

A NON-TECHNICAL SUMMARY
OF
ENVIRONMENTAL ASSESSMENT REPORT OF
the draft Cross-Border Cooperation Programme 2021-2027 co-financed under
the Instrument for Pre-Accession Assistance between the Republic of Bulgaria
and the Republic of Serbia and the draft Territorial Strategy for Integrated
Measures

Contracting authority: Ministry of Regional Development and Public Works

Contractor: BT-Engineering EOOD

November, 2021

Contents

INTRODUCTION	5
CONTACT INFORMATION OF THE CONTRACTING AUTHORITY	6
1. <i>Name, headquarters and unique identification number of the legal entity</i>	6
2. <i>Complete postal address</i>	6
3. <i>Telephone, fax, E-mail</i>	6
1. <i>Description of the content of the main objectives of the CBCP and TSIM and connection to other relevant plans and programmes</i>	7
1.1. Reason for drawing up the CBCP and the TSIM	7
1.2. Main targets and provisions of CBCP and TSIM	7
1.3. Alternatives to CBCP and TSIM	15
1.4. Connection of the CBCP and TSIM with other relevant plans, programmes and strategies	15
2. <i>Current state of the environment and possible development without application of CBCP and TSIM</i>	16
2.1. Current state of the environment	16
2.1.1. Climate and climate change	16
2.1.2. Ambient air state.....	18
2.1.3. Water state, water protection zones, flood risk.....	18
2.1.4. Subsoil state.....	19
2.1.5. Soil state.....	19
2.1.6. Biodiversity state.....	20
2.1.7. Protected areas and protected territories	21
2.1.8. Landscape state	31
2.1.9. Tangible assets state	31
2.1.10. Cultural and historical heritage, including architectural and archaeological heritage	32
2.1.11. State in terms of harmful physical factors.....	33
2.1.12. State and management of waste	33
2.1.13. Hazardous chemicals and risk of major accidents.....	33
2.1.14. Health status of the population.....	33
2.2. Possible development of the environment without the implementation of CBCP and TSIM	34
3. <i>Environmental characteristics for areas likely to be significantly affected by the implementation of the CBCP and TSIM</i>	36
4. <i>Existing environmental problems identified at different levels related to the CBCP and TSIM, including those related to areas of particular ecological importance, such as protected areas under the Biodiversity Act</i>	42

5.	<i>Environmental protection objectives at national and international level relevant to the CBCP and TSIM and the way in which these objectives and all environmental considerations are taken into account in the preparation of the programme and the strategy</i>	42
5.1.	Integration of environmental protection objectives into the projects of the CBCP and TSIM 42	
5.2.	Environmental objectives at international and national level relevant to the CBCP and TSIM and in a manner consistent with them	43
6.	<i>Possible significant environmental and human health impacts, including cross-border environmental impacts in other countries</i>	43
6.1.	Assessment of probable impacts at Strategic level	44
6.1.1.	For CBCP	44
6.1.2.	For TSIM.....	45
6.2.	Assessment of probable impacts at “activities/measures” level	45
6.2.1.	For CBCP	45
6.2.2.	For TSIM.....	46
6.3.	Cumulative impact	47
6.4.	Cross-border impact of the CBCP and TSIM	48
6.5.	Summary of expected impact	48
7.	<i>Measures designed to prevent, reduce and compensate as fully as possible the adverse effects of the implementation of the CBCP and TSIM on the environment and human health</i>	50
7.1.	Measures to be reflected in the final versions of the CBCP and/or TSIM	50
7.2.	Implementation measures for the application of CBCP and/or TSIM	50
8.	<i>Reasons for choosing the considered alternatives</i>	54
9.	<i>Methods for carrying out the environmental assessment, used regulations and documents and difficulties in gathering the necessary information</i>	55
10.	<i>Measures in relation to monitoring during the implementation of the CBCP and TSIM</i>	56
11.	<i>Conclusion of the environmental assessment</i>	57
12.	<i>Report on the results of the consultations carried out in the process of preparing the CBCP and TSIM and carrying out the environmental assessment</i>	59

ABBREVIATION LIST

EA	Environmental assessment (Strategic environmental assessment within the meaning of Directive 2001/42)
EU	European Union
WPA	Water Protection Area
ACI	Areas of Community Importance
PAA	Protected Areas Act
ICT	Information and Communication Technologies
SMEs	Small and medium-sized enterprises
EIA	Environmental impact assessment
UN	United Nations
CA	Compatibility assessment (with the object and objectives of conservation of protected areas of Natura 2000 network)
CBCP	Cross-border cooperation programme
RBMP	River Basin Management Plan
FRMP	Flood Risk Management Plan
SPA	Special Protection Areas
SCA	Special Conservation Areas
TSIM	Territorial strategy for integrated measures
FPM	Fine particulate matter
NUTS	Nomenclature of territorial units for statistics
TEN-T	Trans-European Transport Network

INTRODUCTION

This document has been prepared within the framework of contract № ПД-02-29-87/16.04.2021 with subject: “Elaboration of environmental assessment report for INTERREG - IPA CB cooperation programme 2021 – 2027 between the Republic of Bulgaria and the Republic of Serbia and for Cross-border Strategy for Integrated Territorial Development to be financed under the INTERREG - IPA CB cooperation programme 2021 – 2027 between the Republic of Bulgaria and the Republic of Serbia”, with identification number Interreg -IPA CBC-TA-2020-4 / Lot 1, signed between: Ministry of Regional Development and Public Works of the Republic of Bulgaria (Contracting Authority) and BT-Engineering Ltd (Contractor).

This non-technical summary presents shortened and aggregated information on the content, main results and conclusions of the environmental assessment report (strategic environmental assessment) of the draft *Cross-border Cooperation Programme (CBCP) 2021-2027, co-financed under the Instrument for Pre-Accession Assistance, between the Republic of Bulgaria and the Republic of Serbia* and the draft *Territorial Strategy for Integrated Measures (TSIM)*.

The environmental assessment report has been prepared in accordance with the national legislation of the two countries transposing the requirements of *Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment (Directive 2001/42/EC)*.

The main objectives of the report are to integrate environmental considerations into the projects of the CBCP and TSIM in the process of their preparation by:

- an analysis of the current condition and problems of the environment, including in relation to human health in the cross-border area subject to CBCP and TSIM,
- an assessment of possible impacts, including significant ones, on the environment and human health resulting from the provisions of the CBCP and TSIM projects, motivating the choice of the most environmentally and human health-friendly alternative for their implementation;
- proposing measures to prevent, reduce and compensate as fully as possible of adverse effects and measures to monitor and control environmental and human health impacts in the implementation of the CBCP and TSIM.

The non-technical summary has been prepared as part of the required documentation according to point (j) of Annex No I to Article 5(1) of *Directive 2001/42/EC*, it has been prepared in a language that is broken down for the general public, does not contain technical terms and includes the relevant visual materials.

The non-technical summary, as an independent but inseparable annex to the Environmental Assessment Report, shall be provided together with the report and all other annexes, including the drafts of the CBCP and TSIM for consultation pursuant to Art. 6 of *Directive 2001/42/EC*.

CONTACT INFORMATION OF THE CONTRACTING AUTHORITY

1. Name, headquarters and unique identification number of the legal entity

Ministry of Regional Development and Public Works

2. Complete postal address

Complete postal address city of Sofia 1202, 17-19 Sv. Sv. Kiril and Metodii Street

3. Telephone, fax, E-mail

Contact person: Desislava Georgieva – Director of the Territorial Cooperation
Management Directorate

Telephone 02/9405 488

E-mail: D.G.Georgieva@mrrb.government.bg

1. Description of the content of the main objectives of the CBCP and TSIM and connection to other relevant plans and programmes

This section of the environmental assessment report examines the rationales for the preparation of the CBCP and TSIM, their predictions, the availability of alternatives for the predictions and their relationship to other strategies, plans and programmes.

1.1. Reason for drawing up the CBCP and the TSIM

The preparation of the CBCP and TSIM is in line with the European legislation, and in particular – Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy (Common Provision Regulation) and Regulation (EU) 2021/1059 of the European Parliament and of the Council of 24 June 2021 on specific provisions for the European territorial cooperation goal (Interreg) supported by the European Regional Development Fund and external financing instruments (Interreg Regulation).

Compliant and applicable national legislation for cross-border programmes.

The CBCP and TSIM shall be financed by the European Union with funds under the Instrument for Pre-Accession Assistance.

The Ministry of Regional Development and Public Works of Republic of Bulgaria is Managing Authority under the program.

1.2. Main targets and provisions of CBCP and TSIM

A. CBCP 2021-2027 between the Republic of Bulgaria and the Republic of Turkey has a geographical scope:

- *Republic of Bulgaria: 6 NUTS III districts: Vidin, Montana, Vratsa, Sofia- region, Pernik, Kyustendil*
- *Republic of Serbia - 7 NUTS III districts: Borski, Zaječarski, Nišavski, Pirotski, Toplički, Jablanički, Pčinjski*



Figure No. 1.2-1 Territorial scope of the CBCP 2021-2027 between the Republic of Bulgaria and the Republic of Serbia

The main joint challenge for the cross-border cooperation region is to leave the group of lagging regions and take on more advanced course of development while still facing persistent risk of poverty and income inequalities issues urged by negative demographic change, underdeveloped CBC regional value chains and entrepreneurship, low technological specialization, unattractive and uncompetitive business setting.

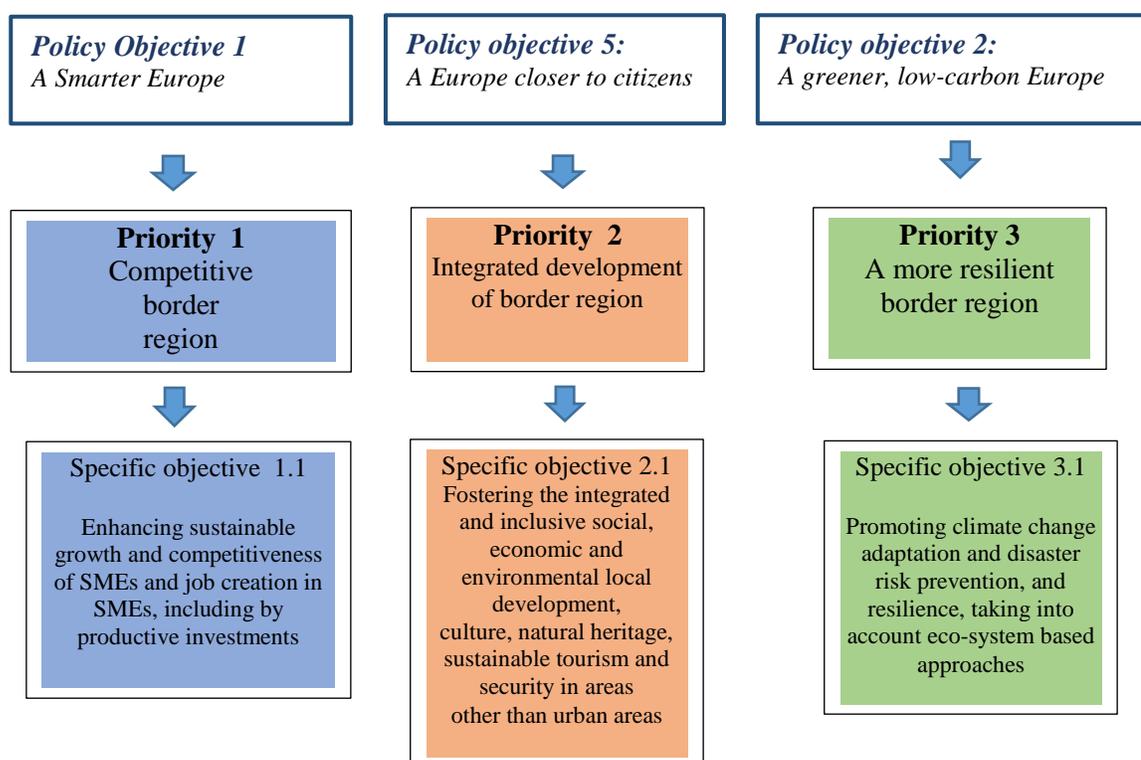
The objectives and provisions of the CBCP and TSIM are identified and specified on the basis of a territorial analysis of the cross-border area, the results of which show the following differences for the cross-border areas of the two countries:

- Opposite demographic trends;
- Poverty and income inequalities;
- A weak link between education and the labour market;
- Inequalities in access to healthcare;
- Disproportion in the development of competitiveness and the business environment;
- Disproportion in the development of digitalisation and innovation;
- Underdeveloped tourist infrastructure for all-season use;
- High risk of natural disasters and loss of biodiversity;
- Limited readiness for green transition;
- Prolonged tensions linked to cross-border migration.

The following have been identified as *drivers* of development on the basis of territorial analysis:

- Favourable macroeconomic environment;
- Potential for integration into the international tourism network;
- Good regional connectivity and multimodal transport potential.

The Programme identifies the following **Policy Objectives** (European Regional Development Fund (ERDF) and Cohesion Fund Regulation) **and related Priorities, Specific Objectives and Supported Activities/Investments**:



***Figure No. 1.2-2** Thematic concentration of the CBCP 2021-2027 between the Republic of Bulgaria and the Republic of Serbia*

Contents of the priorities are as follows:

Priority 1: Competitive border region

Policy Objective 1 “A more competitive and smarter Europe by promoting innovative and smart economic transformation and regional ICT connectivity”

Specific objective 1.1: Enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments

The non-exhaustive list of actions to be supported includes

- Technological and/or organizational investments aimed at reducing the cost of production/service delivery and any other investment leading to increased enterprise competitiveness including but not limited to purchase of specialized equipment and technologies (incl. related upskilling), monitoring systems; purchase of IT equipment, training and know-how transfer, virtual business centres, e-commerce solutions, possibilities for electronic payments, etc; Actions aimed at increasing productive capacity;
- Investments aimed at quality management for improving product/service quality, including but not limited to improvements in the design of product/service features, improvements in customer after-sales service, improvements in product guarantee, total quality management systems, and any other aspect that defines overall product/service quality level;
- Actions aimed at accessing new markets or market segments including but not limited to marketing studies, distance-spanning technologies, organisational cooperation and joint business schemes with other enterprises, company exhibition halls at company's establishment, etc.
- Marketing and promotion actions, participation in international fairs, exhibitions and other promotional events, consultation and information services, including e-marketing, communication with clients, etc.

