
<b>Water use - total</b>	5.168	4.911	4.821	5.178	4.559
Agriculture, hunting and forestry (incl. fishing)	291	326	309	348	296
of which: Irrigation	272	296	283	322	262
Industry	4.530	4.245	4.180	4.497	3.927
of which: For cooling in energy production	3.848	3.624	3.560	3.795	3.284
Other activities (services)	76	68	68	66	66
Households	271	271	264	266	271
<b>Wastewater discharged into water bodies – total</b>	793	757	811	791	787
<b>Cooling water discharged into water bodies</b>	3.550	3.308	3.241	3.560	3.055

Source NSI Statistical References 2014, RoB, Sofia, 2014

The **water supply system** is well developed in Bulgaria and provides connection for the 98.8% of population of the country. However, due to the unfavourable conditions of the water supply network, Bulgaria observes high percentage of water losses during distribution of the water that amount to 59.5% in average.

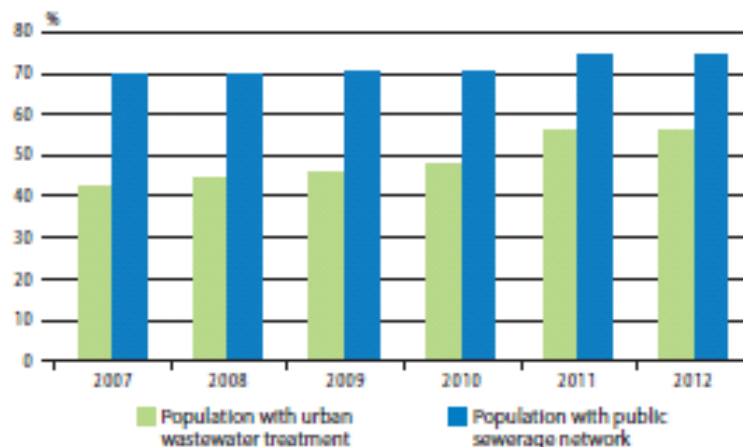
The border region is in a much better position in terms of availability of water supply resources and infrastructure compared to many of other areas and localities in both countries. However, the obsolescent equipment, mostly asbestos pipes, leads not only to health and hygienic problems but also to ineffective operation (water losses, frequent need of repairs, etc.). Considering the activities planned e.g. within operational programmes the situation should improve during next years.

Regarding the **sewerage system** in Bulgaria only 69.2% of population is connected to the network. Connection to sewerage system is more favourable for towns, in which 70,5% of the population is connected to the sewerage network, while in the villages the percentage hardly reaches 2.1%. Only 39.9% of the total population of Bulgaria is connected to waste water treatment plans.

Only the main settlements (bigger municipalities) have sewerage systems in the cross-border region. The majority of waste waters produced in the region flow directly to the rivers causing damages and significant environmental problems. As this issue is strongly connected with improving of the water quality, the significant improvement can be expected during next years.

**Basic indicators related to population and the water services (%)**





Source NSI Statistical References 2014, RoB, Sofia, 2014

## Serbia

In Serbia about 59 % of drinking water comes from groundwater, 17 % from springs, and 24 % from surface sources. In total, about 27 m<sup>3</sup>/second is extracted for the public drinking water supply. Industries use about 30 % of public water. About 77 % of the population has access to the public drinking water supply. The average loss in the water supply system is about 30 %, although, 28 % of the evaluated municipalities reported losses of between 30 % and 50 %. Municipalities are responsible for 42 % of total losses. Only 11% of the municipalities estimated less than 10 % of water loss while most have losses of between 20 % and 30 %, amounting to 54 % of the total water losses – Belgrade dominates, with 34 % of the total losses. Average domestic drinking water consumption, which includes small commercial enterprises, is 170 l/person/day.

**Water quality in watercourses** in Serbia is generally low and it is further deteriorating. Examples of very clean water - Class I and I/II - are very rare, and are found in mountainous regions, the most polluted watercourses include the Stari and PlovniBegej, Vrbas-Bečej Canal, Toplica, Veliki Lug, Lugomir, CrniTimok and the Borska River. The **water quality suffers especially from eutrophication** caused by nutrients and organic pollutants (due to discharge of untreated sewage and agricultural run-off) and along large cities. The deterioration of water quality is partially attributed to transboundary pollution of the waters entering Serbia. The transboundary rivers are contaminated with nutrients, petroleum/oil, heavy metals, and organic components.

Household surveys show that, overall, around 84 percent of the people in Serbia are served by piped drinking water supplies delivered to their homes. Urban and rural differences in coverage are notable, however (97 versus 68%).

These figures are in contrary with the fact that residents, particularly in rural areas, increasingly receive inadequately treated drinking water supplies due to the absence of a functioning municipal system. **Most water supply networks have difficulty assuring a regular supply**, and there are widespread water quality problems. The percentage of drinking water samples that do not meet the required standards is at 50% in Serbia.

According to official statistics, access to sanitation services (a sewage system or septic tank) in Serbia over the past decade has increased from 66 to 88% (the rest use pit latrines.) Construction of sewage systems has lagged behind water supply development, and there



are distinct regional differences in sanitation coverage. It is estimated that only 15% of treatment plants operate satisfactorily, resulting in significant groundwater and surface water pollution. Bacteriological pollution has been found in small rivers and channels from municipal and industrial wastewater discharge. Wastewater treatment plants are heavily overburdened and must often discharge untreated sewage. In small towns and rural settlements, sewage systems are non-existent, with around 28% of the population using septic tanks and absorbing wells, the contents of which are not always disposed of properly.

**Municipal water** and sanitation utilities are in serious financial trouble, preventing the initiation of rehabilitation works that are urgently need to prevent the collapse of services.

For the border region as a whole, the most visible and well-known environmental problem existing is the case of the district of Bor, which through the Timok River causes trans-border pollution also at the Bulgarian side (municipality of Bregovo).

In the Cross Border Area of Serbia there is a reasonable system for **waste water management** nevertheless limited is the portion of utilized water which is treated and cleaned for re-enter in the clean circuit. Thus imply important investment in this sector in order to reuse and mitigate the effects on mismanagement of natural resources.

**Waste water discharged (thousand m<sup>3</sup>)**

AREA	2009	2010	2011	2012
Borskaoblast	5.775	5.281	5.892	4.230
<i>of which: treated</i>	74	8	71	53
Zaječarskaoblast	5.685	4.824	4.803	3.907
<i>of which: treated</i>	1104	432	441	340
Jablaničkaoblast	6.472	6.402	6.903	5.181
<i>of which: treated</i>	880	825	936	836
Nišavskaoblast	15.964	6.820	6.287	6.661
<i>of which: treated</i>	0	0	0	0
Pirotskaoblast	5.093	4.865	5.037	4.919
<i>of which: treated</i>	724	764	831	540
Pčinjskaoblast	7.696	7.704	8.497	6.345
<i>of which: treated</i>	1.009	1.009	1.099	1.297
Topličkaoblast	1.401	1.426	1.735	1.668
<i>of which: treated</i>	0	0	0	0

In resume on the Cross Border Area in which the Programme will be relevant the following main problems regarding the water can be identified in Serbia:

- ✓ Considerable contamination of watercourses by point and non-point pollution sources;
- ✓ Increased concentration of nitrates in areas sensitive to nitrate pollution caused by non-point agricultural pollution;
- ✓ Frequent floods causing high damages;
- ✓ Contamination of groundwater aquifers;



- ✓ Pressure on the environment and natural resources in areas of the hydropower reservoir impact including: deposition of bed load and suspended solid, change of water regime in the riparian zone, impact on biodiversity etc.;
- ✓ Inadequate monitoring of water.

#### Zero-option scenario:

Concerning **Bulgaria** is important to observe that “due to the geographical location, specific atmospheric circulation and landscape structure, the water balance in Bulgaria is unfavourable. Concerning water resources per capita, Bulgaria takes the bottom position on the Balkan Peninsula. Bulgaria also faces serious challenges, mainly related to the location of Bulgaria in the dry area in relation to global climate change, unequal distribution of water resources in its territory, high degree of amortisation of water supply systems and low level of building of sewerage systems. Long-term priorities are a reduction of the negative effects of the increasing air temperature and decreasing rainfall. Building of the sewerage and wastewater treatment plants lags in comparison to building of the water supply system, and many aquatic ecosystems in Bulgaria are still at risk.”<sup>56</sup>

For the **Serbia** side “the weakest part of the water protection system is the **application of legal regulations for wastewater treatment**. An analysis of the funds required for the construction of WWTPs has been made on the basis of an approximate estimate of total organic load from settlements of 2 000 or more people. The settlements have been divided into groups according to the population equivalent (PE): 219 towns with 2 000 - 5000 , 115 with 5 000-10 000, 32 with 10 000-15 000, 37 with 15 000-50 000, 23 with 50 000-150 000 and 4 with more than 150 000 PE. The total estimated cost of design, construction and trial operation of these WWTPs is around €1 billion.

Serbia has carried out **initial steps in the implementation of the EU Nitrate Directive** in order to protect waters identified as sensitive to pollution from agricultural sources. The Ministry of Agriculture, Forestry and Water Management is implementing the Serbia Danube River Enterprise Pollution Reduction Project (DREPR), which is financed under the Global Environment Facility-World Bank Investment Fund for Nutrient Reduction in the Black Sea/Danube Basin and an agreement for donation with the Swedish government for co-financing the project. As part of the project in 2010, a study was prepared for implementation of the Nitrate Directive – Preparation of a Draft Strategy and Action Plan for adoption and implementation of the Nitrate Directive for Serbia and proposal for its transposing into local legislation.”<sup>57</sup>

## 5.4 Soil

### *The current condition of land use, land cover and organic farming*

Out of 111 thousand hectares of Bulgaria in 2012:

- 32.2% were crop land and 16,8% grassland,
- 42.5% woodland,
- 1.01% waters and wetland, and

<sup>56</sup>See [http://www.eea.europa.eu/soer/countries/bg/soertopic\\_view?topic=freshwater](http://www.eea.europa.eu/soer/countries/bg/soertopic_view?topic=freshwater)

<sup>57</sup>See: [http://www.eea.europa.eu/soer/countries/rs/soertopic\\_view?topic=freshwater](http://www.eea.europa.eu/soer/countries/rs/soertopic_view?topic=freshwater)



- 2.3% artificial land

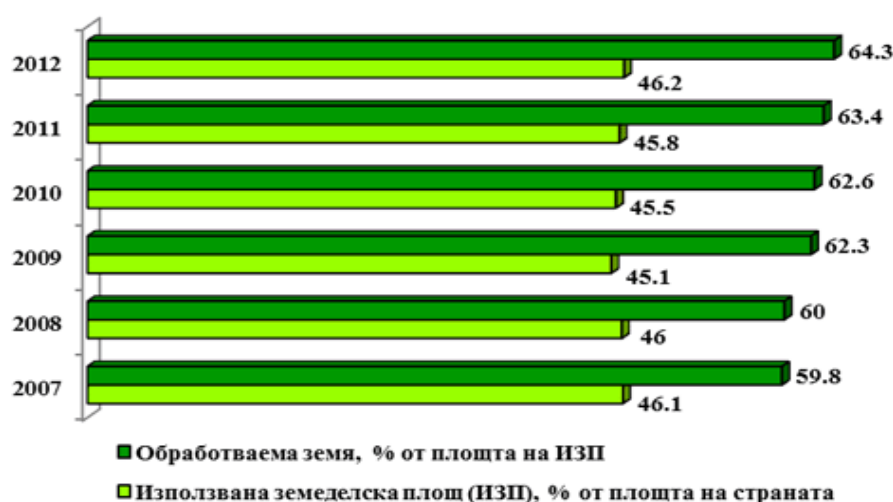
#### Land cover overview (value in %)

LAND COVER	Total	Artificialland	Cropland	Woodland	Shrubland	Grassland	Bare land	Water	Wetland
<b>Bulgaria</b>	100	2.3	32.2	42.5	4	16.8	1.1	1	0.1

Eurostat, 2012

From the National report on the status and protection of the environment in Bulgaria in 2012, in the period 2007-2012, the land use in Bulgaria has been variable. In 2012 the utilized agricultural area (UAA)<sup>58</sup> was the 46.2% of the whole country and, compared to 2011, it increased by 0.7%. Uncultivated lands<sup>59</sup> occupy the 3.2% of the country, decreasing by 10.1% compared to the previous year. During 2012 the area of land for agricultural use (AFSJ)<sup>60</sup> results 5,481,222 ha representing approximately 50% of the territory the country. Arable land increased by 2.1% compared to 2011 occupying 3,294,685 ha and represent 64.3% of the UAA (Fig. below).

