CONTRACT MANAGING AUTHORITY

MINISTRY OF DEVELOPMENT AND INVESTMENTS
SPECIAL SECRETARIAT FOR EUROPEAN REGIONAL DEVELOPMENT FUND AND COHESION FUND PROGRAMMES
MANAGING AUTHORITY OF "EUROPEAN TERRITORIAL COOPERATION" PROGRAMMES

CONTRACT

«TECHNICAL CONSULTANCY SUPPORT: REPORT FOR THE STRATEGIC ENVIRONMENTAL ASSESSMENT OF INTERREG IPA III CROSS BORDER COOPERATION PROGRAMME GREECE-REPUBLIC OF NORTH MACEDONIA 2021-2027»

Interreg – IPA CBC
Greece - Republic of North Macedonia
EUROPEAN UNION

DELIVERABLE:

«STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) OF THE INTERREG IPA III CROSS BORDER COOPERATION PROGRAMME "GREECE-REPUBLIC OF NORTH MACEDONIA 2021-2027"»

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The present Strategic Environmental Assessment Report (SEA) of the INTERREG IPA III Cross Border Cooperation Programme Greece – Republic of North Macedonia 2021-2027, is prepared in the context of the project "Technical Consultancy Support: Report for the Strategic Environmental Assessment of INTERREG IPA III Cross Border Cooperation Programme Greece – Republic of North Macedonia 2021-2027". The Managing Authority of the European Territorial Cooperation Programmes, of MINISTRY OF DEVELOPMENT AND INVESTMENTS, assigned this project to EEO GROUP Independent consultancy, according to the contract signed by both on 12th October 2021.

PROJECT

Title:	**Technical Consultancy Support: Report for the strategic environmental assessment of INTERREG IPA III Cross Border Cooperation Programme Greece – Republic of North Macedonia 2021-2027**
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3.0	07/01/2022	Third submission	11,56,58

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Acronyms

BOP	Border Orientation Paper
CB	Cross Border
CBC	Cross Border Cooperation
CF	Cohesion Fund
E.O.	Environmental Objective
EAP	Environment Action Programme
EC	European Council
EEA	European Environment Agency
ELSTAT	Greek Official Statistics
EMFF	European Maritime and Fisheries Fund
EP	European Parliament
ERDF	European Regional Development Fund
ESB	European Social Fund
ESIF	European Structural Funds and Investment
ETC	European Territorial Cooperation
EU	European Union
EUSAIR	EU Strategy for the Adriatic – Ionian Region
GDP	Gross Domestic Product
GHG	Greenhouse gases
GR	Greece
IBAs	Important Bird Areas
ICT	Information and Communication Technologies
ISO	Interreg Specific Objective
IUCN	International Union for Conservation of Nature

JMD	Joint Ministerial Decision
JPC	Joint Programming Committee
MA	Managing Authority
MED	Mediterranean Space
mIBAs	marine Important Bird Areas
MSFD	Maritime Strategy Framework Directive
NSI	National Statistical Institute
NSRF	National Strategic Reference Framework
NUTS	Nomenclature of territorial units for statistics
OP	Operational Programme
PAF's	Prioritized Action Frameworks for Natura 2000
pcGDP	Gross Domestic Product per capita
PO	Priority Objective
R & D	Research and Development
R & I	Research and Innovation
RAE	Regulatory Authority for Energy
RDP	Rural Development Programme
RES	Renewable Energy Sources
RIS	Research and Innovation Strategies for Smart Specialization
RoNM	Republic of North Macedonia
SAC	Special Area of Conservation
SCI	Sites of Community Importance
SO	Specific Objective
UN2030	United Nations 2030 Strategy

1 NON TECHNICAL SUMMARY

The present Strategic Environmental Assessment Report (SEA) of INTERREG IPA III Cross Border Cooperation Programme Greece – Republic of North Macedonia 2021-2027, is prepared in the context of the project "Technical Consultancy Support: Report for the strategic environmental assessment of INTERREG IPA III Cross Border Cooperation Programme Greece – Republic of North Macedonia 2021-2027" and is in accordance with the contents of Directive 2001/42/EC for the environmental assessment of certain plans and programs. The Managing Authority of the European Territorial Cooperation Programmes, of MINISTRY OF DEVELOPMENT AND INVESTMENTS, assigned this project to EEO GROUP Independent consultancy.
The IPA III Cross-Border Cooperation Programme "Greece – Republic of North Macedonia 2021 – 2027 follows the provisions set in the Legislative framework of IPA III, the Regulations 2021/1529 and 2018/0247.