Target groups:

Micro, small and medium enterprises (MSMEs)

Priority 2: Integrated development of border region

Policy objective 5: A Europe closer to citizens by fostering the sustainable and integrated development of all types of territories and local initiatives

Specific objective 2.1 Fostering the integrated and inclusive social, economic and environmental local development, culture, natural heritage, sustainable tourism and security in areas other than urban areas.

Priority 2, for the implementation of *Policy Objective 5 " A Europe closer to citizens by fostering the sustainable and integrated development of all types of territories and local initiatives"*, provides for the development of **Territorial strategy for integrated measures**

(TSIM), to address the measures (identified eligible support activities under the program) for specific territorial needs.

The integrated approach for meeting / addressing the needs and potentials of the territory in the developed TSIM is manifested in three main aspects:

- territory defined on the basis of achieving sustainable results in terms of common needs and development potentials;
- participation of a wide range of partners in the whole process of preparation, discussion, adoption and implementation of the strategy.
- derived package of interconnected and complementary (integrated) measures, based on close coordination of different public policies according to local specifics, meeting local needs and development potentials and bringing common benefit to partners and the region.

Through TSIM it will give priority to the support for some projects / actions / activities over others – they are described below in the TSIM description.

Target groups:

Civil society, local/ regional bodies and authorities, regional structures of central public authorities, NGOs, R&D, academic and training institutions, Social institutions, SMEs, other professional organizations.

Priority 3: A more resilient border region

Policy objective 2: „A greener, low-carbon transitioning towards a net zero carbon economy and resilient Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate change mitigation and adaptation, risk prevention and management, and sustainable urban mobility “

Specific objective 3.1 Promoting climate change adaptation and disaster risk prevention, and resilience, taking into account eco-system based approaches

Within the specific objective will be financed the **Strategic Project „Preparation of the population for actions in case of disasters and improvement of the capacity of the professional teams for response in case of emergency situations within Bulgarian-Serbian cross-border region“.**

Project Summary: The frequency of natural disasters has been increasing in recent years. Especially since the mid-90s, when a series of disasters caused serious material damage and

casualties in many regions of the Republic of Bulgaria and the Republic of Serbia. Natural disaster risk reduction includes several directions and objectives:

- limitation of damage caused by extreme natural phenomena;
- protection of populations living in high-risk areas;
- raising awareness and knowledge and thus improving the culture of behaviour;
- improving and maintaining the capacity of professional units to protect the population from accidents and natural disasters.

The strategic project will therefore be implemented in line with the *Strategy for a credible enlargement perspective and an enhanced EU commitment to the countries of the Western Balkans (the Western Balkans Strategy¹)*, which aims to respond to the specific challenges of the neighbourhood territory through joint projects to develop capacity and enhance disaster response capabilities, as well as to raise awareness. In this respect, the project aims to prepare the population and volunteers for actions in case of disaster in the cross-border region, as well as to ensure an appropriate and timely response of professional teams to disasters and other emergencies. The project has a complementary effect in the previous programming period (2014-2020), when the risk management capacity was improved and will lead to sustainable results.

Types of activities/investments supported by the Strategic Project:

- Optimizing the educational process in regards to the development and the implementation of a disaster response framework aiming to enhance the interface between science and policy for a stronger knowledge base for decision-making;
- Actions aimed at strengthening the institutional cooperation in the cross-border region through development of guiding and strategic documentation; exchange of information, knowledge and skills; implementation of joint field trainings, etc.;
- Development and implementation of a comprehensive preparedness programme for border communities to adequately response to natural disasters, including in-situ trainings, simulations, awareness campaigns, etc.;
- Small-scale investments in public training infrastructure and investments in specialised equipment;
- Joint development of protocols, procedures and approaches on riskprevention and rapid response management to many potential emergencies

¹https://ec.europa.eu/info/sites/default/files/communication-credible-enlargement-perspective-western-balkans_en.pdf

Target groups:

National authorities for disaster management in Bulgaria and Serbia; Local protection and rescue units from Bulgaria and Serbia; Volunteer fire services from the Serbia and National Association of Volunteers in the Republic of Bulgaria; Local authorities; Children, students, elderly people aged 60 and older, business representatives; General population of the cross-border region.

B. TSIM 2021-2027 between the Republic of Bulgaria and the Republic of Serbia

The TSIM defines the **Vision** of the CBCP, a **strategic objective**, **specific objectives** (described also above under **Priority 2** of the **CBCP**) and **measures**.

Vision: Opened to neighbouring borders and integrated in the European space and axes of urbanization, of culture, science and innovations. The well preserved and sustainably used resources (land, forests, water, natural and cultural heritage) – a guarantee for the regions prosperity and identity. A balanced integrated development achieved through persistent investment in economic, social, transport, engineering, cultural and tourist infrastructure thus ensuring green economic growth, adaptivity to changes and cohesion.

Such a vision has a reach beyond any formalised timeframe of a planning document at this level. The desired course of the vision presupposes multisector, integrated actions with a single focus - cohesion. Cohesion, understood as reduction of economic and social disparities, better connectivity and functional and spatial integration. In addition to the reduced disparities, cohesion implies preservation of cultural diversity and identities of territorial communities at every level.

Cohesion has three major components: territorial, economic and social cohesion. *Territorial* cohesion addresses cross-border cooperation and includes integrated development of cities and their interconnection into networks of cooperation, as well as preservation of natural and cultural heritage, i.e. their identity. Main tools of territorial cohesion are the elements of physical connectivity - all kinds of linear infrastructures, including telecommunication.

Economic cohesion means reducing the disparities in the major economic development indicators for the CBC region. “Competitiveness”, “knowledge-based economy” and “innovations in the SME sector” will continue to be the drivers of economic development. While these economic drivers remain prerequisites for a “smarter” and “greener” growth, further consideration should be given to the “more social” growth that creates chances for employment of unskilled workers in traditional industries like forestry or food processing.

Social cohesion is a direct result of economic cohesion and is expressed as a general improvement of living standards on both sides of the border (employment, income, consumer spending) and quality of human resources (education, healthcare, social services, culture). The goal of social cohesion, again, is to reduce the disparities in the social area and in the quality of life in the whole CBC region.

Strategic objective: To enhance growth in all its aspects

Specific objective 1: To expand and improve service provision

The problem in brief: Remote areas, disadvantaged groups of people and small businesses continue to remain under- or inadequately publicly served, which drawbacks growth efforts.

M 1.1. Expand accessibility and improve quality of services of general interest in support of social and economic growth

The accessibility, proximity, affordability and quality of public services is important to quality of life and business development. Demographic trends and rising skill shortages suggest that both countries need to invest more and better in the skills of their current and future workforce, as well as to better link education and training with labour market's needs. Furthermore, vulnerable and disadvantaged groups of people continue to have limited access to services of general interest, therefore integrated measures for service quality enhancement and active economic inclusion of vulnerable persons should be determined with priority and allowing for more digital solutions. Despite the restricted available resources, the measure needs to support elderly people from peripheral rural areas to have access to communication technologies and capability to use them in receiving distant services.

Specific objective 2: To enhance regional competitiveness, incl. in the area of tourism
(at least 40% of the priority budget to be allocated to projects focusing on sustainable tourism and culture)

M 2.1 Development and provision of framework support to local businesses to grow, expand and perform better in a greener and smarter competitive global market

Among others, SMEs' needs cover framework support for digital and green transition, enhanced management and marketing competencies, creativity and entrepreneurship skills to make the regional economy competitive and inclusive. These needs can be properly addressed by utilizing and maximizing the existent business support potential by networking relevant institutions from both sides of the border and upgrading and channelling their business supporting practices.

M 2.2 Streamline the utilization of the CBC region’s tourist resources, incl. ensuring faster, equitable and environmentally friendly access to and conditions for networking of cultural heritage and tourist sites in the CBC region

Most of the cultural heritage monuments are in disrepair and need enormous investments for restoration and preservation. In the past years a lot has been invested in culture preservation but still there is a need of further conservation of cultural heritage. Further, exposure models of many sites deprive them from attractiveness instead of contributing to it. Improvements in this aspect (exposure) are needed. There is a lot to be done in digitalization too. Similar to cultural heritage, there are certain needs for providing access to and information for attractive natural complexes. Designing and building of new and rehabilitation of existing ecotrails and bikeroutes will enrich tourist supply and contribute to marketability of tourist products. Tourism mobility measures need to be addressed in a way to ensure faster and smoother movement of people and goods.

M 2.3. Improving CBC tourism marketing and branding practices

The CBC tourist products should be promoted as being the best option for tourists highlighting some of the things that make them different, or unique. Modern tourism marketing would imply wide use of the internet, websites, online adverts, email and social media platforms as ICT technologies play a key role. It is also crucial that the CBC tourism marketing keeps up with the latest trends thus creating a diverse marketing mix and use the best methods for getting tourist messages out. Thus applying multi-sectoral inter-connected interventions, the measure will contribute to tourism industries’ development.

The strategy will implement a horizontal green transition policy that requires each supported project to contain a component related to the protection of environmental components and the search for and implementation of green solutions.

1.3. Alternatives to CBCP and TSIM

The drafts of the programme and strategy provided by the Contracting Authority do not contain alternatives.

1.4. Connection of the CBCP and TSIM with other relevant plans, programmes and strategies

The drafts of the CBCP and TSIM 2021-2027 are related to plans, programs and strategies:

- at European and international level;
- at national, regional and local level (falling within the territorial scope of the programme and strategy in the Republic of Bulgaria and the Republic of Serbia).

In **item 1.4. of the Environmental Assessment Report**, the relevant plans, programs and strategies are reviewed and analysed, as well as those of them that set environmental protection goals (for them an extended analysis is made).

2. Current state of the environment and possible development without application of CBCP and TSIM

2.1. Current state of the environment

Item 2.1 of the Environmental Assessment Report provides information on the state of the environmental components and factors at the moment (in order to establish the current state, observed positive and/or negative trends, which are important to take into account both in the assessment of the impact of the CBCP and TSIM, and in their subsequent implementation). The state of the environment is examined by factors and components, the main results of the analysis being as follows:

2.1.1. Climate and climate change

Within the territorial scope of the **Republic of Bulgaria**, the districts of Vidin, Montana and Vratsa are located in the western parts of two climate regions according to the climate zoning of Bulgaria – North and Mid-Climate region of the Danube hilly plain from the temperate continental climate subarea.

The region of the districts of *Pernik and Sofia* is characterized by a temperate continental climate and falls within 2 climate regions – the mountainous and low-mountainous regions of Western Middle Bulgaria; the climate region of the high fields of Western Middle Bulgaria.

Kyustendil region falls within the transitional continental climate area of the European continental climate area and in particular Kyustendil-Blagoevgrad climate region.

Of the dangerous weather phenomena with damage for the studied areas with the highest frequency are hail. They are observed in July (about 36%), followed by June (32%) and May (17%) - “The climate of Bulgaria”, 1991. Their frequency is negligible in April, September and October. The 24-hour run at the beginning of the city precipitation shows a maximum in the interval 14:00-18:00 local time. Night hail is also not excluded between 22:00-24:00 and between 00:00 and 04:00, which fall on cold atmospheric fronts.

On the territory of the **Republic of Serbia** there are two climate areas – a temperate continental climate in the north, with a cold dry winter and a warm, humid summer with well-distributed precipitation patterns, and a more Mediterranean climate in the south with a hot, dry summer and autumn and relatively cooler and more rainy winters with heavy mountain snow. July is the warmest month, and autumn is warmer than spring. January is the coldest month with an

average monthly temperature of minus 6°C in mountainous areas, up to 0°C in plain areas of the country. Annual sums for the duration of solar radiation range from 1,800 to 2,100 hours.

Climate change is the result of global processes on a large scale in both the Northern and Southern hemispheres. They mainly affect the air temperature and precipitation regime, as well as the change of seasons. There is a general tendency to increase global air temperature, increase evaporation and decrease precipitation, especially during winter and increase extreme events such as floods, high temperatures and associated fires and others.

The most common hydro-meteorological and natural disasters in the areas in the cross-border region of the **Republic of Bulgaria** (*the National Climate Change Adaptation Strategy and the 2030 Action Plan* of the Republic of Bulgaria) are extreme precipitation and temperatures, storms, floods, forest fires, landslides and drought. The number of deaths and casualties due to natural disasters is significant, indicating vulnerability to weather and climate conditions. The vulnerability of the population and the economy to the impacts of climate changes is enhanced by the relatively high level of poverty, the uneven distribution of the population and the different consequences of the transition from a state-controlled economy to a free market economy. There is growing evidence that economic losses from weather and climate disasters are also increasing.

For **the Republic of Serbia**, from 1961 to 2010, the periods of extremely hot weather last longer and the periods of extremely cold weather are shorter. These trends in duration of extreme temperature conditions are most pronounced during the summer season (*Malinovic-Milicevic et al.*).

In the period 1949-2009 there was an increase in the average annual temperatures in almost all parts of the Republic Serbia. Temperatures were higher in the north than in the south parts of the country. The highest increase in average annual temperatures was in Belgrade due to the effect of the urban heat island: 0.20°C/decade in the period 1949-2009. In 1989-2010, there was a significant increase in the average annual temperature in almost all the Republic of Serbia, especially due to the warming of the summer season; a negative temperature trend was observed for all the Republic fo Serbia for 1961-1989. The daily maximum temperature also rose in the period 1951-2010.

In 2007, the Republic of Serbia experienced the worst heat wave ever recorded in the Republic Serbia, with record maximum temperature values (44.9°C).

The considered cross-border regions of the Republic of Bulgaria and the Republic of Serbia are affected by all the effects characteristic of climate change, especially in urban areas where the so-called heat island is observed. Climate change carries risks of drought, fires, land erosion and flooding and requires adequate adaptation and resilience actions to be integrated into future projects.

2.1.2. Ambient air state

Analysis of data and assessments of climatic and meteorological conditions in these areas shall lead to the following conclusions on processes and phenomena of interest to the existing state of the environment:

- the average daily concentrations of fine particulate matter of up to 10 microns (**FPM₁₀**) consistently exceed the average daily rate.
- there are no persistent exceeds of the standards for the protection of human health for other gaseous pollutants.

The main sources of dust pollution are:

- the use of solid fuels (coal and wood) in domestic heating during the winter months in populated areas,
- construction activities - diffuse dust emissions from open construction sites,
- agricultural activities - diffuse emissions of dust from the soil carried by the wind when working in open fields,
- road transport - the re-subsidisation of dust from unclean streets and unpaved roads.
- forest and agricultural fires - burning stubble.