#### Employment of agricultural land,%



Source: MAF; Agricultural Report 2012

In Serbia:

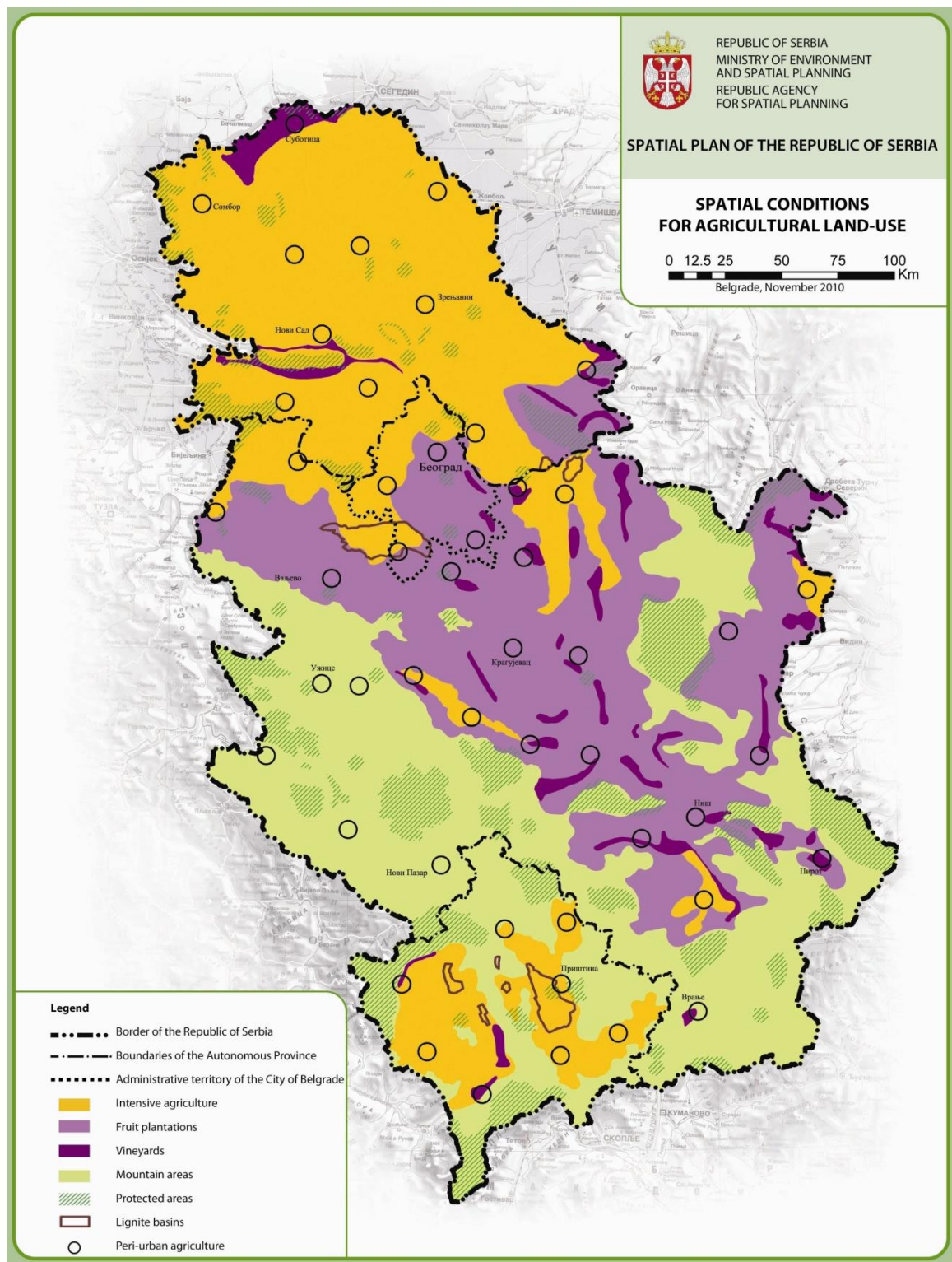
<sup>58</sup>UAA includes arable land, permanent crops, permanent grassland areas under glass and kitchen gardens.

<sup>59</sup> Non-arable land: land not included in the rotation during the year and are not used for agricultural production more than two years.

<sup>60</sup>AFSJ - formed by arable land, permanent crops, permanent grassland for agricultural use (including mountain pastures and grassy surfaces with low productive potential), family gardens and uncultivated more than three years farmlands







In 2011 arable land participated with 64.6% in the total agricultural area, orchards with 4.7%, vineyards with 1.1%, meadows with 12.2% and pastures with 16.6%. In the structure of sown areas of arable land, cereals participated with 58.0%, industrial crops with 13.0%, vegetable crops with 8.3% and fodder crops with 13.8%. (Serbia statistic yearbook 2012)



**9.3. КОРИШЋЕНО ПОЉОПРИВРЕДНО ЗЕМЉИШТЕ<sup>1)</sup>, 2009–2011.**  
хил. ha

**UTILISED AGRICULTURAL AREA<sup>1)</sup>, 2009-2011**  
thous. ha

		Укупно Total	Оранице и баште Arable fields and gardens	Воћњаци Orchards	Виногради Vineyards	Ливаде Meadows	Пашњаци Pastures		
<b>РЕПУБЛИКА СРБИЈА</b>	2009	5058	3301	240	58	625	834	2009	<b>REPUBLIC OF SERBIA</b>
	2010	5051	3295	240	57	624	836	2010	
	2011	5056	3294	240	56	621	845	2011	
<b>СРБИЈА – СЕВЕР</b>									<b>SERBIA – NORTH</b>
<b>Београдски регион</b>	2009	215	174	17	3	13	9	2009	<b>Belgrade region</b>
	2010	214	172	17	3	14	9	2010	
	2011	212	170	17	3	14	8	2011	
<b>Регион Војводине</b>	2009	1747	1578	18	10	41	101	2009	<b>Vojvodina region</b>
	2010	1750	1578	18	10	42	102	2010	
	2011	1747	1578	18	10	41	100	2011	
<b>СРБИЈА – ЈУГ</b>									<b>SERBIA – SOUTH</b>
<b>Регион Шумадије и Западне Србије</b>	2009	1594	782	132	14	297	368	2009	<b>Šumadija and West Serbia region</b>
	2010	1587	779	132	14	297	365	2010	
	2011	1591	781	132	14	297	366	2011	
<b>Регион Јужне и Источне Србије</b>	2009	1502	768	74	31	274	356	2009	<b>South and East Serbia region</b>
	2010	1500	766	73	31	270	359	2010	
	2011	1507	765	73	30	269	370	2011	
<b>Регион Косово и Метохија</b>		...	...	...	...	...	...		<b>Kosovo and Metohija region</b>

<sup>1)</sup> Обухвата површине пољопривредних газдинстава (привредних друштва, земљорадничких задруга и породичних газдинстава) и површине ванпољопривредних газдинстава (општинске утрине, пашњаке и друго земљиште).

<sup>1)</sup> Includes agricultural holdings' areas (legal units, farm cooperatives and family holdings) and those other than of agricultural holdings (communal trodden land, pastures and other lands).

Source: Serbia Statistic yearbook 2012

The total forest land area in the Republic of Serbia is 1962335 ha. The state sector manages 927773 ha, which is about 47% of the total forest land, and the remaining 53% is in the private sector.

When compared with 2010, artificial afforestation was up by 617 ha, what presents a growth of about 28% compared to the previous year. The total area that was afforested in 2011 amounted to 2821 ha. The area afforested by conifers equaled 1120 ha, what is about 50% of the totally afforested areas during 2011. There were 1505 ha and 870 ha that were afforested in the state and public sectors respectively. Damage caused by fire in 2011 were recorded on an area of 2036 ha, with a damaged wood stock of 24570 m<sup>3</sup>.





9.22. ШУМЕ, ПО ПОВРШИНИ, 2011.

FORESTS BY AREA, 2011

ha	Укупно Total	Чиста састојина Pure stands	Лишњари Broad- leaved	Четинари Conifers	Мешовита састојина Mixed stands	Лишњари Broad- leaved	Чети- нари Conifers	Лишњари- четинари Broad- leaved- conifers	ha
<b>ДРЖАВНЕ И ПРИВАТНЕ ШУМЕ / STATE AND PRIVATE FORESTS</b>									
РЕПУБЛИКА СРБИЈА	1962335	1362961	1172137	190824	599374	522854	28750	47770	REPUBLIC OF SERBIA
СРБИЈА – СЕВЕР	154977	90982	88987	1995	63995	63093	616	286	SERBIA – NORTH
Београдски регион	37886	25516	25339	177	12370	12057	302	11	Belgrade region
Регион Војводине	117091	65466	63648	1818	51625	51036	314	275	Vojvodina region
СРБИЈА – ЈУГ	1807358	1271979	1083150	188829	535379	459761	28134	47484	SERBIA – SOUTH
Регион Шумадије и Западне Србије	899480	606890	469215	137675	292590	222762	24112	45716	Šumadija and West Serbia region
Регион Јужне и Источне Србије	907878	665089	613935	51154	242789	236999	4022	1768	South and East Serbia region

Source: Serbia Statistic yearbook 2012

From Corin Land Cover 2006 data semi-natural and forest areas cover almost 40% of the country (broad-leaved forest account for 27%). Land classified as artificial areas occupies nearly 3% and the rest of national territory, about 1.6% was classified as wetlands or water. The analysis of land cover categories taken by urban and other artificial land development in Serbia from 1990 to 2006 shows that pastures and mixed farmland were the categories mostly used for urban and other artificial land development.

***The current condition of soil conditions, processes of soil degradation and erosion, pollution of soil***

The soil is a constituent part of the environment, together with the atmosphere and the hydrosphere, and it represents the most precious natural resource without which human, animal and plant life would be impossible. The soil has numerous ecological functions, which are of essential importance for the environment, but also for the economy and the development of the society as a whole. The influences on soil caused by human activities continuously increase. This leads to unsustainable level of soil erosion, as well as its chemical contamination and biological degradation. Additionally, the use of agricultural soils of good quality has changed with the spread of urbanization and infrastructure development. The prevention of soil degradation presents a big challenge. This is achieved by special measures of soil protection and management policy, as well as by including the issues of soil protection in the other sector policies, i.e. agriculture, forestry, water management, transport and others.

On Bulgarian territory only local spots of polluted soils are in industrial areas and along the main transport infrastructure – the rail line Sofia – The saloniki and First class road E-79. Disrupted territories are at the places of raw material extraction (coal, rocks, inert materials). According to the National Report on the state and condition of the environment (2014 edition) soils in the country are in good ecological status in the period 2005-2012 as regards the availability of nutrients / organic matter, as well as contamination with heavy metals, metalloids and persistent organic pollutants (PAHs, PCBs and organochlorine pesticides). PCBs are below the limit of detection, and 98.9% of PAHs were below the MRLs.

In the period 2007-2012 a tendency of limiting the water erosion is observed, both in terms of size distribution and in terms of average annual soil loss. In 2012, there was little change in



the average intensity of water erosion on agricultural land, which is 7,26 t/ha. the average erosion estimate during the year was 53.8 million tonnes, which is manifested in extent and intensity. The average intensity of water erosion in agricultural land varies depending on the ways of land management: 6,25 t/ha/y in pastures; 6,77 t/ha/y in the fields; 20,40 t/ha/y in plantations and in the areas occupied by other crops it is 7,24 t/ha/y.