1.1 The process of SEA

The Strategic Environmental Assessment (SEA) is an ex ante evaluation of the environmental effects of INTERREG IPA III Cross Border Cooperation Programme Greece – Republic of North Macedonia 2021-2027. The SEA process includes the preparation of the Strategic Environmental Assessment Report (SEA Report), its submission, consultation with authorities (which by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of the programme) and the public, its approval by the national authorities (after taking into account the environmental report and the results of the consultation) and the establishment of a monitoring and evaluation system during the implementation of the programme. It is an autonomous process in relation to the programme's design process and is performed in parallel, as a mandatory stage, according to Directive 2001/42/EC.

1.2 Aims and Objectives of the programme

The main aim of the programme is to ensure that it will contribute positively to achieve sustainable development on both countries, a high level of environmental protection, social and economic development according to the provisions of Green Deal and the Sustainable Development Goals (SDGs) of UN's 2030 Agenda for Sustainable Development. The new programme supports the objectives and priorities of both countries, Greece and Republic of North Macedonia, with particular regard to the transition to a green and circular economy with low carbon emissions, with innovative initiatives for the entrepreneurship and sustainable development of the eligible area.

The Programme's overall objective is to enhance territorial cohesion by improving living standards and employment opportunities holding respect to the environment and by using the natural resources for upgrading of the tourism product.

1.3 Description of the Programme

In order to achieve the objectives, the programme has chosen to intervene in four Priorities, with three Policy Objectives (PO) and one Interreg Specific Objective (ISO):

PO2: A greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management

PO3: A more connected Europe by enhancing mobility and regional ICT connectivity

PO4: A more social Europe implementing the European Pillar of Social Rights

ISO1: A better cooperation governance

For each policy objective, one or more Specific Objectives (SO) are selected that best approach the achievement of the stated objective and are based on the needs and the potentials of the eligible area. The Priorities, the Policy Objectives and the Specific Objectives are shown in a tabular form on the following Table 1.1.

Table 1-1: INTERREG programme Greece- Republic of North Macedonia

Priority 1: Transition to a low carbon economy		**Priority 2: Strategic focus on Prespas area**	**Priority 3: Support and upgrade of Health and Social Services**		**Priority 4: Improving governance for cooperation**
PO2: A greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management		**PO3: A more connected Europe by enhancing mobility and regional ICT connectivity**	**PO4: A more social Europe implementing the European Pillar of Social Rights**		**ISO1: A better cooperation governance**
SO 1.6: Promoting the transition to a circular and resource	SO 1.7: Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution	SO 2.2: Developing and enhancing sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility	SO 3.5: Ensuring equal access to health care and fostering resilience of health systems, including primary care, and promoting the transition from institutional to family-based and community- based care	SO 3.6: Enhancing the role of culture and sustainable tourism in economic development, social inclusion and social innovation	(vi): Other actions to support better cooperation governance

Overall, the **expected results** of the programme are (non-exhaustive list):

- Fostering integrated circular economy policies
- Building up circular value added chains and development of resource efficient solutions and technologies
- Increasing resource efficiency and waste recycling across all sectors
- Establishing and bracing circular economy skills in the private and public sector
- Inspiring behavioural changes and give rise to the generation of new life and business models
- Enhancing the area with functional links
- With a focus on public transport, to promote better links of rural and peripheral areas to the main transport corridors and nodes
- Fostering the tendency towards greener solutions
- Upgrading transport across borders and decreasing bottlenecks and barriers, especially in regional areas
- Creating and strengthening mobility in rural areas in order to further territorial cohesion and social inclusion
- Enhancing logistic chains in areas of periphery
- Decrease water, air and soil pollution
- Maintaining and enhancing eco-systems services for the benefit of the population
- Preventing biodiversity loss and ensuring ecological connectivity
- Lengthening green infrastructure that connects habitats and strengthen their recreational potential
- Protecting natural resources and supporting their sustainable use
- Reducing legal and administrative barriers to cooperation
- Promoting place-based, integrated policy making, addressing complex societal challenges
- Assisting high-quality public services of general interest
- Promoting digital governance and better digital public services
- Strengthening multi-level governance
- Enhancing the operational capacity of implementing entities and organizations, especially those of the civil society
- Assisting the accession process of the Republic of North Macedonia to the European Union.