2.1.3. Water state, water protection zones, flood risk

Water in CBCP and TSIM in the Republic of Bulgaria

Due to the geographical location, the atmospheric circulation and the landscape, the water balance is unsatisfactory in spatial and temporal terms, including the districts of *Vidin, Montana, Vratsa, Sofia, Pernik, Kyustendil*. Water resources per capita place the country at the back of the Balkan Peninsula. The Republic of Bulgaria is also facing serious challenges due to the location in a drought zone, uneven distribution of water resources, depreciation of water supply systems and poor construction of the sewerage system. The construction of wastewater treatment plants is slowing down compared to water supply systems and many water ecosystems are still at risk. It is necessary to insist on good agricultural and farming practices; reclamation of terrains from mining activities; restoration of rivers, improvement of coastal areas; prohibition of logging of natural coastal vegetation; efficient use of water, including technical measures for irrigation, industry, energy and households; modernization or improvements of industrial waste water treatment plants, including from agricultural farms; implementation of projects for construction, reconstruction, modernization of waste water treatment plants in settlements.

Water in CBCP and TSIM in the Republic of Serbia

There are no significant problems related to the CBCP and TSIM in the Republic of Serbia. According to the risk assessment, low-risk areas for organic pollution and nutrients predominate within the scope of the CBCP. At the same time, many areas have medium risk. In terms of priority and hazardous substances, there is a complete lack of risk and only in some areas the risk is

medium, for example Bor. In terms of hydro-morphological pressures, areas without risk, moderate risk and at risk are roughly the same.

2.1.4. Subsoil state

The geological and tectonic development of the territory in the cross-border regions of the Republic of Serbia and the Republic of Bulgaria are of a similar nature. The contemporary relief is varied, present are high and low mountainous terrains and well shaped river valleys, hollows and lowlands. Large geological and tectonic structures were developed on the territory of both countries – the Danube Valley, the Stara Planina Chain System and partially the area of the Krayshtids. The erosion processes are characteristic of the elevated parts of the relief, and the deposition of the silt material is mainly carried out in the valleys, lowlands and water basins.

The metallogenic appearance of cross-border areas takes shape during the Late Alpine epoch, when almost all industrial deposits of endogenous metallic and non-metallic minerals are formed. They are genetically and/or paragenetically related to late-Alpine extensive magmatism. Lead-zinc, manganese, copper in the paragenesis of silver and gold, etc. are more widespread of the metal deposits. Of the non-metallic deposits are developed mainly coal, fluorite, quartz sands, bentonite, rock-cladding, marbles, etc.

As part of the Balkan Peninsula, the cross-border territories of Republic of Serbia and Republic of Bulgaria are highly threatened by the seismic activity of the earth's subsoil. Earthquakes are natural disasters caused by the impact of seismic waves on the earth's surface. Seismic waves are generated in the process of rupture of the earth's environment due to accumulated stresses - the result of internal earth causes. Earthquakes are the brightest, strongest and fastest manifestation of modern movements in the earth's crust and result from the movement of continental plates. They are concentrated in seismic belts that coincide with the zones of contact and relative movements between the large lithospheric plates. The Balkan Peninsula is the most active node in the Alpine-Himalayan Belt for Europe. In recent years, there has been a significant increase in seismic activity in the Balkans.

2.1.5. Soil state

The soils on the territory of the **Republic of Bulgaria** are in good ecological condition, which is a prerequisite for the development of intensive agriculture. Measures to prevent and limit the damage caused by erosion processes should be in the lead for the area. This includes informing and assisting farmers in land-use planning, observing good agricultural and environmental practices and supporting farmers through compensatory payments for activities limiting erosion processes. Positive findings have been identified with regard to restoration of disturbed lands.

The municipalities with the highest relative proportion of flood threat and impacts on the soil of the North-western region are: Vidin (district Vidin) and Mizia (district Vratsa).

A number of gaps related to soil protection and rational use are reported at national level, including:

- an outdated soil mapping database;
- lack of monitoring of soils in urban environment;
- inappropriate spatial planning of settlements related to the expansion of cities and infrastructures at the expense of agriculture, forestry or nature, posing a threat to soil sealing;
- Increasing erosion losses in case of neglect of anti-erosion practices in agriculture;
- There are still unregulated landfills at the entrances and exits of the settlements, agricultural areas and green areas in the settlements themselves, etc.

The soil in **the Republic of Serbia** is heterogeneous and changes are noticeable at very short distances. They are exposed to both natural (erosion, landslides, floods, fires) and anthropogenic/technogenic factors.

86% of the territory of the Republic of Serbia is endangered by soil erosion of varying degree. The most endangered region in the Republic of Serbia is the south-eastern part of the country, which is near the border with Bulgaria.

Soil compaction is also common, especially in the most fertile plains, due to inadequate application of heavy machinery and other agrotechnical measures.

Acidification of soils in the territory of the Republic of Serbia is the result of the action of: natural factors (soil-forming rock, climate and vegetation type) and influenced by human activity (Bor mine, agriculture).

Heavy metals in soils are of geogenic (natural), technogenic (extraction and processing of non-ferrous metal ores, coal metallurgy, phosphorus fertilizer production, agriculture) and anthropogenic (near landfills for domestic waste and urban environment, near busy road arteries) origin. In areas of intensive industrial activity, unregulated landfills, mines, agricultural land and busy roads, **local** exceed of the maximum permissible concentrations have been recorded for: nickel, copper, cadmium, zinc, cobalt and mercury. In an urban environment with the highest percentage of exceed of the limit values in the soil are: cadmium, copper, cobalt, mercury and nickel.

There is no soil contamination with pesticide residues.

The risk of fires and floods causing soil erosion is high.

2.1.6. Biodiversity state

The characteristic geographical situation of the **Republic of Bulgaria**, combined with the complex paleogeographic and paleoclimatic past, the diverse relief and climate, the presence of freshwater basins and the Black Sea outlet, as well as the diverse landscapes and geosystems formed are the main factors determining the rich diversity of species, communities and natural habitats in Bulgaria.

The wide variety of climatic, geological, topographic and hydrological conditions in Bulgaria predetermines one of its first places in Europe by the richness of biodiversity.

Diverse climatic vegetation zones, including a large number of extrazonal, intrazonal and azonal ecosystems, such as wetlands, peat lands, salt marsh lands and sands, strongly influence the high biodiversity of the **Republic of Serbia**. During the last ice age the territory of modern Serbia provided numerous refugia (parts of a species' range less influenced by climate change) for a number of species. As a result, the Republic of Serbia is inhabited by many relict and endemorelict species.

The Republic of Serbia's genetic resources are very rich and include a large number of autochthonic cultivated plant and domestic animal species.

The cross-border area concerned is very rich in plant and animal species, including high conservation status at national and international level, with a large number of endemics and relicts (glacial and tertiary).

Regarding the state of biodiversity, species and their populations in the territory considered, human activity leading to direct (destruction) and indirect (change of environmental conditions and fragmentation) impact of species (soil sealing related to the construction of sites and development of infrastructure – especially in the area of larger settlements such as Sofia and Pernik, pollution, change in the water regime due to drainage or construction of meliorative facilities, development of intensive large-scale agriculture, etc.) is identified as the main limiting factors. Since there are developed tourist sites within the scope of the CBCP in a number of places, the tourist flow (especially in Vitosha mountain) is also not an unimportant factor, which has a negative impact on the plant world. The effects of climate change – drought, forest fires and other extreme weather phenomena – are also becoming increasingly important.

2.1.7. Protected areas and protected territories

➤ Republic of Bulgaria

Protected areas of the European Natura 2000 Network

Natura 2000 is a pan-European network of protected areas aimed at ensuring the long-term survival of Europe's most valuable and endangered species and habitats, in line with key international environmental and biodiversity agreements. It should be built in all EU member states and is set as a requirement in the accession of EU candidate countries.

Places within the ecological network are defined in accordance with two main environmental Directives of the European Union - Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (hereafter referred to as the Habitats Directive) and Directive 2009/147/EC on the conservation of wild birds (hereafter referred to as the Birds Directive).

The process of establishing the Natura 2000 ecological network in Bulgaria started in 2002 with the adoption of the Biodiversity Act (BDA), which introduces the norms of the two European

directives. The process of issuing orders under the BDA for declaring protected areas for the conservation of wild birds has been completed (“Special Protected Areas” - SPAs), and Bulgaria is currently in process of completing and issuing orders for declaring protected areas for habitats - the areas without issued orders are designated as "Areas of Community Importance" (ACIs), and the areas with completed order process are designated as "Special Conservation Areas" (SCAs). The six areas cover all, to a greater or lesser extent, **92 protected areas of the Natura 2000 ecological network** (four of the protected areas have been declared under both the Habitats Directive and the Birds Directive). They are presented in the following figures:

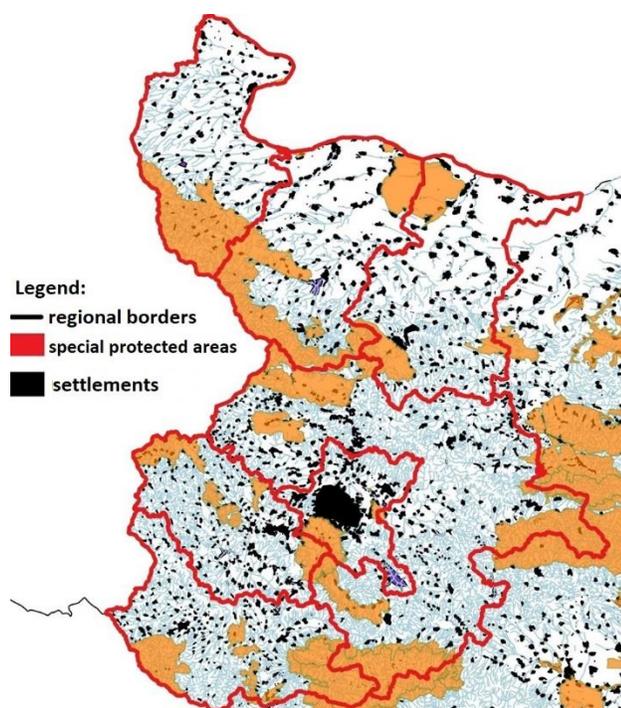


Figure 2.1.7-1 *Map of Special Protection Areas (SPAs) for the conservation of wild birds in Vidin, Montana, Vratsa, Sofia, Pernik and Kyustendil*

Protected natural sites

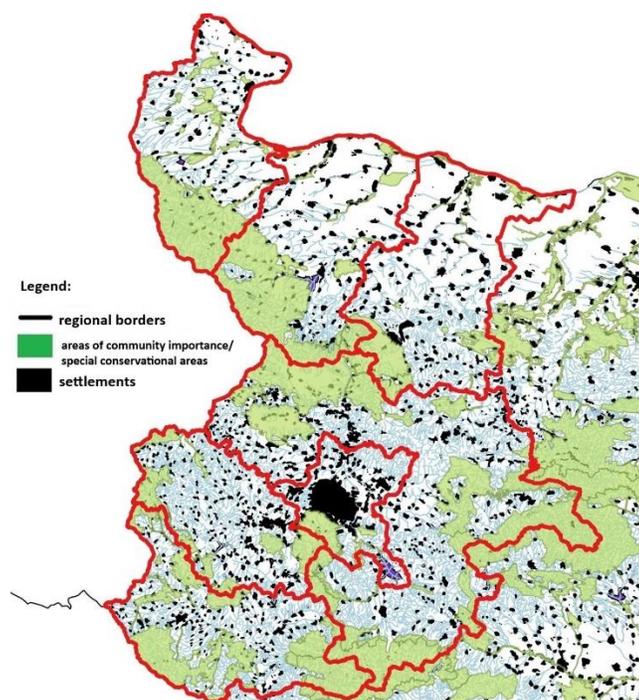


Figure 2.1.7-2 Map of protected areas for habitats (areas without issued orders are designated as “Areas of Community Importance” (ACIs) and areas with completed order process are designated as “Special Conservation Areas” (SCAs) in Vidin, Montana, Vratsa, Sofia, Pernik and Kyustendil

Protected territories within the meaning of the Protected Territories Act

Since 1933, when the first protected territory in Bulgaria was declared - the Silkosia Reserve in Strandzha, and in 1934 the first national park on the Balkan Peninsula - Vitosha, a consistent policy for expanding and strengthening the network of protected areas has been implemented.

At the moment, 1017 protected territories have been declared in Bulgaria, covering approximately 5.27% of the country's territory.

Protected territories and their effective protection contribute to the fulfilment of the requirements of a number of international conventions and agreements to which Bulgaria is a party:

The Republic of Bulgaria is among the first countries to accede to the Ramsar Convention on Wetlands, signed without obligation to ratify in implementation of Council of Ministers Decision No 389 of 18 November 1974, which entered into force for the Republic of Bulgaria on 24 January 1976, as amended by the Protocol signed in Paris on 3 December 1982 and which entered into force for Bulgaria on 27 February 1986.

In the scope of the six areas the following are registered:

- 2 National Parks;
- 3 Nature parks;

- **8 Reserves;**
- **5 Supported Reserves;**
- **86 Protected areas;**
- **67 Natural Landmarks.**

The following figure presents the location of all protected territory categories within the territorial scope of CBCP and TSIM.

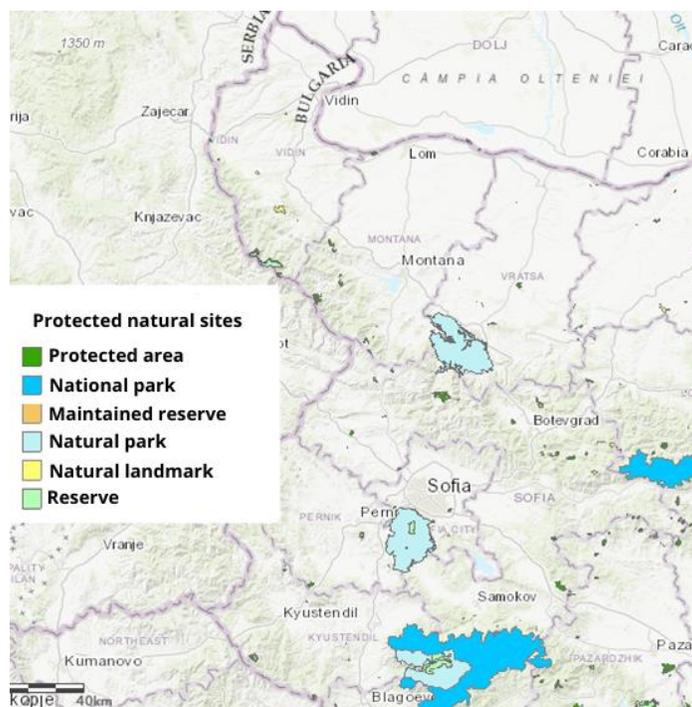


Figure 2.1.7-3 *Map of protected territory categories in Vidin, Montana, Vratsa, Sofia, Pernik and Kyustendil*

➤ ***The Republic of Serbia***

Proposed protected areas of the European ecological network Natura 2000 (Emerald network, ornithologically important sites – OIS, etc.).