Soil losses from wind erosion are retained, but areas with low risk are reduced at the expense of those with moderate and high risk.

#### In Serbia:

An increase in erosion is one of the major causes of land degradation and its consequent degraded quality. It is estimated that erosion (to varying degrees) affects up to 80 % of agricultural soil in Serbia. While in the central and hilly mountainous regions water is the predominant cause of erosion, in Vojvodina it is the wind. Approximately 85 % of agricultural soil in Vojvodina is affected by wind erosion with an annual loss of over 0.9 tonne material/ha (Vidojević and Manojlovic, 2007).

According to the analysis of the Serbian Environmental Protection Agency (State of the Soil in the Republic of Serbia, 2009), there are currently 375 potentially contaminated sites. The greatest number of registered sources of localised soil pollution is related to municipal waste disposal sites, oil extraction and storage sites, industrial and commercial sites. The municipal waste disposal site database was updated in 2005. There are 164 municipal waste disposal sites on the territory of Serbia which present a potential source of soil and groundwater pollution. The greatest part of identified polluted soil localities within industry belongs to the oil industry (59.2%), followed by the chemical industry (15.2%) and the metalworking industry (13.3%).

Zero scenario: For Bulgaria no scenarios have been developed to date and no major changes are anticipated for 2020, however no significant alteration is expected in the proportions of areas and their long-term use. It is hoped that it will be possible to develop organic farming (by increasing the area under cultivation to reach average European levels); minimise farmland lying fallow due to a lack of interest by farmers and restrict irregular development in coastal and mountains resorts. The main driving forces that generate pressures on land use are economic sectors like agriculture, transport, as well as the high level of urbanisation. The pressure level of the specific driving forces varies in different parts of the country. The pressures on the agriculture area can be categorised as:

- land abandonment, mainly caused by changes in land ownership. Land managed by co-operatives and enterprises returned to private owners, only a small number of whom were interested in agriculture;
- low level or absence of support and subsidies for agriculture. As a result, some agricultural enterprises collapsed and new ones were not established;
- establishment of new reservoirs such as the Kozjak artificial lake of approximately 13 km<sup>2</sup> – part of the country's strategy based on the Vardar Valley Project.

Urban spread of housing and commercial sites has occurred around larger cities, mainly the capital Skopje and cities in the west of the country. A small part of land take is for transport development, mostly linked to the construction of highways.

In Serbia the main objective for the further development of land use planning in Serbia, provided in the Spatial Development Strategy of the Republic of Serbia 2010, is the rational



use of land — to stop further degradation, to suppress unplanned construction and to protect endangered areas. Strategic planning priorities for land use by 2020 do not foresee an increase in construction land, keeping its existing share of total reserves at 9.5%. The level of Serbian territory planted as forests should reach 41% compared to the current 29.1%; in other words, Serbia will gain 90 000 ha of forest. Agricultural land will cover 45.2%, while other land uses will cover 4.3% of the territory of Serbia.

## 5.5 Cultural/natural heritage and landscape

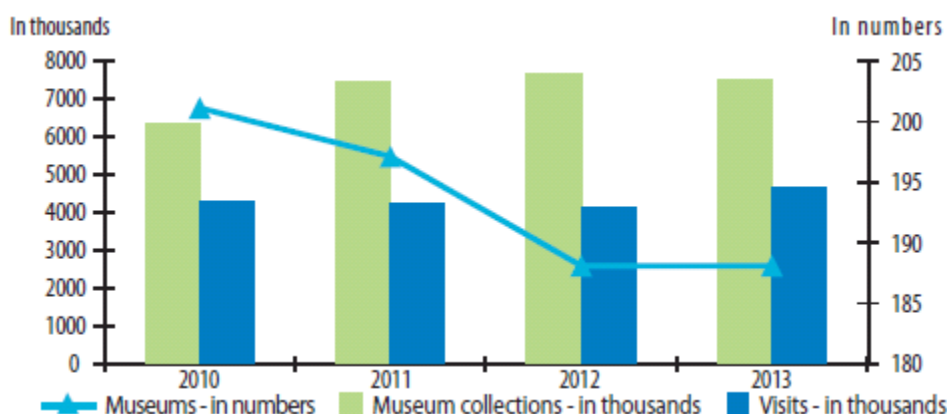
The border region have at their own disposal a rich and unique culture, which could easily be utilized as a driving engine for regional development, regeneration and prosperity. Culture is among the most important factors in the cross-border cooperation framework, since it provides a clear view of common features and provides a common identity for the region.

Traditional cultural organizations are very well developed both in Bulgaria and in Serbia, such as libraries, museums, galleries, community and cultural centers, etc., have a long-lasting presence and are well recognized by local communities. Despite their very significant potential, the cultural heritage monuments are in disrepair and require enormous investments for restoration and preservation. Funds have been invested in culture preservation since 2007 but still the need of investment in development of tourist attractions and cultural monuments exists. Thus in 2012 on the CBC area Programme there has been more than 850.000 visitors on the Museum of the area of which 350.000 in Serbia and 500.000 in Bulgaria.

### Bulgaria

Museums are permanent institutions in public service which acquire, store, display and examine evidential material related to humanity and its environment. For the last observed year the museum collections (movable cultural property) (incl. those in the main storage fund, as well as in the research and ancillary materials fund, and in the exchange fund) decreased by 1.9%, but the number of visitors rose by 13.2%.

#### Museum and visitors in Bulgaria

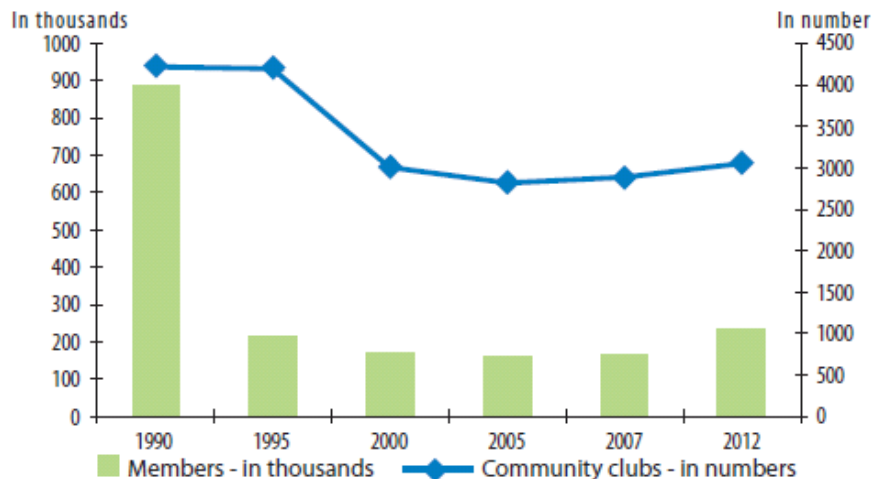


Source: Republic of Bulgaria- NSI, Statistical Reference Book 2014.



The Community clubs are 'traditional self-governing Bulgarian cultural and educational associations in urban and village areas, which perform public cultural and educational tasks' (Art. 2.(1) of the Act on the community clubs).

### Community clubs and members in Bulgaria



Source: Republic of Bulgaria- NSI, Statistical Reference Book 2014.

The part of the above mentioned richness is also located in the cross-border region. It has its unique culture. **The cultural heritage of the region includes monuments and sites** related to churches, old towns and old rural areas, archaeological sites, as well as monuments devoted to commemoration of historical events or figures. Remains from ancient civilizations can still be found in many places on both sides of the border. Ancient architecture, where it is preserved, has many similar features. A vast number and variety of important architectural, archaeological, and ethnological monuments of cultural importance exist in the border region.

Despite the very good potential of the cultural institutes and the community centres in the region, they suffer from a clear lack of financing, both public and private. There has been no investment in infrastructure due to budgetary constraints, and lack of a coherent state aid policy. Buildings are old and are not upgraded to accommodate the needs of modern technologies. The implementation of the CBC OP will contribute to the improvement of the situation.

### Serbia

The Natural and Cultural patrimony under International protection (UNESCO, EMERALD, etc) are hereafter presented:



**NATURAL AND CULTURAL PATRIMONY UNDER  
INTERNATIONAL PROTECTION**

UNESCO World Heritage List ([whc.unesco.org](http://whc.unesco.org))

**Cultural**

Stari Ras - Monastery of Sopoćani (1979)  
Studenica Monastery (1986)  
Gamzigrad-Romuliana, Palace of Galerius - 2007  
Medieval Monuments in Kosovo and Metohia:  
Monastery of Dečani - 2004  
Peć Patriarchate - 2006  
Gračanica Monastery - 2006  
The Church of the Holy Virgin of Ljeviš - 2006.

**Biosphere reserves**

Golija - Studenica Monastery<sup>2)</sup> (2005)

**Ramsar sites<sup>3)</sup>**

Obedska bara, (1977)  
Ludoško jezero, (1977)  
Stari Begej - Carska bara, (1996)  
Slano Kopovo, (2004)  
Labudovo okno (2006)  
Peštersko polje (2006)  
Gornje Podunavlje (2007)  
Vlasina (2007)  
Zasavica (2008)

42 **IBA** sites - Important Bird Areas<sup>4)</sup>

61 **IPA** sites - Important Plant Areas<sup>5)</sup>

40 **PBA** sites - Prime Butterfly Areas<sup>6)</sup>

61 potential **EMERALD** sites<sup>7)</sup>

Source: Institute for Nature Conservation of Serbia.

<sup>1)</sup> Law on Ratification on the Convention on the Protection of the World Cultural and Natural Heritage („The Official Gazette of SFRJ 56/1974“)

<sup>2)</sup> UNESCO - MAB program (Man and the Biosphere). ([www.unesco.org/mab](http://www.unesco.org/mab))

<sup>3)</sup> Decree on the Ratification on the Convention on wetlands of the International Importance, especially as a wading bird habitat („The Official Gazette of SFRJ 9/1977“)  
([www.ramsar.wetlands.org](http://www.ramsar.wetlands.org))

<sup>4)</sup> IBAs sites - Important Bird Areas. ([www.birdlife.org](http://www.birdlife.org))

<sup>5)</sup> IPAs sites - Important Plant Areas. ([www.plantlifeipa.org](http://www.plantlifeipa.org))

<sup>6)</sup> PBAs sites - Prime Butterfly Areas. ([www.butterfly-conservation.org](http://www.butterfly-conservation.org))

<sup>7)</sup> EMERALD Network

<sup>8)</sup> Law on ratification of the Convention of the Conservation of European wild flora and fauna and natural habitats („The Official Gazette of the Republic of Serbia 102/2007“).

Source: Serbia Statistic yearbook 2012

Total number of tourists in 2011 amounted to 2069 thousands and was by 0.3% lower than in 2010, whereof the number of domestic tourists amounted to 1304 thousands and was reduced by 5.6%, while the number of foreign tourists who visited our country amounted to 764 thousands, presenting the increase of 9.8% when compared to 2010. Realized number of all tourists' nights who were using the accommodation facilities was 6645 thousands and was lower by 10.1% compared to the previous year. Domestic tourists realized 5002 thousands of nights (fall of 15.1% compared to 2010), while the number of overnight stays of foreign tourists was by 6.2% lower than in 2010 and it amounted to 1643 thousands of nights.

The structure of tourist arrivals in 2011 by type of tourist resorts is similar as in 2010, so that the largest number of tourists was visiting the main administrative centers 33.7% (697 thous.), other tourist resorts 24.8% (512 thous.), mountain resorts 19.4% (402 thous.), spa resorts 18.2% (375 thous.) and other resorts 3.9% (81 thousands).

The largest number of domestic tourists was visiting other tourist resorts 27.2% (355 thous.), then mountain resorts 26.6% (346 thous.), while foreign tourists were mostly visiting major administrative centers 64.83 (491 thous.) and other tourist resorts 21.7% (166 thous.).