1.4 Alternatives

Realistic alternatives are presented and evaluated, regarding their effects on the environment and sustainable development.

The selection of the suggested alternative is being done based on the environmental, economic and social criteria towards the Sustainable Development principles direction. The justification of the selection in being presented in chapter 5 of the present report. In accordance with the SEA Directive 2001/42/EC, the alternatives should be realistic, i.e they should be feasible and eligible based on the specific data and regulations of the programme framework.

The alternatives that are presented are:

- Zero alternative or "do nothing scenario", in which the non- implementation of the programme is being examined consisting the zero scenario
- Suggested alternative, which best integrates the requirements consisting the proposed solution.

1.5 Description of the current state of the environment

The Interreg IPA CBC Programme 'Greece - Republic of North Macedonia 2021-2027' capitalises on the experience of the current IPA Programme between Greece and the Republic of North Macedonia. It promotes further integration for the cross border region, as a structured tool to strengthen cooperation through thematic focus, allowing capitalization of experiences and results achieved so far.

The Programme extends to an eligible area of 29,259 km^2 (14,422 km^2 in Greece and 14,837 km^2 in the Republic of North Macedonia) and has a total population of 2.4 million inhabitants.

In the Republic of North Macedonia eligible area, urban centers, tend to be larger than in Greece. The major urban centers of the cross-border region are Thessaloniki, Serres, Bitola, Prilep, Strumica, Veles and Ohrid, while other worth mentioning towns, in terms of population, are Giannitsa, Edesssa, Gevgelija and Kavadarci.

One of the major challenges of the cross-border region which continue up to date are the high unemployment rates, both on total active population and on youth, while young and specialized staff tend to migrate out of the eligible area (brain-drain). However, the area is characterized by highly educated youth, as many, large and high-level academic institutions with many specialties are located in the eligible area.

In terms of biodiversity the eligible area combines a great range of habitat niches and a spectacular flora and fauna. Apart from protected areas primarily related to wetlands, forests and mountains, there are many valuable and sensitive ecosystems located throughout the region which are critical water recipients.

Republic of North Macedonia is at the top list of the countries in Europe, with impressive biodiversity. Several ecosystems are present such as wetlands, shore and grasslands, highlands, steppe-like, forests and mountains with more than 260 flora communities recorded.

The number of the NATURA 2000 areas in Greece, has now reached 446, having 239 Special Areas of Conservation (SACs), 181 Special Protected Areas (SPA) for birds and the rest 26 areas as both characterizations, according to EU Directive 79/409 as applicable. In the eligible area, on the Greek side, there are 43 sites of the Natura 2000, four National Parks and four wetlands of international importance, according Ramsar convention.

In the Republic of North Macedonia, the protected areas occupy around 12.48%[1] of the National territory, with the majority of them to be National parks followed by monuments of nature and multi-purpose areas. The number of protected areas in the Republic of North Macedonia is 86, according the Law on Nature Protection[2].
By World Conservation Union (IUCN) category, the Republic's protected areas are divided to six categories; Category I: Strictly Protected Natural Reserves, Category II: National Parks, Category III: Natural Monuments, Category IV: Nature Parks, Category V: Protected Landscape and Category VI: Multipurpose Areas.

As for the environmental infrastructure, in Greece, 96%[3] of sewage is treated in line with EU legislation; urban wastewater is treated in 232 plants across the country before it is discharged. In the eligible area are found 32 biological treatment plants; most of them treating waste with nitrogen and/or phosphorus removal.

The Republic of North Macedonia lags behind in sanitation and water-supply infrastructure. Taking into consideration all existing treatment plants, the total rate of population served by waste water treatment is estimated at approximately only 12,5%.