As stated above, Natura 2000 is a pan-European network of protected areas aimed at ensuring the long-term survival of Europe's most valuable and endangered species and habitats, in line with key international environmental and biodiversity agreements. It should be built in all EU member states and is set as a requirement in the accession of EU candidate countries. Since the Republic of Serbia is not a member of the Union, there are no officially established and adopted by decisions of the EC lists of protected areas under Natura 2000, but as a candidate member it prepares for the process of identifying and proposing such by preparing appropriate proposals. In this regard, the country has adopted the approach to use the already adopted protected areas under

the national legislation, the established territories of the Emerald network (Emerald Network - Ecological network to conserve wild flora and fauna and their natural habitats of Europe), established ornithologically important Birdlife areas (IBAs), established important plant areas (IPAs), important bird areas (PBAs), Ramsar areas and some others that form part of the National Environmental Network of the Republic of Serbia.

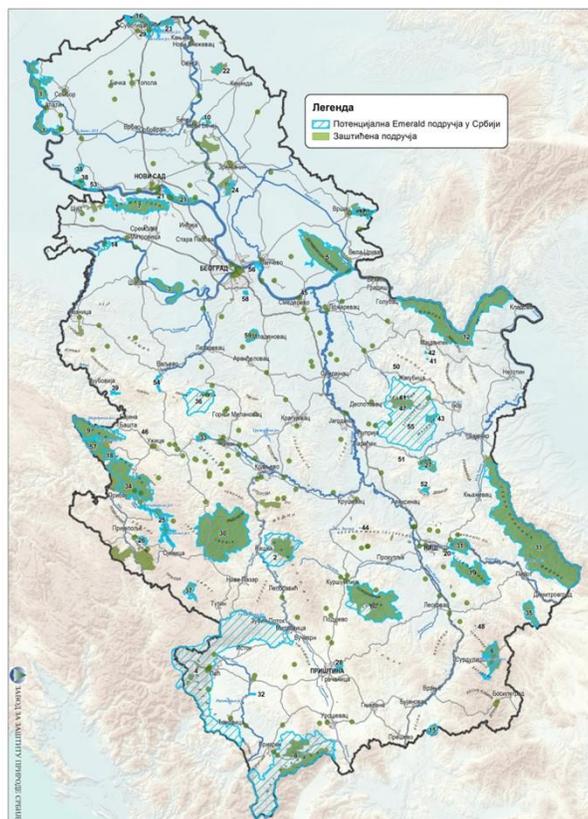


Figure 2.1.7-4 National Emerald Network of Republic of Serbia

In the process of integration into European Union the Republic of Serbia is obliged and committed to respond to the requirements of the EU, including implementation of the two most important directives on nature - Habitats Directive and Bird Directive which are the grounds for the establishment of the Natura 2000 network. The identified Emerald areas, the important areas for birds (IBAs), plants and butterflies can certainly serve as good basis for their implementation.

In 2009 42 **Important Bird Areas (IBA)** with the total coverage of 1 259 624 hectares, which represents 14.25% of the territory of the Republic of Serbia have been identified (Puzovic et al., 2009). Furthermore, 62 areas of **Important Plant Areas (IPA)** have been defined and they encompass a surface of 747 300 ha or 8.5 % of the territory of the Republic of Serbia. Also, 40

areas of **Prime Butterfly Areas (PBA)** have been identified. The total surface of all PBA surfaces is 903 643 hectares, which represents 10.2% of the territory of the Republic of Serbia. **Ten Ramsar sites** cover total area 615 22 ha or 0.7 % of territory. The area of the proposed Prime Hoverfly Area outside of the Nationally Protected Area is small (1.36 % of the national territory), but its protection would greatly improve hoverfly conservation by increasing the inclusion of hoverfly habitats for previously unprotected species and by including hoverfly biodiversity hot spots.

According to the next figure the Important Bird Areas that are totally or partially within the territorial scope of the districts of the program in East Serbia are: Djerdap, Mala Vrbica, Gornje Pomoravlje, Resavska klisura, Zlotska klisura, Rtanj, Kopaonik, Sicevacka klisura, Jerma, Suva planina, Stara planina, Vlasina, Pcinja.

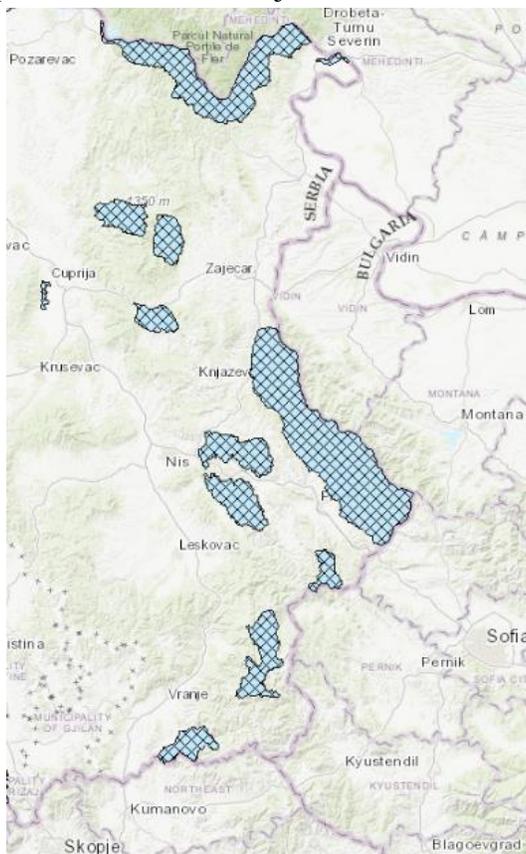


Figure 2.1.7-5 Map of IBA sites in the territorial scope of the program in East Serbia

According to the next figure the Important Plant Areas that are totally or partially within the territorial scope of the districts of the program in East Serbia are: Djerdap, Kladovo-Radujevac, Veliki Krs and Stol, Klisura Lazareve reke, Rtanj, Sicevacka klisura, Lalinacka slatina, Suva planina, Sljivovicki vis, Jelasnicka klisura, Stara planina, Klisura Jerme, Vlasinska visoravan, Dolina Pbine, Rujan, Rudune.

***Non-technical summary of the Environmental Assessment Report
of the draft Cross-Border Cooperation Programme 2021-2027 co-financed under the Instrument for Pre-Accession
Assistance between the Republic of Bulgaria and the Republic of Serbia and the draft Territorial Strategy for
Integrated Measures***

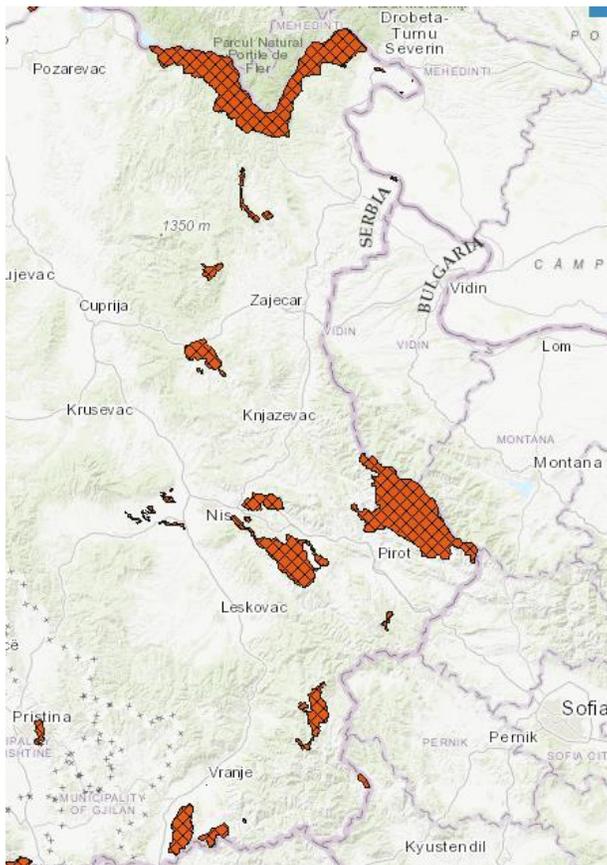


Figure 2.1.7-6 *Map of IPA sites in the territorial scope of the program in East Serbia*

On the next figures are presented and the Prime Butterfly Areas (PBA) and the Ramsar sites (“Vlasina” reservoir) within the territorial scope of the districts of the program in East Serbia.

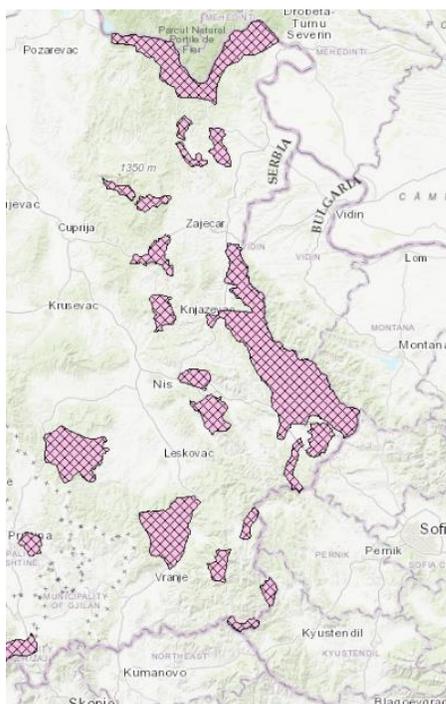


Figure 2.1.7-7 Map of PBA sites in the territorial scope of the program in East Serbia

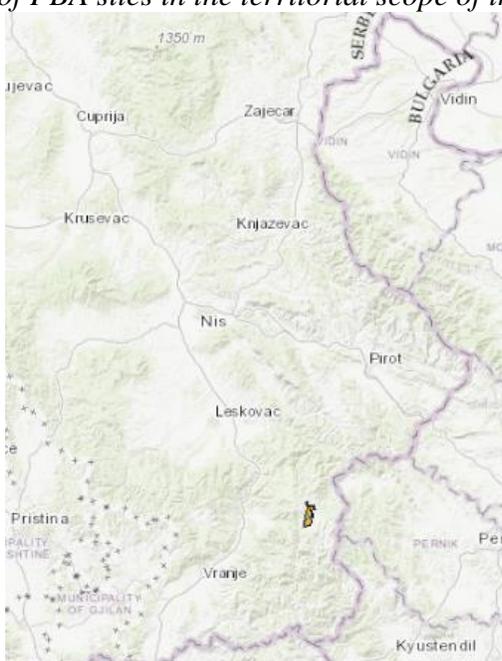


Figure 2.1.7-8 Map of Ramsar sites in the territorial scope of the program in East Serbia – “Vlasina”

Protected areas under the national legislation of the Republic of Serbia

The Republic of Serbia has recently taken steps to reinforce its biodiversity conservation framework and is seeking to develop better ecological representation and a sustainably funded Protected Areas system. The former national Spatial Plan (1996-2008) prescribed the expansion of protected areas to encompass 10% of the territory by 2010, in order to ensure better ecosystem representation in the PA system. The Law on the Spatial Plan of the Republic of Serbia from 2010 until 2020 envisages the protection of biodiversity and landscapes as strategic priorities, while protecting 10% of the country's territory remains one of the goals.

A map of the currently existing national protected areas in the territorial scope of the program in East Serbia is given on the next figure.

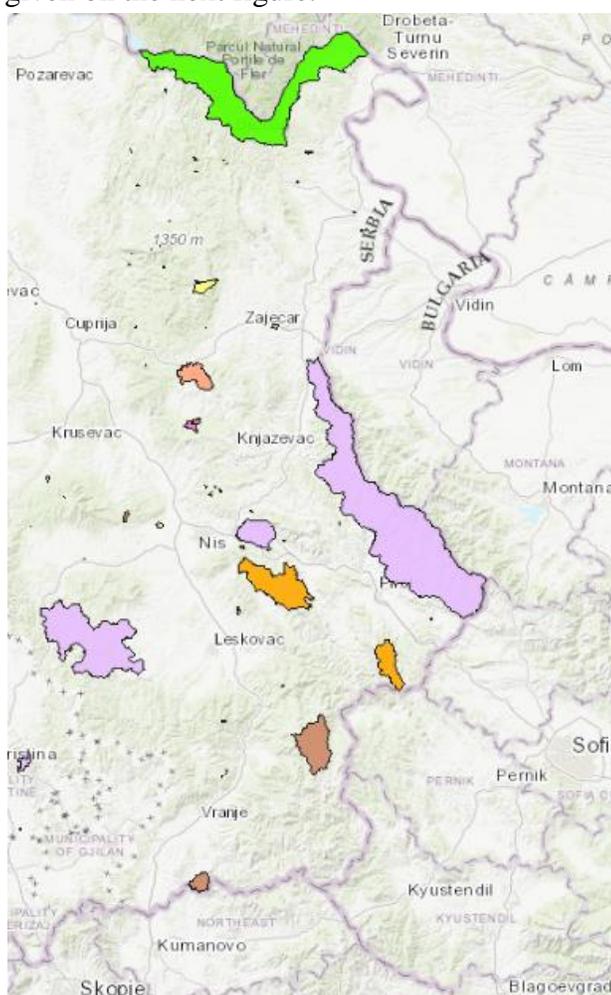


Figure 2.1.7-9 *Map of the current National network in the territorial scope of the program in East Serbia*

As it could be seen from the above map the protected areas (including the area of their total territorial range) are overlapped by the Emerald sites, Important Bird Areas, Important Plant Areas and Prime Butterfly Areas (PBA) that have already been considered above. **In the table of the**

Emerald sites also is provided a list of the categories under the national status protection covered by the program in East Serbia.

Certain protected areas which have been established by the Law on Nature Conservation, with a primary goal of conservation of biodiversity, as well as areas of international importance (Emerald network sites, IBA, IPA, PBA, Ramsar areas, border areas of ecological importance and certain areas of habitat types and wild species habitats) are a part of the ecological network of the Republic of Serbia presented on the next figure.