The structure of tourist nights in 2011 shows that the largest number of nights was realized in the spa resorts 34.7% (2308 thous.), then in mountain resorts 23.9% (1590 thous.), in the main administrative centers 20.5% (1363 thousands), in other tourist resorts 17.6% (1173 thous.) and in other resorts, 3.2% (211 thous.).

The largest number of foreign tourists who visited Republic of Serbia in 2011 were tourists from Slovenia (75 thous. arrivals, 125 thous. nights), Montenegro (67 thous. arrivals, 129 thous. nights), Bosnia and Herzegovina (66 thous. arrivals, 166 thous. nights), Croatia (51 thous. arrivals, 93 thous. nights) and Germany (48 thous. arrivals, 97 thousand. nights).



16.1. ДОЛАСЦИ И НОЋЕЊА ТУРИСТА, 2007–2011.

TOURISTS' ARRIVALS AND NIGHTS, 2007-2011

	Република Србија / Republic of Serbia											
	укупно Total	Београдски регион Belgrade region	Регион Војводине Vojvodina region	Регион Шумадије и Западне Србија Šumadija and West- ern Serbia region	Регион Јужне и Источне Србије Southern and Eastern Serbia region	Регион Косово и Метохија Kosovo and Metohija region	укупно Total	Београдски регион Belgrade region	Регион Војводине Vojvodina region	Регион Шумадије и Западне Србија Šumadija and West- ern Serbia region	Регион Јужне и Источне Србије Southern and Eastern Serbia region	Регион Косово и Метохија Kosovo and Metohija region
	Доласци / Arrivals						Ноћења / Nights					
	Укупно / Total											
2007	2306558	764466	314222	826601	401269	...	7328692	1563526	834487	3457972	1472707	...
2008	2266166	705574	330556	817702	412334	...	7334106	1431328	880942	3480101	1541735	...
2009	2018466	602034	289751	755443	371238	...	6761715	1368842	762115	3249302	1381456	...
2010	2000597	618454	281842	747748	352553	...	6413515	1319629	767304	3011875	1314707	...
2011	2068610	619124	289398	798039	362049	...	6644738	1337199	756723	3200295	1350521	...
	Домаћи / Domestic											
2007	1610513	328528	215806	729400	336779	...	5853017	701405	603791	3184650	1363171	...
2008	1619672	328657	226096	717543	347376	...	5935219	671485	649474	3189632	1424628	...
2009	1373444	232457	191474	654884	294629	...	5292613	540112	539597	2969396	1243508	...
2010	1317916	223046	179385	641085	274400	...	4961359	509807	550278	2715864	1185410	...
2011	1304443	169401	169297	670765	285500	...	5001684	466227	478068	2840286	1217103	...
	Страни / Foreign											
2007	696045	435938	98416	97201	64490	...	1475675	862121	230696	273322	109536	...
2008	646494	376917	104460	100159	64958	...	1398887	759843	231468	290469	117107	...
2009	645022	369577	98277	100559	76609	...	1469102	828730	222518	279906	137948	...
2010	682681	395408	102457	106663	78153	...	1452156	809822	217026	296011	129297	...
2011	764167	440347	119997	127274	76549	...	1643054	870972	278655	360009	133418	...

Source: Serbia Statistic yearbook 2012

Zero-option scenario: For Bulgaria and Serbia no scenarios have been developed in the Outlook 2020 EEA.





## 5.6 Cross cutting issues

---

### 5.6.1 Energy Overview on the cross-border area

---

#### Energy efficiency

The efficient energy use is one of the most important preconditions for the economic competitiveness, as well as it has the connection to the sustainable development and environmental protection.

The need to improve Energy Efficiency in **Bulgaria** is one of the main priorities of the Bulgarian government. The country has significant potential for implementation of Energy Efficiency measures. One of the measures that Bulgarian government has taken to improve Energy Efficiency is the **Energy Efficiency Act**. The Act implements the requirements of **Directive 2006/32/EC**. Based on Directive 2006/32/EC and the Energy Efficiency Act are developed National Action Plans on Energy Efficiency. In this Plans Bulgaria adopted a national indicative targets for energy savings by 2016 in an amount not less than 9% of final energy consumption for 9 years (average 1% per year)<sup>61</sup>.

The energy efficiency in **Serbia** is at an early stage of implementation and realisation, with the adoption of an Energy Sector Development Strategy and its programme for implementation for the period 2007-2015.

#### Consumption and production of energy

In both countries it is necessary to restrict energy demand and reduce environmental impact in order to improve the economy's energy efficiency and minimise the losses incurred as a result of obsolete technology and infrastructure. Particularly, the key problem to be faced by Bulgaria is the high consumption of energy. In this country, the **final consumption of energy** amounts at **9.3 Mtoe**. In particular, the sector that registers the significant level is the Industry (2.7 Mtoe) followed by Transport. (2.9 Mtoe)<sup>62</sup>.

The graphic shows that the meaningful energy resource is coal and lignite. In addition, the nuclear energy sector remains one of the main factor for the capacity and energy balance of the country.

---

<sup>61</sup>Cfr. Preparation IPA cross border Bulgaria-Serbia 2014 -2020, Situation analysis, p.18

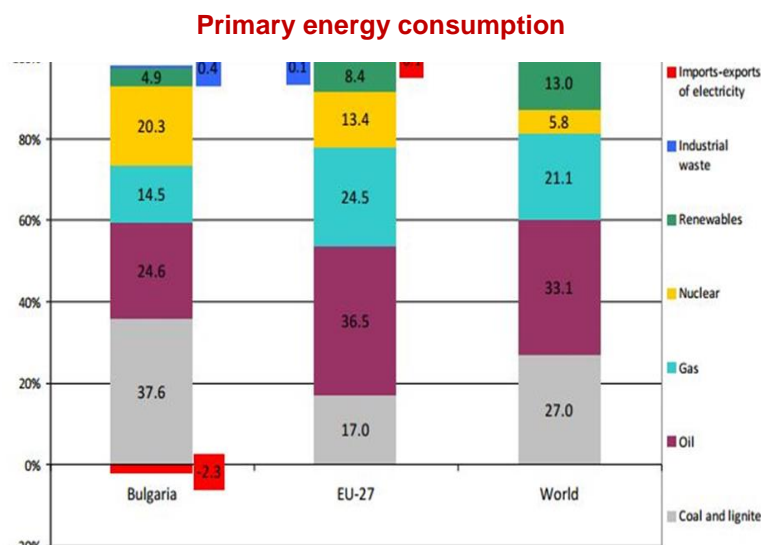
<sup>62</sup>Cfr. European Commission, "EU transport in figures/Statistical pocketbook 2013, p. 116



In 2013, the production of petroleum amounted at 3.38 thousand Barrels per Day and a consumption of 114.99 (estimated) thousand barrels per day. Regarding to Coal's production, the amount is 35.846 Million short tons with a consumption of 38.279 million short tons<sup>63</sup>. Concerning, the production of energy, the registered total primary energy is 0.476 Quadrillion btu.

Moreover, Bulgaria has another obstacle to face is the considerable import dependency of energy resources – around 70% (given 40% EU average), at the same time Serbia has a large dependency on the imported energy: 30%<sup>64</sup>.

In Serbia, the burning of increasingly poorer quality coal and the lack of financing to maintain and upgrade decaying and inefficient energy infrastructure have also contributed to higher energy intensity levels. The deterioration of energy generation technology and of the distribution system, which caused large losses, is another main problem<sup>65</sup>. The **Serbian production of total primary energy amounts at 0.504 Quadrillion btu**; the consumption amounts at 0.733 Quadrillion btu<sup>66</sup>. The following table shows the specific values related to the production and consumption of different energy sources in Serbia:



Source: 2011 Survey of resource efficiency policies in EEA member and cooperating countries, Country profile Bulgaria, p.5<sup>1</sup>

ENERGY CONSUMPTION AND PRODUCTION IN SERBIA (2013)				
	Pretroleum (thousand barrels per day)	Natural gas (billion cubic feet)	Coal (million short tons)	Electricity (billion kilowatt-hours)
Consumption	80.02	102.77	43.307	29.77
Production	21.22	19.85	41.912	35.89

Source: EIA (2013)

## Renewable energy sources

<sup>63</sup>Source: EIA- U.S Energy Information Administration, Independent Statistics & Analysis, Section: Overview data for Bulgaria. url: <http://www.eia.gov/countries/country-data.cfm?fips=rb>

<sup>64</sup>Cfr. OP 2014-2020

<sup>65</sup>Ibidem, p. 21

<sup>66</sup>Source: EIA- U.S Energy Information Administration, Independent Statistics & Analysis, Section: Overview data for Serbia. url: <http://www.eia.gov/countries/country-data.cfm?fips=rb>



Concerning the **Renewable energy sources (RES)** represent another local source that can help reduce reliance on import, improve the security of energy supply, meet the commitments to protect the environment and contribute to employment generation.

According to the Bulgarian National Strategic reference framework 2007 – 2013, “the RES electricity is generated mainly from hydro power stations and relatively lower share of wind generators.

In Bulgaria, the **share of energy from renewable sources** is **16,3%** of the total. Particularly, the share relating to the transport sector is 0,3% to the electricity is 17%, to heating and cooling amounts at 27,5%<sup>67</sup>. The share of **hydro electricity** in the total electricity generation forecast for the period 2005-2015 (without substantial additional effort) is around 5.5% on average. Approximately 116 GWh (10 ktoe) electricity is produced by biomass and more precisely by black lye in the cellulose and paper factories”<sup>68</sup>.

The potential of RES in Bulgaria is in use of **geothermal energy**, wind and solar energy. The larger part of the cross border region has low **wind energy** potential with average annual wind speed 2-3 m/s, which is a limit for economic expedience of the wind energy projects. The future development of wind energy projects at low wind speed depends on the implementation of new technical solutions.

Significant potential of renewable energy sources in the region is given by the large forest and agriculture areas that can provide **energy biomass**. There is a big potential for usage of the forest and agriculture waste, wood, straw and other waste for bio-fuel and heating purposes, and for combined production of heat and electricity.. The programme eligible area is also rich in geothermal resources. Larger part of **geothermal energy** is used for swimming pools, bathing and balneology. Several projects for geothermal heating station, district heating and geothermal water network in Sapareva Banja and Kyustendil have already been initiated and prepared<sup>69</sup>.

According to the **Serbia** Investment and Export Promotion Agency (SIEPA), is estimated that the total potential of renewable energy accounts in Serbia is 4.3Mtoe. The following data show that the major renewable source is represented by **Biomass**, although other resources such as **hydro**, **solar** and **wind** will also play important roles in the future development of renewable energy sector in Serbia.

#### Potential of Renewable Energy 2009

Potentials (Mtoe)	
Biomass	2.70
Hydro	0.60
Solar	0.60
Geothermal	0.20
Wind	0.20
Total	4.30

Source: Serbia Investment and Export Promotion Agency (SIEPA)

<sup>67</sup>Source: EUROSTAT (2014)

<sup>68</sup>url:[http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg\\_ind\\_335a&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_335a&lang=en)

<sup>69</sup>Cfr. Republic of Bulgaria, The National Strategic reference framework 2007 – 2013, p.

<sup>69</sup>Cfr. Situational analysis- final draft, Bulgaria and Serbia. url: <http://siepa.gov.rs/en/index-en/key-industries/renewable-energy.html>



In 2009, the Serbian government put in place a decree in promoting feed-in tariff system for energy produced from renewable sources in power plants. However, the renewable energy sector in Serbia is in its initial phases of development.<sup>70</sup>

## 5.6.2 The current state of mobility and transport system

### Transport modes

The mobility system which connects Bulgaria and the Republic of Serbia is crossed by PanEuropean corridors: No. 4 – Greek border-Sofia-Vidin/Lom (with a ferry to Kalafat in Romania), No. 8 – Gjueshevo (former Yugoslav Republic of Macedonia border) – Sofia – Plovdiv – Burgas (with a highway between Sofia and Plovdiv – outside the border region) and No. 10 with a section that crosses the Bulgarian – Serbian border region. Despite of the strategical position within the current and future international transport traffic flows, the border area needs of interventions on transport infrastructures. Particularly, the connections between the Bulgarian- Serbian regions are incomplete: there are not motorway connection, only one railway line. Due to the lack of modern logistic technologies as well as of information technologies of the transport systems, the development of cross-border relations has difficulty to take off. In the specific, it would be necessary to improve road connectors with Turkey and Greece and domestic connections linking Sofia, Plovdiv, and Burgas.