The recent economic crisis hit hard both countries, with Greece having a massive decrease of its GDP, unemployment rose to extremely high levels and subsequently brought poverty and social exclusion for a large number of inhabitants. Moreover, gender inequality, lifelong learning and recycle are targets far behind the national targets. However, after 2016, economy started to rebalance, but a higher effort is needed in order to reach the targets that lead to sustainable growth according to UN Sustainable Development Goals and EU27 targets.

1.6 Assessment, Evaluation and Management of the environmental impacts of the programme

The evaluation of the effects is based on the environmental parameters that are suggested through the Directive 2001/42/EC of the European Parliament as adapted by the JMD 107017/2006 of Greek Legislation, on the assessment of the effects of certain plans and programmes on the environment. Through this examination, which is presented analytically in chapter 7 of the present, all possible effects that may arise during the programme's implementation, are detected, estimated and evaluated. A correct selection of these parameters is vital in order for the Strategic Environmental Assessment to be substantial.

[1] https://www.protectedplanet.net/country/MKD

[2] https://www.moepp.gov.mk/?page_id=3413&lang=en

[3] https://water.europa.eu/freshwater/countries/uwwt/greece

The parameters that have been selected are the following:

1. Biodiversity
2. Population- Human health
3. Soil
4. Water
5. Air, Climate and climate change
6. Infrastructure
7. Cultural Heritage
8. Landscape
9. Noise
10. Sustainable development
11. Interrelationship

The evaluation of the environmental impacts is made according the methodology of guiding questions. According to this methodology, a network of evaluating questions is being formed, taking under consideration the environmental aims of the study, in order to determine all the possible environmental impacts for each environmental parameter. The questions are formed in a way to get a yes or no answer.

The environmental impacts on each parameter will be examined per Priority and Policy Objective (PO) using some selected criteria such as the probability, the scale, the duration, the reversibility, the cross-border dimension, the sequence of an impact and the interaction.

The assessment and evaluation of the effects of the proposed actions resulted in the following:

- The majority of the actions of the Programme will have a positive impact on the state of the environment both locally-regionally and (where possible) in a cross-border level.
- A significant part of the actions cover the financing needs of joint actions for achieving objectives of regional, national and European policy on the Environment and Sustainable Development.
- The positive effects concern both the artificial, and the natural environment, in particular the sustainable spatial development, the improvement of living conditions and environmental characteristics in urban centers, the water management, the management of protected areas, the achievement of climate change objectives and the promotion of blue and green growth.
- The integration of environmental dimension into the activities design is included in all the objectives of the programme and is not strictly limited to the measures (specific objectives) that are exclusively associated with protection.
- Any negative impacts, resulting from the project, are evaluated as local and of low impact.

All negative impacts are associated with the construction phase of projects included in the programme area and have a short-term character. Overall, for all negative impacts of the programme there are appropriate measures for preventing or reducing their extent and intensity are proposed.

Based on the above-mentioned, it is estimated that the implementation of the programme will create a strong positive synergy with the objectives of environmental policy. In order, however, the degree of this synergy to be maximized and in order to avoid the identified negative impacts, some measures are taken to prevent and control the environmental effects as analytically described in chapter 8 of the present report.

1.7 The "Do no significant harm (DNSH)" principle

The Programme has been evaluated according to the **"Do no significant harm (DNSH)" principle**.

According to the **Taxonomy regulation,** "*The Funds should support activities that would respect the climate and environmental standards and priorities of the Union and would do no significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) No 2020/852* ".

The evaluation of the programme following the "Do no significant harm" principle, is presented in detail in chapter 7.3 of the present report.

In order to implement the DNSH principle, the following environmental objectives have been examined, as defined in Article 17 of the Taxonomy Regulation 2020/852 (EU).

1. Climate change mitigation
2. Climate change adaptation
3. Sustainable use and protection of water and marine resources
4. Circular economy
5. Pollution prevention and control
6. Protection and restoration of biodiversity and ecosystems

According to the above mentioned examination, the Programme:

- The Programme is not expected to lead in significant GHG emissions and as a result it will not affect the climate change mitigation.
- The Programme is not expected to lead to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature and assets. As a result it will not act negatively to the climate change adaptation.
- The Programme is not going to be detrimental to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters. Consequently, it will not affect the sustainable use and protection of water and marine ecosystems.