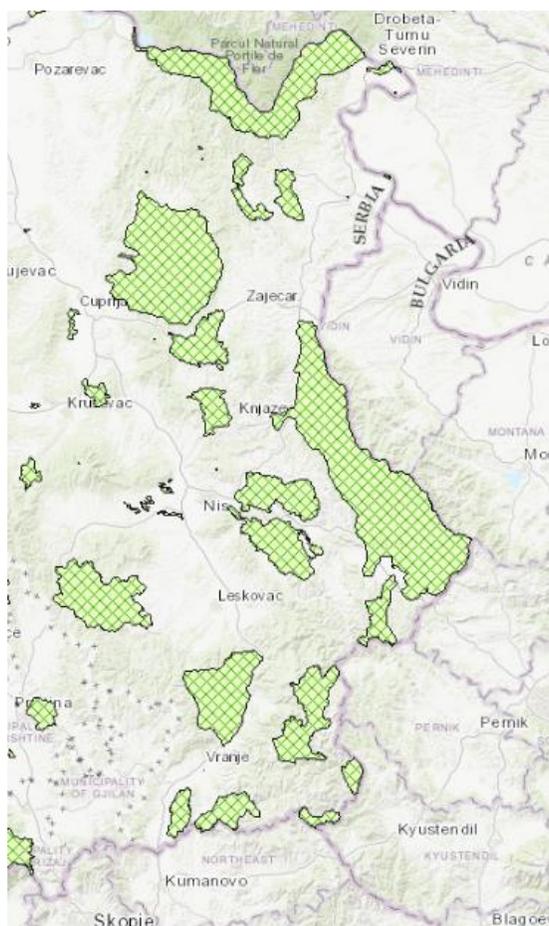


Figure 2.1.7-10 *Map of the ecological network of the Republic of Serbia in the territorial scope of the program*

Summary of the state of the protected areas and territories:

The territory of the cross-border region, both in the Bulgarian part and in the Serbian part, is rich in valuable natural territories under legal protection. In this regard, all future activities of the CBCP and TSIM concerned should take into account the management regimes in accordance with the regulations of the country concerned, as well as the regulations and administrative acts

for the adoption and notification of protected territories and areas, as well as their management plans, if any.

2.1.8. Landscape state

A *European Landscape Convention* plays an essential role in the protection of the landscape, in addition to national legislation. The main objective of the Convention is to preserve the European cultural and natural heritage, which defines the shape of the pan-European landscape. Another objective of the Convention is to demonstrate that the natural and cultural components of the landscape can be protected and strengthened even without their being declared monuments. The two main aspects of the Convention are:

- the recognition of the value of all components of the landscape and their importance for ensuring the quality of life of people and their originality;
- the active role of society in the perception and assessment of the landscape.

In modern landscapes, it is important to take into account the degree of landscape change from anthropogenic interference, sometimes causing a disturbance of the natural equilibrium and the need to preserve and restore the natural features of the landscape concerned. On this basis, landscapes can be divided generally into:

- **natural** landscapes - they are formed under the influence of natural factors and do not fall under the influence of human activity. As evidenced by the analysis of biodiversity, protected areas and territories within the cross-border area, there are extremely diverse natural habitats, with a specific, valuable natural landscape - in most cases, with a specific legal conservation status.

- **anthropogenic** landscapes - they are the result of human activity, which changes to varying degrees some of the natural components, forming their specific character and structure. Anthropogenic landscapes include most of the modern landscapes on the ground, including in the considered cross-border territory.

The location, relief and climatic features of the cross-border area contribute to its great landscape diversity. Mountain, valley and plain landscapes predominate, as do anthropogenic - mainly agricultural in relation to natural landscapes. The richness of the natural landscape area, including specific and sensitive landscapes, places high demands and not few restrictions on the activities that can be carried out in that territory.

2.1.9. Tangible assets state

The current situation of tangible assets gives a clear idea of the need for targeted improvement measures in the following main directions:

- Investing in the development and maintenance of existing transport communications and cultural and historical infrastructure and natural landmarks in order to enable the promotion of the region and offering of a competitive tourist product.

- Investing to develop joint actions in the field of cultural heritage exchange;
- Investment for the development and maintenance of infrastructure based on environmentally sound, alternative and green solutions and covering the needs of the region for a high standard of living and the promotion and implementation of the circular economy model.
- Investing for the development and improvement of information and communication connectivity and digitalization and creating prerequisites for achieving high competitiveness in the cross-border region.

The analysis conducted shows the existence of outstanding potential for the development of cross-border infrastructure and the establishment of zones with different functions, including the existence of potential for transition to a circular economy and resource management, through investments to increase the level of digitalisation, transport communications, energy efficiency, cultural exchange, environment, tourism and recreation, sport, work and employment, etc., i.e. potential for the development of cross-border multifunctional zones in support of a more connected and competitive region.

2.1.10. Cultural and historical heritage, including architectural and archaeological heritage

Cultural heritage is an important tool for the joint development of the region and illustrates a major asset of the cooperation area. The culture in the region is rich, unique, as well as diverse and can easily be used as an engine for regional development, regeneration and prosperity.

The region's cultural heritage includes monuments and sites related to churches, old towns and old rural areas, archaeological sites, as well as monuments dedicated to commemorating historical events or personalities. Remains of ancient civilizations can still be found in many places on either side of the border. The ancient architecture, where it is preserved, has many similar features. There is a large number and variety of important architectural, archaeological and ethnological monuments of cultural importance in the border region. All monuments constitute an ideal ground for the development of joint tourist routes, joint research, promotion and advertising, joint conservation actions, intercultural education, etc.

The potential for growth and development through the use of the cultural, historical and archaeological heritage of cross-border areas is extremely high. Much of it, and with some of the most significant sites, is located in a non-urban environment, which implies opportunities for their development and conservation. And while in an urban environment the needs of the living city necessitate taking measures for the regular or rescue exploration of these monuments, the heritage outside urban centres is in a difficult situation and it is necessary to take measures for restoration, monitoring and conservation.

Situated in a natural environment, some of the archaeological sites are crucial for the development of the cross-border area. Bringing the most important archaeological heritage sites to

cultural tourism sites through their restoration and socialisation would contribute to rationalising the use of tourist resources, creating conditions for building networks of cultural heritage and tourist sites in the cross-border area.

2.1.11. State in terms of harmful physical factors

In the case of harmful physical factors, the most relevant for the cross-border region in the scope of the CBCP and the TSIM is the noise factor.

Increased values are found mainly in cities, on the territory of both countries, mainly due to road traffic.

No excesses or problems were reported for the other harmful physical factors.

2.1.12. State and management of waste

For the territory within the scope of the Republic of Bulgaria: the main treatment of mixed domestic waste is landfilling, with positive trends in reducing the amount of landfilled waste with the introduction of pre-treatment plants and composting separately collected biodegradable waste. The main problems are the lack of installations and facilities for the recovery of construction waste and the unregulated disposal of household and construction waste.

For the territory within the scope of the Republic of Serbia: landfilling is also the main method for treating domestic waste. A problem is the low collection rate of domestic waste, as well as the use of old, non-compliant landfills. Actions are planned to develop an environmentally friendly waste management system.

2.1.13. Hazardous chemicals and risk of major accidents

Existing establishments with low and high risk of a major accident are available in the cross-border area subject to the CBCP and TSIM.

When implementing activities and measures under the CBCP and TSIM related to the construction of sites and infrastructure, it is necessary to take into account the existing enterprises in the area carrying out activities of storage/production/use of hazardous chemicals and mixtures in quantities that pose a risk of major accidents.

2.1.14. Health status of the population

For the entire cross-border area, both countries have population densities below the national average, negative natural growth, high mortality, unfavourable age structure and demographic ageing.

In both countries, cause mortality is the leading cause of circulatory diseases, followed by new formations and respiratory diseases.

The analysis of human health risk factors for the cross-border region focuses primarily on air pollution, increasing noise levels, unregulated waste disposal and drinking water problems-

water shortage, drought. For the entire cross-border region, climate change risks are becoming increasingly important for the population.

2.2. Possible development of the environment without the implementation of CBCP and TSIM

Based on the analysis of the data from the environmental characteristic in the previous **item 2.1 of the Environmental Assessment Report**, the following table assesses the development of environmental aspects without the application of CBCP and TSIM by environmental components and factors, incl. human health. The impact of the “zero alternative”, i.e. the refusal to implement the CBCP and TSIM, has also been assessed.

Table 2.2-1 *Possible development of the environment without the implementation of CBCP and TSIM*

<i>Environmental components and factors</i>	<i>Development without application of CBCP and TSIM</i>
Climate and climate change Adaptation.	Existing and new sources of greenhouse gases will increase their emissions, but their levels will be negligible for both countries and globally. Over the last three decades, emissions of the main greenhouse gases have tended to decrease. This trend is expected to continue without the implementation of CBCP and TSIM, slowing down the green and digital transition, which contribute to limiting greenhouse gas emissions. The refusal to implement the CBCP is associated with lost benefits in terms of adaptation – the strategic project for preparing the population for action in case of disasters will not be implemented,
Ambient air	Without the implementation of CBCP and TSIM, investments related to the greening of the business and sustainable growth of SMEs will be delayed/not implemented in this scope, and the current emission levels of the respective industries will be maintained accordingly. The economic development of the cross-border region is slowing down, the benefits for financing and additional investments will be missed, as well as the utilisation of EU funds, respectively - improving working conditions, improving the quality of life, healthy lifestyle, respectively ensuring a pleasant environment, preserving the rich nature on the basis of sustainable development of the environment.
Water	In case of non-implementation of CBCP and TSIM water development will be unfavourable as: - there will be no positive impact of territorial cohesion, green solutions and an integrated border region; - there will be no mutual cooperation which may lead to adverse effects on surface water. - the control over the envisaged tourism initiatives will be lowered.
Subsoil	No trend change expected

Non-technical summary of the Environmental Assessment Report
of the draft Cross-Border Cooperation Programme 2021-2027 co-financed under the Instrument for Pre-Accession Assistance between the Republic of Bulgaria and the Republic of Serbia and the draft Territorial Strategy for Integrated Measures

Environmental components and factors	Development without application of CBCP and TSIM
Soils and land use	No development is expected, but existing soil and land use problems may be exacerbated.
Vegetation and animal world	No development expected
Protected areas and territories	No development expected
Landscape	Trends will remain the same as at the moment.
Tangible assets	In case of non-implementation of CBCP and TSIM, the development of tangible assets will be unfavourable as: <ul style="list-style-type: none"> → there will be no positive impact of achieving smart digital and electronic transformation of the local economy to achieve a sustainable competitive region. → the identified opportunities for the development of a regional tourism product and hence stimulating the local economy, balanced development and achieving competitiveness of the business environment will not be possible.
Cultural and historical heritage	No development is expected, and the benefits of restoring, preserving, promoting, including increasing and diversifying the sources of income for the territories covered by the CBCP and TSIM will be missed.
Harmful physical factors	The non-implementation of the CBCP and TSIM will continue the trend of higher noise emissions from road transport. The possibility of financing and implementing activities related to the achievement of the priorities and objectives set by the two documents will not be used. No change in trends is expected with regard to other harmful physical factors.
Waste	The non-implementation of CBCP and TSIM has a less favourable impact than their implementation, as opportunities for financing activities and measures related to greening of enterprises, green transition, digitalization, which are directly related to limiting the generated quantities and types of waste will be missed.
Hazardous chemicals and risk of major accidents	No change is expected in the management status of hazardous chemicals and the risk of major accidents and the impact of existing enterprises with low or high risk potential.
Population health status and health risk	Without the implementation of the CBCP and the TSIM, the benefits associated with the financing activities to improve the well-being, security/response to extreme natural events and quality of life in the cross-border region will be missed.

3. Environmental characteristics for areas likely to be significantly affected by the implementation of the CBCP and TSIM

CBCP and TSIM will be implemented within the defined geographical scope:

- *Republic of Bulgaria: 6 NUTS III districts: Vidin, Montana, Vratsa, Sofia, Pernik, Kyustendil*
- *The Republic of Serbia – 7 NUTS III districts: Borski, Zaječarski, Nišavski, Pirotski, Toplički, Jablanički, Pčinjski*

Accordingly, and within this territorial scope, environmental, population and human health impacts will be realised. Some of the activities and measures that are without investment character – soft measures (marketing research, investments in improving the quality of services, improving the quality of services of general interest, branding, digitization) have no potential for environmental impact.

Activities and measures of an investment nature - hard measures - are of low detail - without a specific location, parameters, scope and accompanying activities, therefore, taking into account the precautionary principle, the whole territory covered by the CBCP and the TSIM is considered to be affected.

With regard to the likely significant impact of components and environmental factors, it is expected that:

Climate, Climate Change, Ambient Air

No significant impact is expected on both ambient air and climate as a result of the implementation activities of the CBCP and TSIM, and related priorities, specific objectives, activities and measures, nor is expected to generate significant new emissions of harmful substances. On the contrary, the activities/measures envisaged as eligible in the two specific objectives 1.1 and 2.1 are related to both the improvement of the air quality of the cross-border region and the strategic project under Priority 3 contributes to the adaptation to climate change.

Water, WPAs and flood risk

There are no territories likely to be significantly affected by the implementation of the CBCP and TSIM in both countries. The following are areas which may be slightly affected.

Danube region

In the Danube Region there are the following sources of pressure which are assessed as significant at “basin management area” level - Point sources - discharge of untreated/insufficiently treated domestic and industrial waste water; - Diffuse sources – mainly pressure from agricultural activities; - Hydro-morphological pressure - modification of the physical characteristics of water bodies. The activities covered by the PCBCP and TSIM may have some contribution from point sources of domestic and industrial waste water.

West Aegean region

The analysis shows that a certain share of the deterioration of the condition of surface water bodies in the West Aegean region in the implementation of CBCP and TSIM may have the following significant problems:

- Water pollution from the discharge of untreated domestic waste water from sites subject to CBCP and TSIM – from sewerage networks and not complying with the requirements of the European legislation.
- Discharge of industrial wastewater from sites within the scope of CBCP and TSIM. Chemical contamination of surface water bodies has a direct impact on their environmental status/potential
- Agriculture (farming and livestock) is not subject to CBCP and TSIM, but the industry causes contamination of 5.5 % of the surface water bodies in the West Aegean region.
- Water abstraction and modification of surface water flow in the tourist activities provided for in the CBCP. Excessive use of water from rivers and dams can affect surface water flow when accumulated with the effect of built derivation SHPPs.
- Adverse effects of activities not complying with the requirements in the WPA, especially when no SSZ has been set for drinking water;
- Adverse impact on the constructed site under CBCP and TSIM, failing to comply with the requirements in the scope of the defined APSFRs.