The **Bulgarian road network** is featured by density of is 0,17 km/km<sup>2</sup>, which is higher than the EU average (0.09 km/km<sup>2</sup>). The highest density of national roads is found in the North central region (0.195 km/km<sup>2</sup>), the lowest density in South east region (0,154 km/km<sup>2</sup>).

The **Republic of Serbia road network** consists of 43,673 km of roads. Though the road network is quite well developed respect to Bulgarian ones, in Serbia its quality and technical condition is not satisfactory: 32% of highways and regional roads are 20 years old or more.

The following table includes all data relating to roads in Bulgaria and Republic of Serbia: motorways, highways, main or national roads, secondary or regional roads, and other urban and rural roads.

Length of road network (Km) - 2010

	BULGARIA	SERBIA
Motorways	437	495
Main of national roads	2970	4592
Secondary of regional roads	4030	10.398
Other roads	12019	28.188

Source: EU Transport in figures – Statistical pocketbook 2013

Concerning the **Railway network** the total length of **Bulgarian railway lines** is 3947 km (2010) of which 2,853 km are electrified.

In spite of the ongoing reconstruction of the railway lines, the Bulgarian railway network is insufficiently connected with railway networks of neighbouring countries like Turkey, Greece,

<sup>70</sup>Cfr. Serbia Investment and Export Promotion Agency (SIEPA)



Serbia & Montenegro, Romania. Furthermore, most of the railway lines inside the border area are quite old and need a complete overhaul.

#### Railway density

	RAILWAY LINE/1000 KM2	RAILWAY LINE/100,000 INH
Bulgaria	56	80
Republic of Serbia	38.24	-
EU	67	42

Source: Eurostat 2014

The railway density of the **Republic of Serbia** is comparable with that of the EU-27, only 32.7% of lines are electrified and 7% are double-tracked.

Serbia's main railway lines have been designed for maximum speeds of 120 km/hr. Due to their difficult topography and many sharp curves, parts of the Niš – Preševo and the Niš – Dimitrovgrad lines are designed for speeds of only 80 – 100 km/ hr.

The key transport corridor that links Bulgaria and the Republic of Serbia is Corridor X (to Belgrade, Zagreb, Ljubljana, Budapest, Vienna). The average permissible speed on the Corridor X lines is today reduced to 82 km/ hr. The Pan-European Transport Corridor X is the backbone of the Serbian railway infrastructure system, since over 50% of journeys are made on this corridor. This part of the network ought to be the best maintained part of the Serbian network – but even there the difference between design and actual speeds varies between 15% and 40%.

In **Bulgaria**, there are two main **airports** in the border region where the quantity of trade of commodities is substantial (besides personal traffic) - international airport in Sofia-city (the capital of Bulgaria) and the international airport in Niš (Serbia). Though the city of Sofia is out of the eligible area, this still is the only airport on the Bulgarian side of the border region. There is one more airport located at Vidin (Bulgaria) but it has not been in operation since the beginning of the 1990s.

In the cross border area located of the **Republic of Serbia**, there is only one **airport in Niš**. Constantine the Great International Airport in Niš is second biggest in Serbia, a small but developing international airport. It was designed for both cargo and passenger transport. In order to boost the development of the airport, the local-self-government subsidised the plane tickets and that attracted several low cost companies.

In Bulgaria, the **waterborne transport** provides opportunities for the development of environmental friendly and low cost transport services which makes it a viable alternative to road transport. Having an outlet to one of the most important European waterways – the Pan European Corridor No. 7 – the Danube River, the region thus gains a significant advantage. Two of the Bulgarian ports with international importance are located in the border area – the ports of Lom and Vidin. Another important port in the region is the Serbian port – Kladovo. Their main problem is the outdated facilities, lack of investments to improve and develop the ports infrastructure.

#### Transport demand

The transport sector has a considerable impact on the environment through air, noise pollution, waste generation and by impacting on landscape and land use through the implementation of large transport infrastructure projects.



In **Bulgaria** is growing the number of **passenger cars**, in 2011 was 48,1 billion pkm; while the use of buses is declining (10,8 billion p pkm); **tram and underground** register 0,9 billion pkm and the railways 2.1 billion pkm<sup>71</sup>.

Although the strong growth, car ownership is, at 264/1000 inhabitants, substantially below the EU25 average.

Generally, 58% of the cars (1,543,229) are more than 16 year old, whereas the prevailing part of them is more than 20 year old.

The combined data related to the number of cars and to the national road network density shows that the ownership is relatively high in relation to the road network.

**Bus transport** is relatively well developed and spread in the country, including the destinations not covered by railway transport. The basic bus transport problems are as follows: travel safety, lack of fixed arrival time, passenger services at the bus stations, lack of complex services (bus-bus or bus-train).

The following data confirm the tendency to the large use of car in Bulgaria and the declining of railways mode.

**Modal split of passenger transport on land (2011) / pkm as %**

	PASSENGER CARS	BUS&COACHES	RAILWAYS	TRAM&METRO
<b>Bulgaria</b>	77.7	17.5	3.3	1.4
<b>EU-27</b>	82.7	8.8	7.0	1.6

Source: EU Transport in figures – Statistical pocketbook 2013<sup>72</sup>

In relation to the **Serbia's transportation system** has got highly modernized with the construction of broad highways and railway systems that connects one part of the country of Serbia to another. One of the most developed public transportation is in Nis. There are 5 transportation providers that cover more than 30 local and regional bus lines. There is no accurate information on the number of citizens that uses public transportation but the rough estimate is 200 000 passengers/year.

Despite the efficient transportation system, the number of registered passenger vehicles in Serbia has grown significantly in recent years. In Serbia, the **Passenger cars** amounts to **231**(per 1,000 people) while in Bulgaria are 367<sup>73</sup>.

### Main impacts on the environment

Although transportation is a vital part of the economy and is essential for everyday activities, it is also a significant source of greenhouse gas emissions. In 2010, the **total greenhouse gas emission in Bulgaria** amounted to **61,4 million tonnes Co2 equivalent** of which **8.8 million tonnes Co2 GHG emissions**<sup>74</sup> are derived by the transportation that corresponds to 14,2% of the total.

During 2002, transport in general, was the major source of nitrogen dioxide and one of the greatest sources of carbon oxide in Bulgaria. The road transport is the major source of

<sup>71</sup>Cfr.EU Transport in figures – Statistical pocketbook 2013, url: <http://ec.europa.eu/transport/facts-fundings/statistics/doc/2013/pocketbook2013.pdf>

<sup>72</sup>Cfr. EU Transport in figures – Statistical pocketbook 2013, p. 47-48

<sup>73</sup>Cfr. Worldbank, <http://databank.worldbank.org/data/views/reports/tableview.aspx>

<sup>74</sup>Cfr.EU Transport in figures – Statistical pocketbook 2013, p. 62





accumulator and tire waste. Since a large share of automobile traffic passes through settlements, there is a significant effect on ambient air quality.

#### GHG emission from transport by mode in Bulgaria - 2010

	TOTAL CIVILAVIATION	ROAD TRANSPORTATION	RAILWAYS	TOTAL NAVIGATION	OTHER TRANSPORT
Share %	6,3	85	0,8	4,3	3,7
Million tonnes Co2 equivalent	0,6	7,5	0,1	0,4	0,3

Source: EU Transport in figures – Statistical pocketbook 2013<sup>75</sup>

Concerning the **consumption of fuel**, the data collected show a large use of petrol and diesel with 2089 unit ktOE counter the 1524 unit ktOE of Gas and 17 unit ktOE of Biofuel<sup>76</sup>.

The comparison between Bulgaria and the Republic of Serbia data on the consumption of road fuel registers higher levels in Bulgaria. In fact, in 2010 the Road sector gasoline fuel consumption in Serbia amounted to 464 kt of oil equivalent while in Bulgaria 581 kt of oil equivalent. In addition, in Serbia the Road sector diesel fuel consumption (kt of oil equivalent) was 1.289 and in Bulgaria 1426 kt of oil equivalent.

Considering the past trends and current status of the transport and its environmental consequences, it is probable the individual car transport will continuously rise and so the environmental effects caused by transport will decrease only slowly.

It is to be encouraged a shift from road transport to modes with lower environmental impacts, such as clean buses, shipping and rail. Moreover, providing support for the coherent planning of transport infrastructure and the development of environmentally friendly and interoperable transport modes in larger geographical areas.

#### 5.6.3 Waste system in the Bulgaria - Serbia cross- border area

The CBC waste management policy is tributary to the objectives of the EU waste prevention policy and aims to reduce resource use and to apply the waste hierarchy in practice.

Due to the fact system underdeveloped solid waste treatment infrastructure and waste-water facilities it is necessary the development of integrated waste management. Moreover, the financial sources from state budgets are insufficient for financing environmental infrastructure and the related inefficient prevention and management of climate related risks in the border region.

Turning waste into a resource will require the application of the waste hierarchy and the effective use of market-based tools and measures to ensure the phasing out of landfills, limit energy recovery to non-recyclable materials, the use of recycled waste as major and reliable source of raw materials for the EU, safe management of hazardous waste and limiting generation thereof, eradication of illegal waste transports and removing the domestic market barriers to ecological recycling activities.

<sup>75</sup>Ibidem, p 64

<sup>76</sup>Cfr. Worldbank, <http://www.factfish.com/statistic/road%20sector%20diesel%20fuel%20consumption>



In addition it is essential to strengthen the administrative capacity of the institutions responsible for the management of CSF and improve the interaction between institutions; at the same time changing the attitudes of all citizens in the adoption of sustainable behaviors.

The BG-RS CBC Programme will contribute to these type of actions mainly through its priorities for developing environment-friendly and low-carbon transport systems.

The following country's profiles illustrate the current state of waste system both in Bulgaria and in Serbia in order to deepen on the key problem to be solved in terms of waste management (i.e with the objective to develop a sectoral strategy to reduce the greenhouse gas emissions; prevent waste generation; reduce the amount of landfilled organic waste).

## Bulgaria

According to the review-report on waste management performance in the EU Member States published by the European Union in 2012, Bulgaria was ranked in the group of countries with the largest gaps in the implementation of waste management.

Since Bulgaria reported 0 % recycling for 2010, in order to achieve the 50 % recycling target for MSW by 2020 it will require that the recycling rate increases on an average annually with five percentage points from 2010 to 2020. Such a yearly increase rate has not been achieved by any European country in the period from 2000 to 2010. Even if packaging waste was included in the reporting to Eurostat on the recycling of municipal solid waste, it will require an exceptional effort in Bulgaria to fulfill the recycling target of 50 % by 2020.

It is likely that some recent initiatives taken after 2010 by the Bulgarian government will contribute to improve the recycling rate in the country.

Indeed, the Republic of Bulgaria has launched a **National strategic plan for the management of waste** from construction and demolition of the Republic of Bulgaria for the period 2011-2020, the main goals are:

- the prevention and reduction of amount of CSF generated;
- the introduction of the selective destruction and separate collection and storage of CSF at the construction site in manner that ensures maximum extent their subsequent economic and technical appropriate recycling and utilization;
- the creation of conditions for recycling and recovery of waste from construction burst and 70% reached recycling by 2020 of generated in the country CSF under the new framework directive 2008/98/EC on waste.

The public awareness regarding environmental concerns of waste is not sufficiently developed. The Recovery Organizations and bodies, which are licensed for individual compliance schemes, are obliged under Ordinance on Packaging and Packaging Waste (2012) to implement information campaigns on annual basis. The fulfilment of this obligation is a subject of control on behalf of the MOEW during the approval of the annual audit reports. One of the priorities of the National Waste Management Programme (2009- 2013) concerns measures to raise awareness of citizens in all fields of waste management through different campaigns<sup>77</sup>.