- The Programme is not expected to lead to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources. In this way, it will not act against the principles of circular economy.
- The Programme does not significantly increase the generation, incineration or disposal of waste and the long-term disposal of waste does not cause significant and long-term environmental harm. The programme will not act against waste prevention and recycling.
- The Programme is not expected to lead to a significant increase in emissions of pollutants into air, water or land. Consequently, it will not act against the pollution prevention and control of the aforementioned environmental parameters.
- The Programme is not going to be significantly detrimental to the good condition and resilience of ecosystems, or detrimental to the conservation status of habitats and species, including those of Union interest. As a result, it will not act against the protection and restoration of biodiversity and ecosystems.

Consequently, the programme has been designed in order not to harm any of the above aforementioned environmental objectives; it is in line with the "do no significant harm" principle.

1.8 Mitigation measures

The prevention, reduction and mitigation of environmental impacts of the programme is realized through two main mechanisms: a) the environmental permitting of projects and activities as it is in force and b) the creation of special provisions and / or conditions that willbe applied in the implementation of the programme and will be integrated in the management processes (projects approvals etc).

a) Environmental permitting of projects and activities.

The impacts of each project are controlled by the environmental permitting process as it is in force in Europe acquis and is specialized on the implementation procedures of the institutional framework of the two countries. The approval of a project in the programme does not modify its requirements according to the Environmental Permitting, under which occur the specific terms and conditions of the execution. In relation to the main activities, through the relevant Environmental Impact Reports should be (not exclusively) referred the following issues:

- Compliance with the specific emission limit values of pollutant loads and concentrations for air, water and soil in accordance with the applicable provisions.
- The specific limit values of noise.
- Compliance with national or regional planning for the environment, such as waste management plan, the basin management plans of the WFD, etc.
- The suitability of locating in accordance with the approved land use plans and building restrictions.

- Taking into account all the necessary measures that are provided by the legislationin relation to the prevention and reduction of pollution of protected areas, sea and forest.
- Projects that are located in areas included in the Natura2000 network (as SCI or SPA), will have to comply with Article 6.3 of Habitats Directive 92/43/EEC, that is: *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect on it, either individually or together with other projects, it is should be estimated regarding its impacts on the site by taking into account its conservation objectives''*.

b) Specific measures in order to protect the environment.

- Proposals that finance enterprises (innovation - entrepreneurship - competitiveness) and that include (in addition to the mandatory rules of the environmental law) investment in "green infrastructure and technologies", bioclimatic principles and/or promote the reduction and reuse of materials (according to the principles of circular economy and the hierarchy of waste management), would be highly desirable to be primed during the project selection process.
- In the process of specifying and selecting clusters, it should be considered to include enterprises that manage products or waste that are produced throughout the value chain.
- The actions of tourism development or enhancement of natural resources within Natura 2000 areas should be consistent with the management plans of the areas. In cases, where the projects are listed in areas with Management Agency, its opinion is necessary. In any case, it should be documented that the increase of visiting the protected ecosystems for tourism or other purposes does not have impact on the conservation status.
- Appropriate measures should be taken for technical projects that are implemented within the coastal marine area and may cause either a water quality pollution or a disruption of benthic substrate. Such measures should prevent and reduce the potential pollution of waters and the sediment.

More specifically, the aforementioned mitigation measures should address all the environmental parameters that might be affected by the projects of the Programme, according to the assessment of the environmental effects. The proposed measures are selected and presented in a tabular form for each environmental parameter in chapter 8 of the present.

1.9 Monitoring System

According to Article 10 of Directive 2001/42/EC, the monitoring system of the significant environmental effects of the implementation of the Programme is necessary, in order to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.

The present Report is a first attempt to identify the impact of a programme that has not yet been fully completed. The actions and the types of interventions that have been examined largely determine the nature of the expected impact, but may provide few opportunities for their intensity and therefore their acceptance or not. Thus, due to lack of specific data resulting from the gradual implementation and specialization of the programme, the Report primarily identifies in theory the impacts of the programme. The Report has so far identified the negative impacts and has proposed measures to minimize them (chapter 8.2 of the present).The monitoring system, therefore, should initially validate or correct the theoretical results of the assessment of Report compared with actual environmental impacts resulting from the implementation, and secondly should assess whether the proposed measures have been effectively implemented.