For *the Republic of Serbia*, adverse effects may arise as a result of:

- Construction of industrial sites under CBCP and TSIM in case of vulnerability to surface water;
- The presence of a relatively high level of polluted rivers in inadequate treatment in rural areas;
- Construction of sites of CBCP and TSIM in areas with insufficient drinking water and outdated water supply systems;
- Areas with a relatively high risk of flooding;
- Areas at risk of overuse of tourist resources;
- Adverse effects on SSZ for DDWS, including, where not specified;
- Pollution of cross-border surface water bodies r. Timok and r. Dragovishtitsa from mining activities in the Republic of Serbia;
- Pollution of r. Nishava with domestic waste water from settlements /sensitive areas/;
- Impact of CBCP and TSIM on the WPAs in Protected territories.

Subsoil

Activities and measures are not related to risks to the subsoil, including no potential for creating conditions for erosion processes and other negative geological phenomena. Risk of adverse impact may arise in case of non-compliance of the planned for construction sites and

infrastructure with the seismic activity of the area, as well as with the geological features – susceptibility/conditions for landslides, erosion, stability of the geological base.

Soils and land use

There are no territories likely to be significantly affected by the implementation of the CBCP and TSIM in both countries.

With the development of tourism activities envisaged in the TSIM, there is a possible impact on forest soils, expressed in re-densification, increase of surface water flow and erosion.

More significant adverse impact on the land and soil with the construction of sites and/or infrastructure under CBCP and TSIM is possible, in case of non-compliance with the requirements of the legislation related to soil protection and the environment.

Biodiversity

Most of the measures and activities under CBCP and TSIM relate to a neutral to positive impact on biodiversity, with most of the measures and activities having no investment character. There is no provision for events related to the establishment of new industrial areas or the construction and operation of new large industrial facilities, but focuses on existing SMEs. Part of the objectives of the CBCP and TSIM are aimed directly at sustainable development, greening and green transition, which will have an indirect positive impact.

Similarly, no significant impact on *protected areas* and *protected territories* is expected.

Landscape

The envisaged measures and activities under CBCP and TSIM are not expected to significantly affect areas with valuable/natural landscapes. The impact on the landscape as a whole ranges from neutral to indirect positive, analogous to the impact on biodiversity.

Tangible assets

The projects of the CBCP and TSIM envisage the implementation of targeted measures to improve existing and create new, modern and complying with all environmental requirements and standards communications and infrastructure, including but not limited to:

- Investments in the purchase of specialized equipment and technologies, digitalization and surveillance systems; virtual business centres, e-commerce solutions, spatial expansion technologies (Specific Objective 1.1 CBCP);
- Investments in public training infrastructure and specialised equipment to achieve a green, low-carbon transition to a zero-carbon economy, green and blue investments, circular economy, climate change mitigation and adaptation (Specific Objective 3.1 CBCP);
- Investments in tangible assets related to the rationalization of the use of tourist resources, including providing fast, fair and ecological access and conditions for the construction of cultural heritage networks and tourist sites in the cross-border area, including eco-trails and bicycle lanes (TSIM)

In the light of the foregoing, no significant negative impact of territories on tangible assets is expected, but only positive.

Cultural and historical heritage

Activities and measures have no potential for significant impact or adverse effects. Measures related to the preservation of cultural heritage, gentrification of eco-trails and cycling routes are envisaged in order to enrich the tourist offer and implementation, as the available cultural, historical and archaeological wealth of the region offers exceptional opportunities for the development of cultural tourism. The measures related to Specific Objective 2 of TSIM are directly aimed at exploiting the potential of cultural and historical heritage for the development of tourist products, and a positive impact is expected – maintenance of these sites.

Harmful physical factors

With regard to harmful physical factors, the noise factor from road traffic is important for the cross-border region in the scope of CBCP and TSIM. Transport connections and connectivity between the Republic of Bulgaria: 6 NUTS III districts: Vidin, Montana, Vratsa, Sofia, Pernik, Kyustendil and Republic of Serbia – 7 NUTS III districts: Borski, Zaječarski, Nišavski, Pirotski, Toplički, Jablanički, Pčinjski are presented in p. 2.1.11.

The change in the noise load in the area concerned may be influenced by the change in the transport and communication network, the emergence of new local noise sources, etc., provided for in the CBCP and TSIM, depending on the specific parameters of any such projects.

Consideration of the development needs and potential as a result of the achievement of the objectives and priorities of the CBCP and TSIM is relevant for the identification of the noise-factor affected areas, and in relation to the potential possible indirect impacts of the noise-factor, the following can be identified: **Priority 1: Competitive border region, *Policy Objective 1***: "A more competitive and smarter Europe by promoting innovative and smart economic transformation and regional ICT connectivity", ***Specific Objective 1.1***: "Enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments"; **Specific Objective 2: To enhance regional competitiveness, including in the area of tourism, Measure 2.1. Development and provision of framework support to local business grow, expand and perform better in a greener and smarter competitive global market, etc.**

On the other hand, the focus of the Strategy is to *implement a horizontal green transition policy that requires each supported project to contain a component related to the protection of environmental components and the search for and implementation of green solutions*. The activities envisaged as eligible, including for the construction of new and reconstruction of existing eco-trails and cycling routes in the region (to Specific Objective 2, Measure 2.2 of TSIM) will have a positive effect on reducing noise pollution and impact on the environment and population of the region included in the scope of CBCP and TSIM.

The priorities and measures provided for by the CBCP and the TSIM are not related to activities implying additional vibration, ionising and non-ionising radiation effects.

Waste

No significant impact of waste activities on territories is expected, nor is significant waste generation expected in the implementation of eligible activities and measures, on the contrary - most activities and measures contribute to limiting the generated waste.

Hazardous chemicals and risk of major accidents

The provisions of the CBCP and TSIM are not related to a significant impact resulting from the storage and use of hazardous chemicals, and the eligible activities and measures do not have the potential to increase the risk of a major accident occurring in existing enterprises with low and high risk potential in the cross-border area.

Population and human health

Regarding **human health**, the implementation of the CBCP and TSIM provisions is not linked to new, significant sources of emissions and environmental damage that would lead to new or increased adverse effects of identified existing risk factors in the cross-border area. On the contrary, the implementation of the activities and measures is expected to have a positive impact related to the improvement of the quality of life (improving the quality of services of general interest), the development of non-hazardous for health activities – subject to income for the population (tourism), limiting the harmful impact of local production (technological investments, green transition and digitalization). It is of utmost importance that the location of new sites - in case of financing of such under the CBCP and TSIM, to comply with the closest **zones and sites, which are subject to health protection**, as well as to ensure compliance with the regulatory requirements regarding water protection, in particular the prohibitions and restrictions in the **sanitary protection zones** of the water sources for drinking and domestic water supply and mineral waters used for medical, preventive, drinking and hygienic needs. A detailed assessment of the expected impacts is presented in **item 6 of the EAR**, and measures to limit the potential adverse effects are recommended in **item 7 of the EAR**.

Taking into account the above, **the assessment against the six environmental objectives of the principle of no significant harm of**² the activities and measures of the CBCP and TSIM allows the following conclusions to be drawn:

- 1) **Climate Change Mitigation:** The majority of the measures have a positive or no impact on the reduction of greenhouse gas emissions, and none of the measures and activities result in significant greenhouse gas emissions - no significant damage to climate change mitigation is expected;
- 2) **Climate Change Adaptation:** None of the measures or activities under the CBCP and the TSIM lead to a detrimental impact of the current and projected future climate on the population, nature or assets - no significant damage to climate change mitigation

² https://ec.europa.eu/info/sites/default/files/c_2021_1054_bg.pdf

- is expected. Part of the measures and activities are contributing to adaptation and ensuring resilience to climate change - Strategic project under Priority 3 of the TSIM;
- 3) ***Sustainable use and conservation of water and marine resources:*** Measures and activities will have an indirect positive effect on water, and no measures and activities are foreseen to lead to deterioration of water quality or quantity, subject to water protection regulations.
 - 4) ***Transition to a circular economy, preventing waste generation and their recycling:*** Part of the activities and measures are contributing to the transition to a circular economy (under Priority 1 of the CBCP). The other measures and activities under CBCP and TSIM are not related to significant increase in the generation, incineration or disposal of waste, do not lead to significant inefficiencies in the direct or indirect use of natural resources and have no potential to cause long-term environmental damage to the circular economy.
 - 5) ***Pollution prevention and control:*** Some of the measures and activities have a clear environmental focus, and they will contribute to limiting existing environmental problems. The projections of CBCP and TSIM are mainly related to improvements and development of existing sites, which will lead to their renewal, modernisation, and also related to limiting the environmental impact.
Specific Objective 1.1 of the CBCP focuses on the sustainable growth of SMEs, Specific Objective 2.1 on integrated social, economic and environmental development and Specific Objective 3.1 on promoting adaptation to climate change, risk prevention and disaster resilience (related to prevention of pollution as a result of disaster situations and phenomena).
The financing of new sites and technical infrastructure should take into account the presence of areas and sites subject to health protection and other sensitive areas - sanitary protection areas around water sources, protected areas and territories, cultural heritage sites, possibly cumulative impact with existing facilities and infrastructure in the area concerned. These impacts and their prevention or minimization will be subject to the legally required procedures for environmental impact assessment, environmental assessment, complex permit, permits under the Water Act, etc., which will ensure the implementation only of projects that do not lead to a significant increase in pollutant emissions to air, water or land.
 - 6) ***Protection and restoration of biodiversity and ecosystems:*** The principle nature of the activities to be carried out under CBCP and TSIM shall be such that it does not imply negative impacts (or at least significant ones) on biodiversity. Most of the measures and activities under CBCP and TSIM relate to a neutral to positive impact on biodiversity, with most of the measures and activities having no investment character. There is no provision for events related to the establishment of new industrial areas or

the construction and operation of new large industrial facilities, but focuses on existing SMEs. Part of the objectives of the CBCP and TSIM are aimed directly at sustainable development, greening and green transition, which will have an indirect positive impact. Subject to the national laws and administrative acts of the two countries, which aim to protect their biodiversity, the potential negative impacts of activities and measures of investment nature will be kept to an acceptable level. Measures and activities under the CBCP and TSIM are not expected to lead to a deterioration of the state and sustainability of ecosystems or the conservation status of habitats and species, and consequently no significant damage is expected.

4. Existing environmental problems identified at different levels related to the CBCP and TSIM, including those related to areas of particular ecological importance, such as protected areas under the Biodiversity Act

Item 4 of the Environmental Assessment Report analyses the existing environmental problems in the country, identified at different levels, related to the CBCP and TSIM, including the relationship between the environmental problems and the provisions of the plan, respectively – conclusions whether the CBCP and TSIM will lead to improvement of the environmental situation or to deterioration and deepening of existing environmental problems and/or the emergence of new ones.

The analysis shows that there are problems with almost all environmental components and factors, as well as the possibility to contribute to their limitation with the implementation of the CBCP and TSIM.

The provisions of the CBCP and TSIM do not have the potential and are not expected to lead to the deepening of existing or new environmental problems in the area under consideration.

5. Environmental protection objectives at national and international level relevant to the CBCP and TSIM and the way in which these objectives and all environmental considerations are taken into account in the preparation of the programme and the strategy

In Item 5 of the Environmental Assessment Report an analysis is made of how the environmental protection objectives identified in international, including European and national documents relate to the provisions of the CBCP and TSIM and whether and how the provisions of the CBCP and TSIM take them into account.

5.1. Integration of environmental protection objectives into the projects of the CBCP and TSIM

The integration of environmental protection objectives in the CBCP and TSIM is set out in the regulations on financial support for the period 2021-2027, which require an appropriate percentage of funds to be for activities and measures related to environmental protection.

In this regard, by default, ***CBCP and TSIM integrate environmental protection objectives at European and national level.***

5.2. Environmental objectives at international and national level relevant to the CBCP and TSIM and in a manner consistent with them

In item 5.2 of the Environmental Assessment Report, an analysis of the relevance of the environmental protection objectives at international and national level, included in part of the strategies, plans and programmes described in item 1.4 of the EAR, is presented in tabular form.

The analysis carried out shows the following results:

- The envisaged activities under the CBCP and measures under the TSIM do not conflict with environmental protection objectives;
- CBCP and TSIM integrate the relevant environmental objectives at national and international level and will contribute to their achievement. These include the integration of measures and activities in the CBCP and TSIM **with direct and indirect contribution to the achievement of the objectives of the strategic documents at national and European level** for climate change mitigation, adaptation to the changing climate, protection and sustainable use of water, transition to a circular economy, pollution containment and control, protection and restoration of biodiversity and ecosystems (*environmental objectives within the scope of the principle of no significant damage*).

6. Possible significant environmental and human health impacts, including cross-border environmental impacts in other countries

Item 6 of the EA report assesses the expected impacts of the implementation of the CBCP and TSIM on the environment and human health at the two levels that the programme and strategy identify (strategic level and level "measures/activities"), taking into account the nature of the interaction and synergy between the different impacts, namely: secondary, cumulative (considered in a separate point 6.3), concurrent, short-term, medium-term, long-term, permanent and temporary, positive and negative effects.

Strategic level:

- For CBCP, this shall include an assessment of the impact of the *Priorities and Specific Objectives*;

- For TSIM, this includes an assessment of the impact of the *Vision, the Strategic Objective and the Specific Objectives.*

“Measures/activities” level:

- For the CBCP, this shall include an assessment of the impact of the *activities/investments/strategic project supported;*
- For TSIM, this shall include an assessment of the impact of the *measures.*

For the purposes of the Non-Technical Summary, summary information on the assessed impacts is provided:

6.1. Assessment of probable impacts at Strategic level

6.1.1. For CBCP

<i>Priority, Specific objective</i>	<i>Summary of Impacts</i>
<i>Priority 1. Competitive border region</i>	An indirect positive impact is mainly expected, linked to the improved state of SMEs compared to their current state, including the release of less harmful substances in the environment and the improvement of the quality of life of the population. Significant negative impacts are not expected in compliance with environmental and human health regulations.
<i>Specific objective 1.1: „Enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments</i>	
<i>Priority 2 Integrated development of border region</i>	The integrated development of the border region is related to the exchange of information and experience, carrying out joint activities in compliance with a complex of aspects (integration of activities), part of which is the protection of the environment and human health. Positive impacts are expected from the implementation of the priority for environmental and human health components and factors associated with the implementation of interlinked and complementary (integrated) measures, based on close coordination of different public policies, tailored to local specificities, responding to local development needs and potentials and bringing common benefits to partners and regions.
<i>Specific objective 2.1 „Fostering the integrated and inclusive social, economic and environmental development, culture, natural heritage, sustainable tourism, and security in areas other than urban areas “</i>	Fully positive, permanent impacts are expected given the integration of environmental considerations into development.
<i>Priority 3: A more resilient border region</i>	The priority and specific objective shall have direct and indirect positive impacts on environmental components and factors

<i>Priority, Specific objective</i>	<i>Summary of Impacts</i>
<i>Specific objective 3.1 „ Promoting climate change adaptation and disaster risk prevention, and resilience, taking into account eco-system based approaches “</i>	related to the prevention of disasters and related adverse impacts on the environment and human health and limiting the scale of damage to the environment and human health in the event of disasters.