---

<sup>77</sup>Cfr. European Commission, Country Factsheet Bulgaria (BG) 070307/2011/606502/SER/C2



The following section shows the current state of waste system in the country in relation to the packaging waste.

**Incinerated in combustion installation packaging waste (tonnes)**

Material	2009	2010	2011	2012
Plastic	278	558	M	3250
Paper/cardboard (incl. composites)	581	24	M	46
Metal	M	M	M	M
Wood	120	148	2482	0
Glass	M	M	M	M
Other	50	28	M	14
<b>Total</b>	<b>1028</b>	<b>758</b>	<b>2482</b>	<b>3310</b>

Source: NSI 2012

**Generated packaging waste (tonnes)**

Material	2010	2011	2012
Plastic	81978	94963	96123
Paper/cardboard (incl. composites)	138716	110270	122270
Metal	15744	13414	14587
Wood	18741	21444	20121
Glass	63962	69374	70521
Other	2055	5174	5174
<b>Total</b>	<b>321197</b>	<b>314639</b>	<b>328797</b>

Source: NSI 2012<sup>78</sup>

*Municipal solid waste management (MSW)*

Municipalities (264 in total) play an important role in the implementation of the policy in the environmental sector. Municipalities are organised in Regional Municipal Associations, which are responsible to implement the national waste management policy on the regional level<sup>79</sup>.

According to the Eurostat data no material and organic recycling of municipal waste was reported by Bulgaria from 2001 to 2010.

In Bulgaria packaging waste is not included in the reporting to Eurostat on the recycling of municipal solid waste.

Specifically, there has been a significant increase in the packaging waste recycling from 2004 to 2010. The largest proportion of recycled packaging waste is linked to paper and cardboard.

<sup>78</sup>Cfr. EEA, NSI url: <http://www.nsi.bg/en/content/5177/generated-packaging-waste>

<sup>79</sup>Ibidem



**Composition of recycled packaging waste in Bulgaria in 2004, 2006, 2008 and 2010. Stated in tonnes**

	2004	2006	2008	2010
<b>Total packaging waste recycling</b>	<b>100 610</b>	<b>129 129</b>	<b>152 057</b>	<b>197 958</b>
Plastics	7 622	17 996	12 084	33 553
Paper/cardboard (including composites)	74 898	65 770	73 945	113 543
Metals	5 875	1 498	11 806	8 052
Wood	-	-	2 827	10 074
Glass	12 215	43 767	51 395	32 735
Other	-	98	-	-

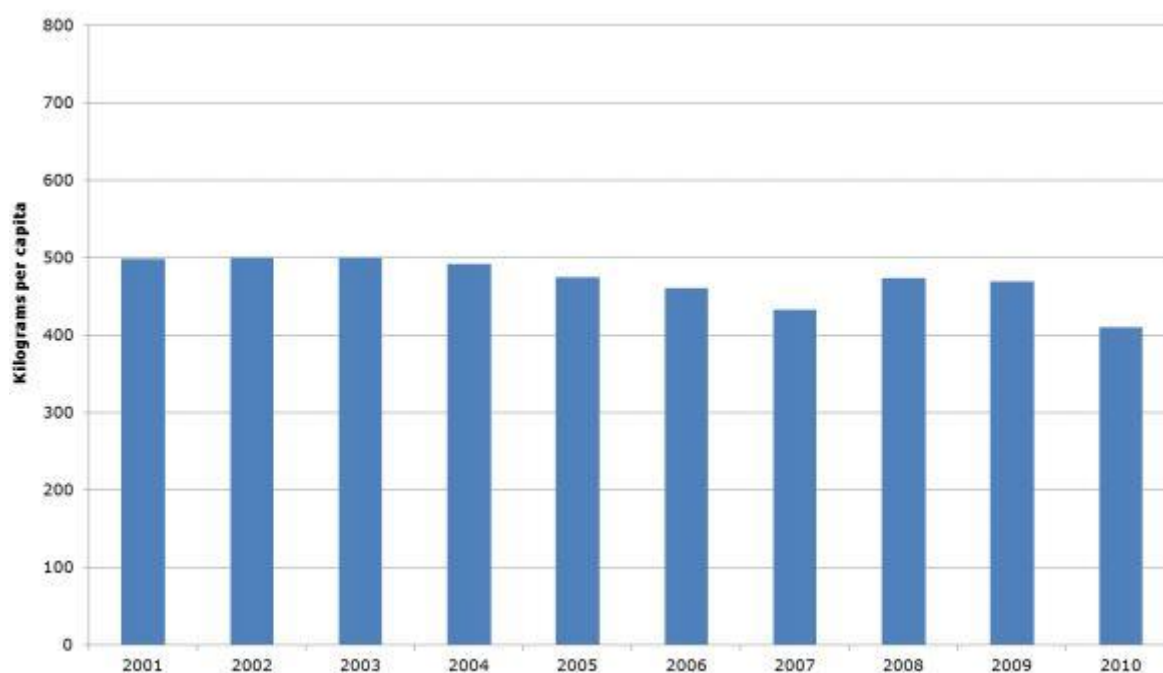
Source: Bulgarian National Statistical Institute, 2012<sup>80</sup>

A very large proportion of the municipal waste in Bulgaria is landfilled. The amount of municipal waste deposited into landfills was 3 million tonnes in 2010, representing 98 % of the generated amount (3.1 million tonnes)<sup>81</sup>

The following Figure shows the development of MSW generation per capita in Bulgaria from 2001 to 2010.

There has been a decrease in MSW generation per capita during the period.

**MSW generations per capita in Bulgaria**



<sup>80</sup>Cfr. EEA, Municipal waste management in Bulgaria 2013, p.6

<sup>81</sup>Cfr. ibidem



Source: Eurostat, 2012

## Serbia

The overall policy of the Serbian government is to develop a new, more sustainable waste management system through regionalization. Until recently waste management in Serbia was based only on collection and waste disposal at not strictly sanitary landfills, but often on small open dumps. In order to change existing practice the main goals of waste management in Serbia are increase in selection and separation of recyclables, especially of packaging waste, and disposal of remaining waste at sanitary (regional) landfills.

At the moment, most of the landfills in Serbia are public owned.

There are no waste combustion plants (incinerators) or other waste to energy facilities. Selection of waste and its separation is on very low level<sup>82</sup>.

### Overview of existing landfilling practice in Serbia

Existing Sanitary landfills	Number of citizens / waste (t/year)	% of total waste generated
Kikinda	67.002 (16480)	<b>3,95%</b>
Lapovo (Lapovo, Batočina, Despotovac, Velika Plana, Rača)	99.698 (14480)	
Leskovac (Leskovac, Bojnik, Lebane, Medveđa, Vlasotince, Crna Trava, Vladičin Han, Surdulica)	240.621 (50421)	
Sanitary landfill under construction, EU funding, 2010		
Sremska Mitrovica (Sremska Mitrovica, Šabac)	209.057 (46905)	<b>7,24%</b>
Pirot (Pirot, Babušnica, Bela Palanka, Dimitrovgrad)	100.133 (19676)	
Užice (Užice, Arilje, Bajina Bašta, Čačak, Čajetina, Ivanjica, Kosjerić, Lučani, Požega)	371.010(82366)	
Total (comparing to entire country)	<b>14,5%</b>	<b>11,19%</b>

Source: ISWA (2012)

Until 2009, landfill sites have not been constructed according to European standards and they do not meet minimum technical requirements which protect the environment and public health. They have been built without bottom liner and leachate treatment systems, often located on a location outside the city where some sort of excavation was done. Also, there are no systems for landfill gas collection and treatment so far.

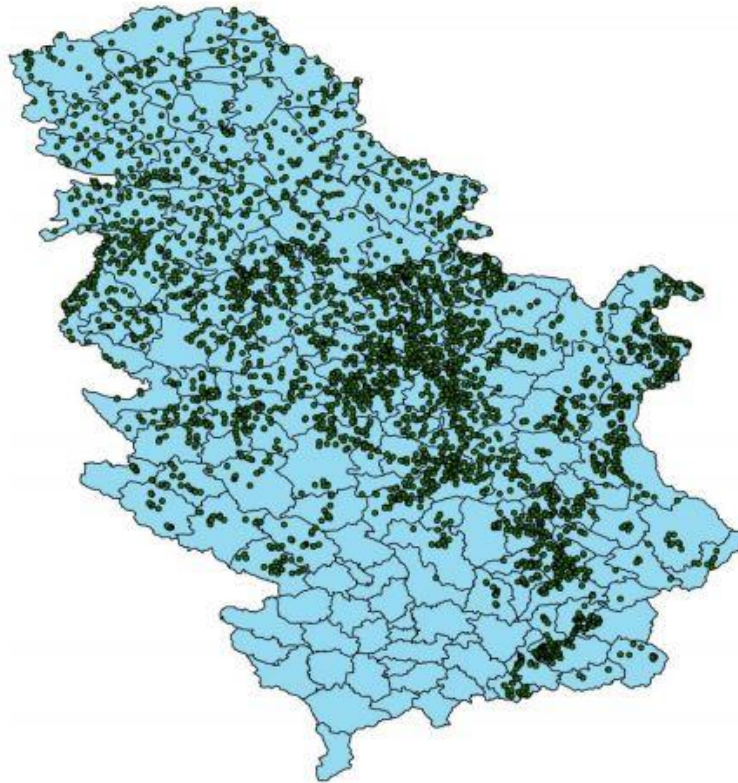
Particularly, in Serbia there is more than 3000 landfills in Serbia, where majority are small open dumps.

### Location of landfills in Serbia

<sup>82</sup>Cfr. State of the Nation Report Landfilling Practices and Regulation in Serbia, ISWA international solid waste association







In the following table there are data available on the Serbian's landfills.

**Data on Landfills in Serbia**

Criteria [m <sup>3</sup> ]	Numeber of Landfills	Total Area [ha]	Total Volume[m <sup>3</sup> ]
do 1.000	2.702	154,50	604.628,93
od 1.001 do 10.000	698	480,04	2.251.995
od 10.001 do 100.000	131	313,11	4.087.590
od 100.001 do 500.000	37	199,24	8.693.492
od 500.001 do 1.000.000	7	62,59	5.296.214
preko 1.000.000	7	131,98	23.123.124
<b>Ukupno</b>	<b>3.582</b>	<b>1.341,46</b>	<b>44.057.045</b>

Source: ISWA 2012





## 6 The environmental characteristics of areas likely to be significantly affected

The CBC Programme is prepared for the whole territory of the cross-border region. Since it is not possible to identify the territorial locations of the priorities and activities planned (neither specific projects) within the CBC Programme (the strategic level of the programme is on the scale of the region) the environmental analysis of the characteristics and issues provided in the chapter 5 is applicable and responds to the needs of this particular item of the content, as required by the national law and the EC Directive.

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

## 7 The existing environmental problems ascertained at different levels which are relevant to the Programme including, in particular, those relating to any areas of a particular environmental importance

In terms of **environmental risks**, the situation in the eligible Programme's area could be summarised as follows:

- ♦ **Air pollution** (low risks): The decline of industrial enterprises which seriously damaged the environment, is determining the relatively low risks towards air pollution. However, a few regional black spots with heavy industrial pollution, mainly related to coal mining and heavy industries still exist. The industrial complexes in Negotin and Bor (Serbia), Sofia and Pernik (Bulgaria) still **impose serious air-pollution problems**.