The proposed Monitoring System includes all the relevant environmental indicators per environmental parameter (e.g. biodiversity, air quality and climate change, soil, water, landscape and culture, etc.) and identifies the authorities that carry out the monitoring as well as the frequency of monitoring.

Finally, throughout the monitoring system the identification of the environmental footprint of the programme is achieved; for instance, actions promoting the reduction of GHGs emissions would reduce the carbon footprint of the programme.

2 GENERAL INFORMATION

2.1 The subject of SEA

According to the contract, the subject of the SEA, that is prepared in the context of the project entitled: **"Report for the Strategic Environmental Assessment of INTERREG IPA III Cross Border Cooperation Programme Greece – Republic of North Macedonia 2021-2027",** is the Strategic Environmental Assessment (SEA) of the new Interreg Programme "Greece – Republic of North Macedonia 2021-2027".

This SEA estimates the potential environmental impacts from the programme as it is described in deliverable 1, (as being delivered in 13.10.2021) of the Cooperation Programme that will be submitted to the members of the Programming Committee for further comments, prior to the final submission to the EC. That deliverable presents the final version of the Cooperation Programme, which includes all the chapters of the Cooperation Programme taking into consideration the results of the Public Consultations as well as the decisions taken by the Programming Committee and other processes.

The main deliverable of the SEA consists of an Environmental Report according to Directive 2001/42/EC, as it is adopted by the Greek Legislation, specifically the Joint Ministerial Decree JMD 107017/2006.
The final SEA report will incorporate the answers by the authors of the SEA and relevant documentation needed on the issues and opinions raised during the public consultation by environmental and other relevant services and interested public as defined in Directive 2001/42/EC.

2.2 The contracting authority

According to JMD (Joint Ministerial Decision) 107017/28.8.2006 (GG 1225/B/5-9-2006), Article 2 a "Planning Authority" is the authority responsible for the preparation of the Programme (Managing Authority of European Territorial Cooperation Programmes") and the "Competent Authority" is the Ministry of Environment, Energy and Climate Change (presently called M.E.E.N).
The Contracting authority of the programme is the Managing Authority of European Territorial Cooperation Programmes, Hellenic Ministry of Environment and Energy.
During the consultation process of the Strategic Environmental Impact Assessment (SEA), specific provisions should be taken into consideration following strictly JMD (Joint Ministerial Decision) 107017/28.8.2006 (GG 1225/B/5-9-2006), Article 8-Crossborder Consultation.
The Managing Authority of European Territorial Cooperation Programmes, manages and monitors INTERREG Programmes. Programme's aim is to address common cross-border and transnational challenges, support synergies through joint partnerships and establish strong partnerships with a view to balanced economic, social and special development at European level.

2.3 The contracting entities

The contracting entities of this SEA is the following:

- the Managing Authority of European Territorial Cooperation Programmes on behalf of Hellenic Ministry of Development and Investments, which assigned the SEA
- EEO group independent consultancy which undertakes the assignment from the aforementioned authority and is carrying out the SEA of the proposed Programme.

2.3.1 Project Team

For the preparation of this deliverable, the project team consisted of the following scientists:

	Name	Qualifications	Role in the project
1	Ioannis Frantzis	Environmental Engineer, MSc	General Coordinator
2	Dimitrios Argyropoulos	Civil Engineer, Sanitary Engineer	Coordinator of the SEA team
3	Lazaros Ntoanidis	Environmental Engineer, MSc	Member of the SEA team
4	Ioanna Eleftheriou	Environmentalist, MSc	Member of the SEA team
5	Martsela Katsanevaki	Environmental Engineer	Member of the SEA team
6	Rebecca Batmanoglou	Chemist	Member of the SEA team
7	Konstantinos Pachygiannakis	Electrical Engineer, MSc	Member of the SEA team
8	Amani-Christiana Saint	Chemical Engineer, MSc, PhD	Member of the SEA team
9	Socrates Tsigardas	Environmental Engineer, MSc	Member of the SEA team
10	Angelos Tsakonas	Project Manager	Communications Support of the SEA team