6.1.2. For TSIM

<i>Vision, Strategic Objective and Specific Objectives</i>	<i>Summary of Impacts</i>
<i>Vision: Opened to neighbouring borders and integrated in the European space and axes of urbanization, of culture, science and innovations. The well preserved and sustainably used resources (land, forests, water, natural and cultural heritage) – a guarantee for the regions prosperity and identity. A balanced integrated development achieved through persistent investment in economic, social, transport, engineering, cultural and tourist infrastructure thus ensuring green economic growth, adaptivity to changes and cohesion</i>	The vision has direct and indirect positive impacts for the protection of the environment and human health, including cultural and natural heritage, resource efficiency, green economic growth. No negative consequences are expected for environmental components and factors, including for population.
<i>Strategic objective: To enhance growth in all its aspects</i>	The strategic objective has a positive impact, as growth in all its aspects also implies taking into account environmental aspects for development.
<i>Specific objective 1: To expand and improve service provision</i>	The specific objective has an indirect positive impact on part of the environmental components and factors and no impact on the others.
<i>Specific objective 2: To enhance regional competitiveness, incl. in the area of tourism (at least 40% of the priority budget to be allocated to projects focusing on sustainable tourism and culture)</i>	Improving competitiveness is generally linked to a positive impact on the environment and human health, given that high competitiveness is linked to a better quality and environmental friendliness of the services provided. The development of sustainable tourism and culture have a positive impact.

6.2. Assessment of probable impacts at “activities/measures” level

6.2.1. For CBCP

A. Activities/investments supported under Priority 1:

<i>Actions</i>	<i>Summary of Impacts</i>
<i>Technological and/or organizational investments aimed at reducing the cost of production/service delivery and any other investment leading to increased enterprise competitiveness including but not limited to purchase of</i>	An indirect positive impact is mainly expected, linked to the improved state of SMEs compared to their current state, including the release of less harmful substances in the environment and

Non-technical summary of the Environmental Assessment Report
of the draft Cross-Border Cooperation Programme 2021-2027 co-financed under the Instrument for Pre-Accession Assistance between the Republic of Bulgaria and the Republic of Serbia and the draft Territorial Strategy for Integrated Measures

Actions	Summary of Impacts
<i>specialized equipment and technologies (inlc. related upskilling), monitoring systems; purchase of IT equipment, training and know-how transfer, virtual business centres, e-commerce solutions, possibilities for electronic payments, etc; Actions aimed at increasing productive capacity</i>	the improvement of the quality of life of the population. Significant negative impacts are not expected in compliance with environmental and human health regulations.
<i>Investments aimed at quality management for improving product/service quality, including but not limited to improvements in the design of product/service features, improvements in customer after-sales service, improvements in product guarantee, total quality management systems, and any other aspect that defines overall product/service quality level</i>	Improving the quality of products and services has a positive impact (directly on waste and tangible assets and indirectly on other components) for most environmental components and factors and no impact on the others. Negative impacts are not expected
<i>Actions aimed at accessing new markets or market segments including but not limited to marketing studies, distance-spanning technologies, organisational cooperation and joint business schemes with other enterprises, company exhibition halls at company's establishment, etc</i>	Activities shall not be of an investment nature and shall not have a negative impact on the environment and human health.
<i>Marketing and promotion actions, participation in international fairs, exhibitions and other promotional events, consultation and information services, including e-marketing, communication with clients, etc</i>	

B. Activities/investments supported under Priority 3:

Strategic project	Summary of Impacts
Preparation of the population for actions in case of disasters and improvement of the capacity of the professional teams for response in case of emergency situations within Bulgarian-Serbian cross-border region	The strategic project shall have direct and indirect positive impacts on environmental components and factors related to the prevention of disasters and related adverse impacts on the environment and human health and limiting the scale of damage to the environment and human health in the event of disasters.

6.2.2. For TSIM

Measures	Summary of Impacts
M 1.1. Expand accessibility and improve quality of services of general interest in support of social and economic growth	The measure has an indirect positive impact on part of the environmental components and factors and no impact on the others.

Measures	Summary of Impacts
M 2.1 Development and provision of framework support to local businesses to grow, expand and perform better in a greener and smarter competitive global market	The measure has no negative impact on environmental components and factors. For some of the components and factors an indirect positive impact is expected – biodiversity, tangible assets, cultural and historical heritage, waste, population.
M 2.2 Streamline the utilization of the CBC region’s tourist resources, incl. ensuring faster, equitable and environmentally friendly access to and conditions for networking of cultural heritage and tourist sites in the CBC region	Overall, the measure has no or negligible positive impacts. The risk/extent of potential negative impacts described above will be assessed at the stage of preparing draft proposal within the framework of the required preventive procedures under the environmental legislation of the two countries.
M 2.3. Improving CBC tourism marketing and branding practices	The measure is not associated with direct negative impacts on environment. The positive impact will be on tangible assets and cultural heritage. Negative impacts are possible for biodiversity, with excessive increases in tourist flows, and this can be regulated in a sustainable way. An additional positive effect will be achieved in the implementation of information campaigns to promote biodiversity in the region and raising awareness about its value and benefits for ecosystems and the lives of the local population within the projects.

6.3. Cumulative impact

The provisions of the CBCP and TSIM **at strategic level** are related to positive cumulative impacts and contribution to the implementation of objectives, priorities, guidelines and measures under the relevant strategies, plans and programmes considered in item 1.4 of the EAR. No negative cumulative impact at the strategic impact level is expected.

Most of the envisaged **activities and measures** under the CBCP and TSIM have a positive impact on the environment and human health, as many of them are “soft” measures with no investment character and do not imply a negative cumulative effect with other activities in the cross-border region.

A risk of **negative cumulative impact** is possible in the implementation of the activities under the measures related to *the development of tourism* under **Specific Objective 2 of TSIM**, as a result of an increase in tourist flows in the region of tourist destinations, which are in most cases in/near areas with valuable biodiversity, valuable landscapes and other sensitive areas, e.g. WPAs. Cumulative adverse effects may affect ambient air quality, water, soil, landscape, biodiversity and protected territories and areas, noise levels, and therefore contribute to discomfort for site visitors. In order to prevent such undesirable effects, the development of tourism and destinations should take into account the capacity of the environment, its value and the presence of sensitive areas and

elements, including recommended information campaigns for visitors to be part of the project proposals.

According to the analysis performed, **no significant cumulative environmental impact is expected from the implementation of the CBCP and TSIM.**

6.4. Cross-border impact of the CBCP and TSIM

With regard to the **likely cross-border impact** resulting from the application of the CBCP and the TSIM:

- CBCP and TSIM are of a cross-border nature and scope, both aiming at an impact within the scope of the designated cross-border region. In this regard, **by establishing a single EAR for the entire territory covered by the programme, the impact of the provisions of the two documents in the cross-border region has by default been assessed, with consultations taking place in both countries;**
- Regarding the cross-border impact within the meaning of the *Strategic Environmental Assessment Protocol to the Convention on Environmental Impact Assessment in a Cross-border Context* - taking into account the provisions of the draft programme and draft strategy, there is no basis for assuming a cross-border impact on the nearest neighbouring countries - Republic of North Macedonia and Republic of Romania.

In the case of **cross-border water bodies** within the scope of the CBCP and TSIM, no significant impacts on surface water and WPAs are expected, as well as floods, including cross-border impacts on them in other countries from the implementation of the CBCP and TSIM.

6.5. Summary of expected impact

For **ambient air and climate change**, a direct and indirect positive impact is expected as a result of the provisions at both levels of detail. The provisions of the CBCP and TSIM do not have the potential for significant negative impacts, but only for local, generally reversible impacts. Direct and indirect positive impacts are expected in relation to **climate change adaptation**. There are no provisions, including activities and measures related to the generation of significant greenhouse gas emissions or those leading to conflict or reduction of the effectiveness of adaptation measures.

With regard to **water, including the water protection areas and the risk of flooding**, the impacts at the strategic level are mainly related to

- absence of negative effects, both directly and indirectly;
- positive impacts in the vast majority of cases;
- long-term and, in a large number of cases, permanent effects.

Potentially possible cases of negative effects are expected to be very rare.

At the “activities/measures” level, impacts on water are related to

- absence of direct negative effects, in very rare cases the presence of indirect effects;
- there is mainly a direct and indirect positive impact;
- long-term and, in a large number of cases, permanent impact;
- in the vast majority of cases there is no impact whatsoever.

The impact on **land and soil** at strategic level is positive and non-negative, both directly and indirectly. The impact at the “activities/measures” level is mainly a direct and indirect positive impact, in very rare cases indirect or direct impacts (absorption of new land - Measure 2.2 of TSIM) are possible and in some cases no impact is present.

As can be seen from the above analysis, for **biodiversity and protected areas and territories** covered by CBCP and TSIM, more potential benefits than negatives can be expected at this stage under certain conditions. Negative impacts may be minimised by appropriate measures and by carrying out the required EIA, EA and CA procedures.

The impact on both levels of detail on the **landscape** is predominantly positive, linked to the enhancement of its attractiveness and qualities. Possible negative effects are analogous to those for biodiversity.

For **tangible assets**, a positive cumulative impact is expected to improve the state of existing FTAs and/or the construction of new environmentally friendly ones at both levels of impact, as investments in assets related to the improvement of the state of the environment of the cross-border region are envisaged. Negative impacts on tangible assets are not expected.

With regard to **cultural and historical heritage**, the objectives and measures related to these sites and their tourist potential, with most of the other predictions at both levels of detail not implying a negative impact, subject to the existing legislation on the protection of cultural heritage in both countries.

In terms of **harmful physical factors**, the expected impact in terms of noise in general is defined as indirect positive, long-term and permanent for the region concerned. The provisions of the CBCP and TSIM have no potential for significant negative impact, including the creation of a risk to human health, taking into account the location of areas and objects with normalized noise regime. For other harmful physical factors, no impact is expected.

In terms of **waste**, a generally direct indirect positive impact is expected as a result of activities and measures leading to a reduction in waste generation. Negative impacts are not expected from other CBCP and TSIM provisions.

With regard to **hazardous chemicals** and the risk of major accidents, no negative impact is expected in compliance with the applicable legislation in the territory of both countries.

The impact on the **health and hygiene aspects** of the environment as a whole is positive. The placing of new production sites should take into account the spatial development decisions and forecasts for the development of settlements, proximity to areas and sites subject to health protection, including water protection zones, in order to prevent harmful effects on human health.

7. Measures designed to prevent, reduce and compensate as fully as possible the adverse effects of the implementation of the CBCP and TSIM on the environment and human health

Analyses and assessment of the likely impact on the implementation of the CBCP and TSIM shall require the identification of measures that will ensure that adverse effects on the environment and human health are prevented, mitigated and compensated to the fullest extent possible. The measures are motivated by the expected results of their implementation:

7.1. Measures to be reflected in the final versions of the CBCP and/or TSIM

The results of the assessment of the environmental and human health impacts of the CBCP and TSIM show no need for measures for the final versions of the documents.

7.2. Implementation measures for the application of CBCP and/or TSIM

General measures:

1. Plans, programmes, projects and investment proposals arising from the CBCP and TSIM, falling within the scope of Directive 2014/52/EU or Directive 2001/42/EC or outside them and falling within the scope of Art. 6 of Directive 92/43/EEC, shall be subject to an assessment of their compatibility with the object and objectives of conservation of protected areas and may only be approved after a decision/opinion on EIA/EA/CA for approval/coordination, and in compliance with the recommendations in the evaluations carried out, as well as with the conditions, requirements and measures set out in the decision/opinion.

Expected result: Prevention of significant adverse effects on the environment and human health, the object and objectives of protection of protected areas.

2. Investment proposals arising from measures and activities under the CBCP and the TSIM to comply with the current territorial development plans in the respective territory, as well as national, regional and local strategic, planning and regulatory documents, other available planned projects with similar and/or overlapping activities, in order to achieve the necessary synchronization in the implementation of the project procedures by the engaged institutional bodies.

Expected result: Prevent contradictions, according to the current regulations and the adopted strategic and planning documents. Non-admission of project proposals not in line with existing proposals leading to administrative difficulties and/or request for double funding for overlapping activities.

Climate Change Adaptation

3. Compliance of the relevant activities and measures from the current strategic documents for adaptation to climate change and provision of measures to ensure sustainability of the projects related to the construction and development of sites, facilities and infrastructure.
Expected result: Ensuring climate resilience of projects.

Waters, water protection areas and flood risk

4. Projects should envisage measures for preventing the deterioration of the surface water and WPAs condition, in accordance with the requirements of Art. 116 of the Law on Water of the Republic of Bulgaria as well as the Law on Water of the Republic of Serbia.
5. Investment proposals, plans and programmes to be implemented in accordance with the current RBMPs, FRMPs and water conservation and management legislation.