- ♦ **Water pollution** (moderate risks): Apart from their commitment to comply with EU water and environmental legislation, Bulgaria and Serbia are effectively involved in trans-boundary cooperation within the frame of international conventions, particularly within the Danube river basin. As signatories to the Danube River Protection Convention, both countries have agreed to co-operate on fundamental water management issues by taking *"all appropriate legal, administrative and technical measures to at least maintain and where possible improve the current water quality and environmental conditions of the Danube river and of the waters in its catchments area, and to prevent and reduce as far as possible adverse impacts and changes occurring or likely to be caused."*

- ♦ **Droughts, floods, forest fires, land slides** (high risks): Due to the ongoing climate change, future increase of natural risks like droughts, floods, forest fires, landslides has to be assumed for the Programme area. The Central and Southern part of the area face greater risks from droughts, fires and landslides in the mountainous regions, while the Northern part of the area face greater risks from floods in the plains. Forests in the region preserve the majority of the area's protected plants and endangered animal species. In that respect the forest fires also represent a specific risk for the environment in the region. During the 2012, the territory of the state forests that are governed by the Public Company "Serbia Forests" has recorded a total of 328 forest fires on the surface of 11,462.73 hectares. According to the Department for Emergency Situations Ministry of Interior, the total damage was around 50 million EUR. The largest part of the fire engulfed areas was reported in the south-eastern part of Serbia (part of the cross-border area) - around 60%. Similarly, in Bulgaria a fire engulfed about 32000 ha of forests (only for 2012).



Hereafter the Environmental protection, climate change and risk prevention Weaknesses and Threats identified in the SWOT analysis of the Programme:

**Weaknesses:**

- Low level of disaster management systems and emergency preparedness
- Underdeveloped solid waste treatment infrastructure and waste-water facilities
- Insufficient management systems of hazardous waste

**Threats:**

- Insufficient financial sources from state budget for financing environmental infrastructure
- Inefficient fire fight management and fire prevention measures

## 8 Possible effects and impacts on the environment resulting from the implementation of the Programme and recommendations to mitigate significant negative effects

### 8.1 Expected effects and impacts of the envisaged actions on the environment

The assessment of the expected effects and impacts of the envisaged actions on the environment is presented in this paragraph. All the components described in previous chapters - actions foreseen of the Programme, objectives for environmental protection at European and national level, state of the environment, environmental problems – are considered, in order to supply a specific and exhaustive analysis.

The results of the analysis are given in an **environmental assessment matrix for each Specific Objective included in a Priority Axis**. The **matrices** (see tables below) provide an overview of the possible effects of the Programme on the involved environmental issues (the cross-cutting themes have been integrated into the assessment of the respective environmental issues).

It has to be noticed that the **likely significant effects** and impacts on the environment resulting from the implementation of the Programme are **primarily of indirect nature**, even if in some case - SO 1.1. Tourist Attractiveness, SO 3.1 Joint Risk Management - the impacts could also be more direct.

Only actions that can have effects on environment are included in the lists of “Indicative actions foreseen” of the following tables.

**Tab. 1. Evaluation assessment of SO1.1. Tourist Attractiveness**

Priority Axis 1: “Sustainable Tourism”			
SO1.1. Tourist Attractiveness			
<b>Indicative actions foreseen</b>	<ul style="list-style-type: none"> <li>• Rehabilitation of access roads to natural, cultural and historic tourism sites</li> <li>• Public transports, cycling routes and walking paths to touristic sites</li> <li>• Public utilities upgrades (specifically water supply and sewerage systems)</li> <li>• Restoration/maintenance of sites of historical and cultural importance</li> <li>• Conservation/protection of natural and cultural heritage</li> </ul>		
<b>Environmental issue involved</b>	Biodiversity, Flora and Fauna	<b>Assessment</b>	<b>+/-</b>



	Water		<b>+/-</b>
	Air and Climate		<b>+/-</b>
	Cultural/Natural Heritage and Landscape		<b>+/-</b>
<b>Possible effects on environment</b>	<p>Augmentation of tourist presence induced by Programme's initiatives- if not properly managed - could originate different risks, that should be avoided if all Programme's components will be implemented:</p> <ul style="list-style-type: none"><li>• negative effects on air pollution caused by increased traffic will be counterbalanced by the improvement of sustainable transportation system</li><li>• in some natural habitat (especially protected areas) threats of negative effect on biodiversity, flora and fauna can be avoided adopting existing regulation concerning restrictions for their utilisation, or identifying appropriate norms, if not existing;</li><li>• improvement of water supply and sewerage systems will absorb the increased consumption of water and negative effects on water quality</li></ul> <p>Restoration/maintenance of sites of historical and cultural importance and conservation/protection of natural and cultural heritage will allow to preserve and improve traditional landscape.</p>		
<b>Recommendations</b>	<ul style="list-style-type: none"><li>• The higher accommodation capacity that could be induced by the Programme's initiatives must be accompanied by appropriate improvements of the water supply and sewerage systems</li><li>• Appropriate restrictions for utilisation of natural areas needing of specific protection should be strictly applied (application of existing norms, or creation of new ones);</li><li>• Preparation of legislation on permits for new facilities/tourist accommodation/buildings that must be coherent with the traditional landscape, utilising possibly local materials and construction techniques.</li><li>• Development of tourist packages should recognize that activities such as outings "safari" and runs "off-road" with the observation of rare and endangered species are not eligible because they lead to significant damage to the environment and biodiversity</li></ul>		

**Tab. 2. Evaluation assessment of SO 1.2 Cross border touristic products**

<b>Priority Axis 1: "Sustainable Tourism"</b>			
<b>SO 1.2. Cross border touristic products</b>			
<b>Indicative actions foreseen</b>	None of the actions foreseen is expected to produce effects on environment		
<b>Environmental issue involved</b>	-----	<b>Assessment</b>	----
<b>Possible effects on environment</b>	None		
<b>Recommendations</b>	None		



**Tab. 3. Evaluation assessment of SO 1.3 People to People Networking**

Priority Axis 1: "Sustainable Tourism"			
SO 1.3 People to People Networking			
Indicative actions foreseen	Awareness raising campaigns on the values of regional cultural and natural heritage, incl. among youths		
Environmental issue involved	All	Assessment	+
Possible effects on environment	Although the expected effects are indirect, this activity could have a positive effect in general on the preparation of local entrepreneurs, who will be able to "promote" their territory in a more effective way.		
Recommendations	None		

**Tab. 4. Evaluation assessment of SO 2.1. Skills & entrepreneurship**

Priority Axis 2: "Youths"			
SO 2.1. Skills & entrepreneurship			
Indicative actions foreseen	Business training		
Environmental issue involved	All	Assessment	+
Possible effects on environment	In case - among others subjects - also environmental issues should be considered, it will be possible to improve environmental awareness of young entrepreneurs		
Recommendations	Include – if not already present - environmental issues among the subjects considered by information / training activities		

**Tab. 5. Evaluation assessment of SO 2.2 People to People Networking**

Priority Axis 2: "Youths"			
SO 2.2 People to People Networking			
Indicative actions foreseen	None of the actions foreseen is expected to produce effects on environment		
Environmental issue involved	--	Assessment	---



<b>Possible effects on environment</b>	---
<b>Recommendations</b>	---

**Tab. 6. Evaluation assessment of SO 3.1 Joint Risk Management**

Priority Axis 3: “Environment”			
SO 3.1 Joint Risk Management			
Indicative actions foreseen	<ul style="list-style-type: none"><li>• Early warning and disaster management system</li><li>• Equipment related to disaster resilience</li><li>• Support of small-scale interventions (reforestation of river banks, flood defence, forestation, etc.)</li><li>• Actions for communications for risk prevention and management of natural and man-made disasters</li><li>• Awareness campaigns for risk prevention and management</li><li>• Training in the use of ICT technologies</li></ul>		
Environmental issue involved	Biodiversity, Flora and Fauna	Assessment	+
	Water		+
	Soil		+
	Air and Climate		+
	Population and human health		+
	Cultural/Natural Heritage and Landscape		+
Possible effects on environment	<ul style="list-style-type: none"><li>• Negative effects of natural disasters (wood fires, floods) on landscape and natural heritage can be avoided or mitigated</li><li>• Emissions of CO<sub>2</sub> due to fires can be avoided</li><li>• Capacity of woods to retain CO<sub>2</sub> can be maintained</li><li>• Avoiding the destruction of habitats by fire or floods, it can be preserved the local biodiversity, flora and fauna</li><li>• Maintaining the coverage of trees it can be preserved as well the quality of soils, avoiding the erosion due to rainfall and the losses of topsoil, the richest in terms of organic matter</li><li>• A positive effect on water quality can be detected too, considering the filtering action of tree coverage</li></ul>		
Recommendations	None		



Tab. 7. Evaluation assessment of SO 3.2 Nature Protection

Priority Axis 3: “Environment”			
SO 3.2 Nature Protection			
Indicative actions foreseen	<ul style="list-style-type: none"><li>• Effective management of protected areas</li><li>• Initiatives for the protection and restoration of ecosystems and endangered flora and fauna species</li><li>• Preservation and improvement in quality of natural resources</li><li>• Building capacity of local authorities in environment-related matters</li><li>• Action for the awareness of the local communities on environmental and nature protection</li></ul>		
Environmental issue involved	Biodiversity, Flora and Fauna	Assessment	+
	Water		+
	Soil		+
	Air and Climate		+
	Cultural/Natural Heritage and Landscape		+
Possible effects on environment	<ul style="list-style-type: none"><li>• Improvement of the quality of natural areas, in terms of Biodiversity, Flora and Fauna</li><li>• Preservation of the traditional landscape, <i>conditio sine qua non</i> for the attractiveness of the area (also considering objectives of Priority Axis 1)</li><li>• Augmented resilience to climate changes and capacity of CO<sub>2</sub> storage</li><li>• Positive effects on soil and water quality</li><li>• Availability of natural areas for the population can contribute to human well being</li></ul>		
Recommendations	When carrying out activities near or within protected areas, protected areas and historical monuments, beneficiaries are required to monitor and report on the manner of compliance regimes and restrictions recorded in management plans and ordinances for the specific areas and localities		

The following table provides an overview of the global possible effects on the environment of the implementation of the activities foreseen by the Programme.

Tab. 8. Overview of the environmental effects of the Programme

	Environmental issue
--	---------------------





	Air and Climate	Biodiversity, Flora and Fauna	Water	Soil	Population and Human Health	Cultural/Natural Heritage and Landscape
<b>Priority Axis 1: “Sustainable Tourism”</b>						
SO1.1. <i>Tourist Attractiveness</i>	+/-	+/-	+/-	0	0	+/-
SO 1.2. <i>Common Touristic Products</i>	0	0	0	0	0	0
SO 1.3 <i>People to People Networking</i>	+	+	+	+	+	+
<b>Priority Axis 2: “Youths”</b>						
SO 2.1. <i>Skills &amp; entrepreneurship</i>	+	+	+	+	+	+
SO 2.2 <i>People to People Networking</i>	0	0	0	0	0	0
<b>Priority Axis 3: “Environment”</b>						
SO 3.1 <i>Joint Risk Management</i>	+	+	+	+	+	+
So 3.2 <i>Nature Protection</i>	+	+	+	+	0	+
<b>Accumulation of impacts</b>	+	+	+	+	+	+

### 8.1.1 Cumulative effects

No significant negative cumulative impact is expected from activities financed by the Programme.

Instead, positive cumulative effects are expected on all environmental issues considered, since the whole Programme assumes protection of environment and sustainable development of productive activities as the strategic approach on which all activities are based, according also to European and national policies.

Most important positive results are expected to be achieved on protection of natural resources of the project area, thanks to improved capacity to manage critical situations (wood fires and other natural disasters) but also to information/training activities targeted on

The implementation of the interventions financed by the Programme should not have any negative impact, as also stated by specific analysis already carried out by Ministry of Environment and Water, with respect to the requirements of Art. 31 of the Biological Diversity Act (BDA). According to this study, “*the program is not likely to have a significant negative impact on natural habitats, populations and habitats of species subject to conservation in protected areas from the Natura 2000 network*”.



local authorities and local communities on the importance of the management/protection of natural, cultural and historical heritage of the Region.

Preservation and amelioration of water resources are expected as well. The development of tourist sector can be considered as “sustainable” only if it is accompanied by the parallel improvement of the existing water supply and sewerage systems, but also local population can benefit of such structures.