3 AIMS AND OBJECTIVES OF THE PROGRAMME

In this Chapter, the aims of the programme and its wider objectives will be examined, as well as their connection and compatibility with the institutional framework and environmental objectives followed by the European countries. Finally, the relationship with other relevant programmes is going to be included. The following issues will be analyzed, amongst others:

3.1 Aims and objectives of the INTERREG IPA III Cross Border Cooperation Programme Greece-Republic of North Macedonia 2021-2027

The Interreg IPA III CBC Programme 'Greece - Republic of North Macedonia 2021-2027' expands between the two Member States of Greece and Republic of North Macedonia. It is builded on the experience of the current IPA II CBC Programme Greece - Republic of North Macedonia 2014-2020 and promotes further integration for the cross border region, as a structured tool to strengthen cooperation through thematic focus, allowing capitalization of experiences and results achieved so far.

The Programme's overall objective is to enhance territorial cohesion by improving living standards and employment opportunities holding respect to the environment and by using the natural resources for upgrading of the tourism product.

In order to increase the impact of the Programme, emphasis is put on the capitalisation of project outputs and results, both from the current programming period as well as the previous one.

Cross-border cooperation is encouraged in order to build the resilience of the participating regions regarding the common challenges being among others economic transition, climate change, and digitisation. At the same time, cooperation will enable the regions to eliminate their economic and social disparities identified by the territorial analysis.

To achieve the objectives, the programme has chosen to intervene in four Priorities:

Priority 1: Transition to a low carbon economy

Priority 2: Strategic focus on Prespas area

Priority 3: Support and upgrade of Health and Social Services

Priority 4: Improving governance for cooperation

Each priority consists of specific objectives as it will be analysed in chapter 4.

The aim of the review of the environmental objectives of other policies, strategies and plans in the context of SEA is to ensure that the requirements, commitments and obligations arising from them, have been considered and taken into account in planning process. In addition, its aim is to understand how the Cooperation Programme is included in the framework for implementation of policies to protect the

environment and if it sufficiently contributes to the achievement of environmental protection objectives. In addition, this review aims to identify the SEA Environmental Objectives on which the identification of areas and thematics will be based in order to evaluate the impact of the programme, as it will be analyzed in Chapter 7.

3.2 Institutional framework and environmental objectives

It should be noted that different norms and legislation of harmonization with European environmental protection strategies apply on each side of the border. In order to establish a common ground for assessment, references on EU level will be used. The examined strategies correspond to the following key environmental issues: biodiversity (fauna and flora), human health and population, soil, water, air and climatic factors, as listed in point (f) of Annex I of Directive 2001/42/EC and presented in the chapter 6 of the present.

The policies that must be taken into account and contain objectives related to the programme are presented in the following table, categorized by the issue.

Table 3-1: Institutional framework categorized by issue

Field	Title of Plan, programme and policy
Sustainable Development	The Agenda 2030 of UN and the 17 Sustainable Development Goals (SDGs)
	The EU Green Deal ("*Transforming the EU's economy for a sustainable future*")
Biodiversity	UN Conventions on Biological Diversity and its protocols
	EU Biodiversity Strategy for 2030 COM (2020) 280 final
	• *Directive 92/43/EEC on the conservation of natural habitats and wild flora and fauna*
	• *Directive 2009/147/EC on the conservation of wild birds*
	• *PAF's 2014-2020 – Prioritised Action Frameworks for NATURA 2000 (per MS)*
Climate Change Mitigation and Adaptation/ Energy	United Nations Framework Convention on Climate Change – adaptation to climate change
	The Paris Agreement
	The Energy Roadmap 2050 (White Paper)
	Climate Target Plan, COM (2020) 562 final