Clarification on the main applicable provisions of the water protection legislation:

- *Compliance with the requirements of Art. 134 of the WA of the Republic of Serbia: The following shall be prohibited in the coastal flood strips and the land belonging to the reservoirs:*
 1. *storage of pesticides, disposal and treatment of waste;*
 2. *construction of livestock farms;*
 3. *construction of commercial and residential buildings;*
 4. *washing and servicing of vehicles and equipment;*
 5. *planting of permanent crops with shallow root system;*
 6. *disposal of waste.*
- *Compliance with the requirements of Art. 143 of the WA which, in order to protect from the harmful effects of water, prohibits:*
 1. *the violation of the natural state of the beds, the banks of the rivers and the coastal flood strips;*
 2. *the reduction of the conductivity of river beds, including through barrages and thresholds, without the relevant permit;*
 3. *the use of river beds as landfills for waste, earth and rock masses;*
 4. *construction works over the covered river sections;*
 5. *the storage of materials that would significantly increase the destructive power of water in case of floods.*
- *Compliance with the requirements of Art. 146. (1) of WA: It is forbidden to install residential and villa buildings and farm buildings in the floodplain terraces of rivers and the easement of hydrotechnical facilities and dam walls.*
- *Compliance with the requirements of Art. 125. (1) of WA. Only wastewater that can be treated in the existing process scheme of the treatment plant and does not endanger the life and health of the operating personnel should be included in the sewerage networks and the WWTP. The removal shall take into account:*
 - *the discharge permit; the quantity and quality of the waste water;*
 - *existing sewage network and treatment plant; sludge treatment technology for recovery or disposal.*

- *Compliance with the requirements of Art. 132 of the WA, persons, from whose economic activities are generated waste waters, shall be obliged to construct the necessary treatment facilities in accordance with the requirements for discharge into the water site, when on the respective territory there is no sewerage system.*
- *In case of water abstraction and/or use of a water body, to comply with the requirements of Art. 44 and 46 of the WA - availability of the relevant permit.*
- *For activities falling under the APSFR in the scope of flooding, measures to protect against the harmful effects of waters complying with the NCM and FRMP measures of the Republic of Serbia shall be planned.*
- *When implementing activities under the CBCP and TSIM to comply with the applicable measures from the PoM and to be complied with the objectives of the RBMP 2016-2021/2022-2027 and the FRMP 2016-2021/2022-2027.*
- *Prevention of emergency pollution of surface water and areas for protection of the waters, in accordance with the requirements of Art. 131 of the WA: In the event of emergencies creating prerequisites for water pollution, the owner or the person operating the site - a source of pollution, including tailings ponds, slurries and embankments, shall take the necessary measures to limit or eliminate the effects of the pollution according to an emergency plan prepared in advance and shall immediately inform the basin directorates and the bodies of the Ministry of Interior, as well as in accordance with the Law on Water in the Republic of Serbia.*
- *Preservation of sanitary protection areas for drinking water, according to the restrictions and prohibitions in the SPAs.*

Expected result: Prevent the deterioration of surface water status and WPA, as well as increase the risk of flooding.

6. Sustainable use of water, including introduction of water use cycles in industrial plants, local treatment of industrial wastewater.

Expected result: Preservation of the chemical and ecological status/potential of surface water.

7. Taking measures and technological decisions to prevent the accidental contamination of surface water.

Expected result: Preservation of the chemical and ecological status/potential of surface and underground waters.

Soils

8. The *design* of the new sites should include the necessary activities and measures for conservation of soil resources and reclamation in order to prevent the occurrence of erosion processes and maximum restoration of disturbed lands.

Expected result: Prevent impact on lands and soils in the implementation of design solutions.

9. In carrying out the construction activities, it is necessary to take measures for the protection of the soil resources (preliminary seizure of the humus soil and its utilization for reclamation purposes).

Expected result: Conservation of soil resources.

Vegetation, animal world, protected areas and protected territories, landscape

10. Tourism development projects under measure 1.4 of TSIM to be implemented in accordance with the standards for recreational load and absorption capacity of the environment, and in compliance with the status of the territory.
11. As part of the project proposals for tourism development under Specific Objective 2 of TSIM to be required to ensure the implementation of information campaigns to promote biodiversity in the region and raise awareness about its value and benefits for ecosystems and the lives of the local population.
12. The promotion of tourism products and sites under Measure 2.3 of the TSIM should take into account the regimes of protected areas and protected territories in the region. Within their scope, compliance with the relevant prohibitions and recommendations reflected in the issued order for the respective territory should be enforced and observed.

Expected result for measures related to vegetation, animal world, protected areas and protected territories, landscape: Prevention of significant loads on the territory, including destruction of valuable landscapes, elements of biodiversity, habitats of species.

Cultural and historical heritage

13. Investment proposals, plans and programs to be implemented after a positive opinion of the competent authorities for the protection of cultural heritage, in accordance with the regimes for the protection of sites and the applicable regulations. In the presence of construction activities in areas with registered cultural properties, the respective to be carried out under the control of competent persons (determined or eligible under the relevant national legislation).

Expected result: Prevent negative impact and/or damage to immovable cultural properties.

Hazardous chemicals and risk of major accidents

14. In the event that the construction of new or changes to an existing plant and/or facility with low or high risk potential is envisaged, as well as in the planning of new works, including the construction of transport roads, residential areas, public works in the vicinity of existing plants and/or facilities with low or high risk potential, where deployment or new works may be a source of or increase the dangers or consequences of a major accident occurring in those plants/facilities, it is necessary to:

- a. Ensure safe distances of the enterprise and/or facility to residential areas, public places and areas, recreational areas and, where possible, large transport roads.
- b. Maintain safe distances of establishments and/or facilities with low or high risk potential or other appropriate measures to areas of particular conservation sensitivity or interest and cultural and historical heritage sites in the vicinity of establishments, where appropriate, in order to protect them.
- c. Taking additional technical measures to mitigate risks to human health and the environment in the case of existing establishments and/or facilities with low and high risk potential

Expected result: Preventing risks associated with major accidents involving hazardous chemicals.

Population, human health, health and hygiene aspects of the environment

15. When planning and implementing investment proposals, their location should be consistent with the current spatial planning decisions and provisions for the development of settlements, and should not allow the implementation to lead to negative impact on residential areas, recreational and sports areas, recreational and resort zones and other sites subject to health protection.

Expected result: Prevention of risks and protection of population and human health.

8. *Reasons for choosing the considered alternatives*

The drafts of the CBCP and TSIM provided by the Contracting Authority do not contain alternatives.

The analysis of the "zero alternative" made in item 2.2 of the EAR shows that it has a less favourable impact than the alternative for the implementation of the programme and its territorial strategy.

The alternative for the implementation of CBCP and TSIM is in general with a complex positive impact on the environment, including on the population and human health, as the eligible activities and measures are predominantly environmentally oriented, including contributing to the achievement of environmental objectives at national and international level. However, some of the envisaged activities are related to a possible negative impact, which is why at the stage of realization and implementation of the CBCP and TSIM, the measures recommended in item 7 of the EAR must be implemented, as well as to ensure compliance with all laws and regulations in force in the two countries, related to the protection of the environment, including the population and human health.

On the basis of the analysis presented, the alternative for the implementation of the CBCP and TSIM is preferred to the zero alternative.

9. Methods for carrying out the environmental assessment, used regulations and documents and difficulties in gathering the necessary information

Item 9 of the Environmental Assessment Report describes the methodology for preparing the report and the main methodological documents, regulations and sources of information used.

The preparation of the report was carried out according to the following **methodological approach**:

- 1) Introduction of the collective experts to the drafts of the CBCP and TSIM and their provisions, the other documentation provided by the Contracting Authority, the opinions on the assignment for determining the scope and content of the Environmental Assessment Report;
- 2) Identification and analysis of other plans, strategies and programmes related to the projects of the CBCP and TSIM;
- 3) Collection, analysis and processing of literature sources and data on the existing state of the environment by components and factors, its relationship with the current level of development of the cross-border area within the scope of the CBCP and TSIM;
- 4) Analysis of the development of the environment in the event of non-application of CBCP and TSIM (assessment of the impact of the so-called “zero alternative”);
- 5) Analysis of the likely significant impact on territories with CBCP and TSIM;
- 6) Collection, processing and analysis of information on existing environmental problems at national level and their relation to the CBCP and TSIM, including possible development of these problems with and without the implementation of the CBCP and TSIM;
- 7) Analysis of the extent to which the projects of the CBCP and TSIM comply with the relevant environmental protection objectives and measures included/identified in documents - plans, strategies and programmes at national and international level;
- 8) Analysis and assessment of the environmental impacts of the CBCP and TSIM: As CBCP and TSIM are strategic documents, the assessment of likely significant environmental and human health impacts has been carried out at two levels of detail (“strategic” and “measures/activities”);
- 9) Propose measures to prevent, reduce and mitigate impacts, as well as measures to monitor and control the impact of the programme on its implementation;
- 10) Reasoned choice of the most appropriate alternative in terms of environmental and human health impacts;
- 11) Preparation of a reasoned conclusion for the implementation of the CBCP and TSIM.

As difficulties in gathering the necessary information can be indicated:

- During the preparation of the environmental assessment documentation, a number of strategic documents are in the process of preparation and approval, which will be valid for the period 2021-2027 and have not yet been finalized - this makes it impossible to comply with the final documents complied with available projects.

10. Measures in relation to monitoring during the implementation of the CBCP and TSIM

In accordance with the results and conclusions of the provisions for the impact of the CBCP and TSIM on the environment and human health in item 10 of the Environmental Assessment Report, measures and indicators are proposed on the basis of which the monitoring and control of predicted possible significant as well as possible unforeseen negative impacts in their implementation will be carried out.

The proposed measures are given in the following table:

Table No 10-1 Measures for monitoring and control of the impacts on environmental and human health in the application of CBCP and TSIM

No.	Measure for monitoring and control	Indicators	Period/Body responsible for carrying out
1.	For measures and activities of an investment nature, take into account the relevant climate change adaptation objectives, guidelines and measures to ensure their sustainability	Sustainability measures foreseen in the project proposals	Upon approval of the project proposals/ Managing authority, National authority
		Extreme Disruption of Objects, Facilities or Infrastructure - Climate Change Outcome	After putting into operation/ Beneficiaries
2.	Prevention of deterioration of the status of water bodies in the implementation of project proposals of an investment nature in the vicinity of such sites or related to the use/impact of water bodies	Surface and/or groundwater monitoring data, if prescribed by the competent authorities for the specific project proposal	During construction and operation in accordance with the frequency defined in the own monitoring plan/ Beneficiaries
3.	Eligibility of the project proposals with investment character to the current RBMPs and FRMPs .	Existence of an opinion from the competent authorities	Prior to the start of the project implementation/ Beneficiaries
4.	Prevention of contamination of water bodies in emergency situations	Envisaged preventative measures	During the preparation of the project proposal/ Beneficiaries

Non-technical summary of the Environmental Assessment Report
of the draft Cross-Border Cooperation Programme 2021-2027 co-financed under the Instrument for Pre-Accession Assistance between the Republic of Bulgaria and the Republic of Serbia and the draft Territorial Strategy for Integrated Measures

		Number of emergency situations - actions taken	From time to time/ Beneficiaries
5.	Compliance with adopted management regimes for protected areas, including limiting the likelihood of negative impacts on protected areas and conservation priorities therein	Approved investment projects on the territory of protected areas occupied (decares); Method of adjustment of the control modes.	Periodically/Beneficiaries
6.	Prevention of disturbance/damage/destruction of valuable plant species as well as animal species and their habitats	EIA/EA/CA procedures conducted (where applicable) Implementation of measures from EIA/EA/CA final deeds (when foreseen for biodiversity)	Periodically/Beneficiaries
7.	Prevention of damage/disruption/destruction of cultural property - archaeological sites in the construction of sites and infrastructure	Existence of a coherent opinion by a competent authority	Prior to commencement of construction activities/Beneficiary
		Existence of a competent, authorised person at the time of construction	During Construction/Beneficiary

11. Conclusion of the environmental assessment

Based on the analyses, forecasts and assessments made, the impact of the implementation of the CBCP and TSIM in the carrying out of the recommended measures in item 7 of the EA Report is:

In general, **with regard to ambient air and climate change**, a positive impact is expected as a result of specific eligible activities and measures under the CBCP and the TSIM. The provisions of the CBCP and TSIM do not have the potential for a significant negative impact, but only for a temporary local, reversible impact. Activities and measures that would lead to a significant increase in greenhouse gas emissions are not foreseen.

Some of the envisaged activities (for technological investments, digitalization and green transition) have a positive contribution to **climate change mitigation and adaptation to the changing climate**. The strategic project under Priority 3 of CBCP has positive impact for improving adaptive capabilities and increasing the resilience of the area in case of disasters.

No activities or measures are foreseen that would pose a risk to the population, nature or assets based on the forecasts of the changing climate and its consequences.

With regard **to water, including water protection areas and flood risk**, overall positive impacts are expected at regional, national and cross-border level as the majority of the indicative

actions and measures envisaged contribute directly or indirectly to improving the status of water, water protection areas and flood risk and the environment as a whole. The activities and measures included in the CBCP and TSIM have no potential to impair the good status and good environmental potential of water bodies. Implementation of the provisions of the applicable water protection legislation will ensure that there are no significant negative consequences for activities with a possible impact on water bodies.

Impact on the **subsoil** is not expected.

An overall positive impact is expected at regional, national and cross-border level, as the majority of the indicative actions and measures envisaged contribute directly or indirectly to improving **soil** status and the environment as a whole. Compliance with the measures of p. 7 of the environmental assessment contract will limit the expected adverse effects.

As can be seen from the above analysis, for **biodiversity and protected areas and territories** covered by CBCP and TSIM, more potential benefits than negatives can be expected at this stage under certain conditions. Negative impacts may be minimised by appropriate measures - recommended in p. 7 of the environmental assessment contract, and by carrying out the required EIA, EA and CA procedures.

The impact on both levels of detail on the **landscape** is predominantly positive, linked to the enhancement of its attractiveness and qualities. Possible negative effects are analogous to those for biodiversity.

The impact on **cultural heritage** is positive for measures related to the development of the cultural heritage sites and neutral for other forecasts.

With regard to the **noise** factor, the expected impact is defined as indirect positive, long-term and permanent for the region concerned. The provisions of the CBCP and TSIM have no potential for significant negative impact, including the creation of a risk to human health. With regard to **other harmful physical factors**, no impact is expected.

In the case of **waste**, mainly indirect positive impacts are expected as a result of the activities of technological renewal and quality assurance and extended product life, green transition, digitalisation, digital and electronic technologies. The activities and measures under CBCP and TSIM are not related to the generation of significant quantities of waste, including hazardous waste.

With regard to **hazardous chemicals and the risk of major accidents**, the CBCP and TSIM provisions do not include new establishments, nor do they have the potential to increase the risk of major accidents in existing establishments with low and high risk potential.

The impact on the **population, human health and health and hygiene aspects** of the environment is complex positive, linked to the beneficial impact of socio-economic factors in the region and environmental risk factors related to health impact.

CBCP and TSIM are in line with the principle of no significant harm.

In view of the above, the implementation of CBCP and TSIM is preferred in terms of environmental and human health impacts to the “zero alternative”.

12. Report on the results of the consultations carried out in the process of preparing the CBCP and TSIM and carrying out the environmental assessment

Item 12 of the Environmental Assessment Report provides information on all opinions received as a result of the consultations held at the previous stage of the environmental assessment procedure on the Terms of Reference for determining the scope and content of the Environmental Assessment Report.

Opinions and their manner of compliance with the reasons for this are presented in *Table 12-1 to item 12 of the Environmental Assessment Report*.