Potential risks for the environment can be linked mainly to the same subject, namely the development of uncontrolled initiatives related to tourist sector: structures for accommodation without appropriate infrastructures for water supply and treatment, deficiencies of public transports, proliferation of structures with negative impacts on landscape.

Some additional negative impacts can be expected during the construction phase of the foreseen facilities, but they can be considered as temporary effects.

## 8.2 Recommendations and supplementary suggestions

---

The following recommendations mainly concern interventions of Priority Axis 1 Sustainable tourism:

- Programme’s initiatives are expected to induce the development of private initiatives related to tourist sector, but this growth must go hand in hand with the upgrade of related infrastructures (water and sewerage systems, transport facilities, etc.), otherwise the sustainability of the whole system could be weakened;
- Similarly, also an uncontrolled development of tourist structures could lead to a depletion of the natural, historical and traditional heritage of the area and of the related local landscape. Therefore, it could be appropriate to prepare specific legislation on permits for new facilities/tourist accommodation/buildings, that must be coherent with the traditional landscape, utilising possibly local materials and construction techniques;
- Identification/application of specific restrictions for utilisation of natural areas needing of specific protection should be foreseen, where appropriate;

An additional consideration- to be utilised mainly as a contribution to the strengthening of the positive effects of the Programme on the environment –deals with the opportunity to include environmental issues in the framework of general support assured to young entrepreneurs (Priority Axis 2, SO 2.1).

## 9 Reasons for selecting the alternatives

---

The SEA legislation requests also to identify **reasonable alternatives to the Programme**. In fact, there is no alternative for a fundamental change of the overall structure of the Programme, as thematic priorities and priority axes have to refer to IPA II regulation and the Framework regulation on the implementation of ETC initiatives.

As already mentioned in previous paragraphs, there are no major negative effects expected that could suggest the opportunity to consider an alternative to this Programme. Some suggestions to increase the sustainability of the intervention are indicated in previous paragraph.



## 10 Description of the measures envisaged concerning monitoring

According to the SEA Directive Article 10, possible significant environmental effects of the implementation of the Programme shall be monitored in order to identify at an early stage unforeseen adverse effects, and to enable the Programme Managing Authority to undertake appropriate remedial actions. In this context this chapter present, at both programme and project levels, different types of measures which can contribute to identification and monitoring of possible significant environmental effects resulting from the implementation of the IPA CBC Bulgaria-Serbia Programme 2014-2020.

The proposed monitoring system defines, at programme level, appropriate environmental indicators (“**SEA indicators**”) **integrated in the monitoring and evaluation framework of the Programme**<sup>83</sup>, in order to avoid duplication of monitoring, as required by SEA legislation.

### 10.1 SEA indicators

The proposed monitoring system was developed on the basis of the possible significant environmental effects of the implementation of the Programme, detected in the environmental assessment presented in chapter 8. The following common and specific output indicators, made available in the Final Draft Programme (Version 3. - August 2014) will be used:

Tab. 9. Common and programme specific output indicators

ID	Indicator (name of indicator)	Measurement unit	Target value (2023)	Source of data	Frequency of reporting
OI 1.1.1	Total number of reconstructed/restored cultural and historical touristic objects in the eligible border area	Number	15	Annual Implementation Reports	Annually
OI 1.1.2	Total length of reconstructed or upgraded access facilities (roads/cycling routes/ walking paths) to natural, cultural and historic tourism sites	Kilometres	5	Annual Implementation Reports	Annually
OI 1.1.3	Total number of small scale technical infrastructure, encouraging the visits to the tourist attractiveness	Number	15	Annual Implementation Reports	Annually
OI 2.1.1	Total number of supported youth-related small-scale infrastructure, and training and information facilities	Number	15	Progress and Annual Implementation Reports	Annually
OI 3.1.1	Total number of joint activities aimed at establishing joint early warning and disaster management systems	Number	6	Progress and Annual Implementation Reports	Annually

<sup>83</sup>Already including environmental indicators (output, result and impact indicators).



				n Reports	
<b>OI 3.1.2</b>	Purchased specialised equipment related to disaster management	Number	10	Progress and Annual Implementation Reports	Annually
<b>OI 3.1.3</b>	Total number of supported interventions / investments related to risk prevention	Number	5	Progress and Annual Implementation Reports	Annually
<b>OI 3.1.4</b>	Total number of people participated in risk prevention and management training activities	Number	600	Progress and Annual Implementation Reports	Annually
<b>OI 3.2.1</b>	Total number of interventions, addressing improved nature protected sites and endangered species	Number	12	Progress and Annual Implementation Reports	Annually
<b>OI 3.2.2</b>	Capacity building initiatives, trainings, exchange of experience and know-how in the field of sustainable use of natural resources	Number	15	Progress and Annual Implementation Reports	Annually

Tab. 10. Programme specific result indicators

ID	Indicator	Measurement unit	Target value (2023)	Source of data	Frequency of reporting
<b>RI 3.1.1</b>	Increased joint interventions in the field of risk prevention and management	Percentage	150% (quantitative target)	Progress and AIR of IPA CBC BG-RS 2014-2020	2018 2023
<b>RI 3.2.1</b>	Joint initiatives related to nature protection and sustainable use of common natural resources	Percentage	40% (quantitative target)	Progress and AIR of IPA CBC BG-RS 2014-2020	2018 2023

## 10.2 Environmental Self-assessment

At project level, a preliminary impact assessment on environmental issues is recommended: the applicants could make an **Environmental Self-assessment** about the environmental aspects of the proposed projects following the list of defined Evaluation Questions as a scoring sheet.

Hereafter an example of possible questionnaire for the environmental Self-assessment based on an indicative possible action foreseen under Priority Axis 1: "Sustainable Tourism" - SO1.1. Tourist Attractiveness: *Rehabilitation of access roads to natural, cultural and historic*



*tourism sites*. This action can have both possible positive and negative environmental effects on Biodiversity, Flora and Fauna, Water, Air and Climate, Cultural/Natural Heritage and Landscape (see chapter 8 for the environmental assessment).

Tab. 11. Example of Self-Assessment questionnaire

Environmental Issue	Evaluation questions	Measurement unit
<b>Air and Climate</b>	<p>8. Will the project have an effect on the reduction of air pollution?</p> <p>9. Will the project have an effect on the reduction of the GHG emissions?</p> <p>10. Will the project have an effect on the support of environmentally friendly transports?</p> <p>11. Will the project have an effect on the promotion of forest fire fight management and prevention?</p> <p>12. Will the project have an effect on the promotion of responsible behaviour of the public by involving the citizens into fighting climate change?</p>	Ordinal scale (e.g. 1-10)
<b>Biodiversity, Flora and Fauna</b>	<p>7. Will the project have an effect on the preservation of biodiversity, habitats and ecosystems and their services?</p> <p>8. Will the project have an effect on the decrease in loss of biodiversity?</p> <p>9. Will the project have an effect on the promotion of responsible behaviour of the public by involving the citizens in protecting biodiversity and natural areas?</p> <p>10. Will the project have an effect on the promotion of tourism that would ensure high degree of nature conservation?</p>	Ordinal scale (e.g. 1-10)
<b>Water</b>	<p>1. Will the project have an effect on the improvement of ecological and chemical status of water bodies?</p> <p>2. Will the project have an effect on the promotion of sustainable use of water resources?</p> <p>3. Will the project have an effect on the promotion of sustainable use of sustainable tourism towards water resources preservation?</p> <p>4. Will the project have an effect on the promotion of responsible behaviour of the public by involving the citizens into sustainable water use?</p>	Ordinal scale (e.g. 1-10)
<b>Cultural/Natural Heritage and Landscape</b>	<p>5. Will the project have an effect on the protection and rehabilitation of cultural and natural heritage?</p> <p>6. Will the project have an effect on the promotion of sustainable management and planning of cultural and natural landscape?</p>	Ordinal scale (e.g. 1-10)



Environmental Issue	Evaluation questions	Measurement unit
	<p>7. Will the project have an effect on the promotion of sustainable use of natural resources towards sustainable tourism?</p> <p>8. Will the project have an effect on the promotion of responsible behaviour of the public by increasing education and awareness on heritage and landscape preservation and protection?</p>	

## 11 Conclusions and recommendations

The analysis of existing environment policy framework has allowed to identify specific SEA objectives and related evaluation questions. On this basis it has been assessed the **possible effects on the environment** resulting from the implementation of the indicative actions to be supported by the CBC Bulgaria – Serbia 2014 – 2020. The analysis has been carried out devoting a particular attention to those environmental aspects and risks that can be considered as particularly critical in relation to the Programme implementation (see also chapt. 7): a) **droughts, floods, forest fires, landslides**; b) **water pollution**; c) **air pollution**.

For each Specific Objective of the three Priority Axis it has been analyzed the effects of the actions foreseen on the environmental issues identified: a) biodiversity, flora and fauna; b) water; c) soil; d) air and climate; e) population and human health; cultural/natural heritage and landscape.

The following conclusions can be drafted:

For all Axis: In general **likely significant effects** and impacts on the environment resulting from the implementation of the Programme are **primarily of indirect nature**, even if in some case - SO 1.1. Tourist Attractiveness, SO 3.1 Joint Risk Management - the impacts could also be more direct.

Priority Axis 1 Sustainable tourism: the Specific Objective that could originate most important effects is SO 1.1 Tourist attractiveness. **Augmentation of tourist presence** induced by Programme's initiatives - if not properly managed - could originate different environmental risks, that the approach promoted by the IPA CBC Programme should be able to avoid:

- negative effects on air pollution caused by increased traffic will be counterbalanced by the **improvement of sustainable transportation system**;
- in some natural habitat (especially protected areas) threats of negative effect on biodiversity, flora and fauna can be avoided adopting existing regulation concerning **restrictions for their utilisation**, or identifying appropriate norms, if not existing;
- **improvement of water supply and sewerage systems** will absorb the increased consumption of water and negative effects on water quality
- Restoration/maintenance of sites of **historical and cultural importance** and conservation/protection of **natural and cultural heritage** will allow to preserve and improve traditional landscape.

The overall sustainability of this Axis is strengthened by the **awareness raising campaigns** on the values of regional cultural and natural heritage (particularly important for youths).





Priority Axis 2 Youths: it can be estimated that actions foreseen by the Programme **cannot originate significant environmental effects**. Nonetheless, some positive consequence can be expected in case - among others subjects considered by business training initiative of SO 2.1 Skills and entrepreneurship - also environmental issues should be included, allowing to improve environmental awareness of young entrepreneurs.

Priority Axis 3: Environment: this component tackles directly the most important environmental issues of the project area, namely **prevention of natural disasters and water pollution**. SO 3.1 deals with risk management, promoting a joint approach between Bulgaria and Serbia in order to set up an **early warning and disaster management system**, including investments for equipment, small scale intervention (reforestation, flood defence, etc.), as well as immaterial actions such as **communication and awareness campaigns for risks prevention**. The initiatives of SO 3.2 Nature protection are related to material investments in protected areas and protection/restoration of ecosystems / endangered flora and fauna species, determining positive impacts on biodiversity, traditional landscape, improved resilience to climatic changes.

The following **recommendations** mainly concern interventions of Priority Axis 1 Sustainable tourism:

- Programme's initiatives are expected to induce the development of private initiatives related to tourist sector, but this growth must go hand in hand with the **upgrade of related infrastructures** (water and sewerage systems, transport facilities, etc.), otherwise the sustainability of the whole system could be weakened;
- Similarly, also an uncontrolled development of tourist structures could lead to a depletion of the natural, historical and traditional heritage of the area and of the related local landscape. Therefore, it could be appropriate to prepare **specific legislation** on permits for new facilities/tourist accommodation/buildings, that must be coherent with the traditional landscape, utilising possibly local materials and construction techniques;
- Identification/application of **specific restrictions** for utilisation of natural areas needing of specific protection should be foreseen, where appropriate;

An additional consideration - to be utilised mainly as a contribution to the strengthening of the positive effects of the Programme on the environment – deals with the opportunity to include environmental issues in the framework of general support assured to young entrepreneurs (Priority Axis 2, SO 2.1).