	European Climate Law /Regulation (EU) 2021/1119
	EU Strategy on Adaptation to Climate Change, COM(2021)82 final
	National Energy and Climate Plan
	National Strategy for adaptation to Climate Change
	Just Transition Development Law (Law 4872/2021)
	National Climate Law (under preparation, the consultation has been completed in 24/12/21)
	National Legislation (eg for RES)
	• *Directive 2012/27/EU on Energy Efficiency* • *Directive 2009/28/EC on the promotion of the use of energy from renewable sources - National Action Plan for Renewable Energy*
Protection-Management of Marine and Coastal Zone	Maritime Strategy Framework Directive (MSFD) 2008/56 / EC
	• *Maritime Strategy for the Adriatic and Ionian Seas (COM(2012) 713*
	Integrated Coastal Zone Management (ICZM)
	Protocol on Integrated Coastal Zone Management in the Mediterranean (2008).
Territorial and urban development	Leipzig Charter on Sustainable Urban Development
Water	Water Framework Directive (WFD) 2000/60/EC
	Directive 2007/60/EC on the assessment and management of flood risks
Air Pollution-Noise	Directive 2008/50/EC on ambient air quality and cleaner air for Europe
	Directive 2002/49/EC relating on the assessment and management of environmental noise
Soil	Commission Communication entitled “Thematic Strategy for Soil Protection” (COM (2006) 231).
Circular Economy/ Waste	Directive 2008/98/EC on waste management (N. 4072/12)
	EU action plan for the Circular Economy, COM(2020)98 final
	National Action Plan for Circular Economy
	National legislation (eg Law 4042/2012, etc)

	National Waste Management Plan (in preparation)
	National Waste Prevention Plan
Cultural heritage and landscape	European Landscape Convention (2004)

3.3 Relationship with other programmes

The achievement of effective and positive synergies, is feasible by continuing to maintain the thematic and spatial links between the various interventions. Securing and maintaining the benefits resulting from the current implementation of programmes and projects in the Programme area is possible only if the complementarity of interventions will be sustained in the future. This will assist in remaining in the positive direction of long-term socio-economic, spatial, environmental and other changes.

The impact of transnational cooperation depends on the extent to which Interreg project results can be transferred to and scaled up by other, financially bigger European or national initiatives. Therefore, coordinating and cooperating with other funding instruments creates opportunities to capitalise on project results, and consequently to multiply their territorial impact.

Interreg CBC aims to make use of potential synergies and complementarities with:

a) other Interreg programmes;
b) Regional and National Cohesion Policy programmes e.g. (Sectoral Programmes, Regional Programmes);
c) IPA funds from the Delegation of EU, earmarked for the Programme area (side of the Republic of North Macedonia);
d) other (i.e. programmes related to the European Green Deal.

3.3.1 Macro – regional strategies and sea-basin strategies

Macro-regional strategies have become an integral part of EU regional policy. The partner countries, together with Albania, participate in the European Strategy for the Adriatic and Ionian Region (EUSAIR.) The respective IPA Programmes are expected to contribute to the EUSAIR.

Macro-Regional Strategies such as the EUSAIR constitute an integrated framework endorsed by the European Council. Macro-regional Strategies have a common vision and a shared mission to address common challenges and promote the prosperity of the regions involved in the Strategy that represent a defined geographical area relating to Member States and third countries located in the same geographical area. The participating countries benefit from strengthened cooperation, creation of a common brand name and joint activities that contribute to the achievement of economic, social and territorial cohesion.

The 2021-2027 Interreg programmes should be ready –where relevant- to support actions arising from the macro-regional strategies, provided that these actions also contribute to the specific objectives of the programme area. The coordination between programmes and macro-regional strategies can ensure bigger territorial impact and better visibility. This, however, requires a good and proactive coordination. In order to promote macro-regional strategies the programme may consider one of these mechanisms: specific selection criteria (ex. bonus points if the project contributes to a macro-regional strategy); earmarking of a budget, or specific calls.

EU Strategy for the Adriatic and Ionian Region (EUSAIR)

The EU Strategy for the Adriatic and Ionian Region (EUSAIR) is a macro-regional strategy adopted by the European Commission and endorsed by the European Council in 2014. The Strategy was jointly developed by the Commission and the Adriatic-Ionian Region countries and stakeholders, which agreed to work together on the areas of common interest for the benefit of each country and the whole region.

The EUSAIR covers ten countries: four EU Member States (Croatia, Greece, Italy, Slovenia) and five non-EU countries (Albania, Bosnia and Herzegovina, Montenegro, Republic of North Macedonia, Serbia). The Izola Declaration in May 2021, adopted a new tenth member, the Republic of San Marino.

The general objective of the EUSAIR is to promote economic and social prosperity and growth in the region by improving its attractiveness, competitiveness and connectivity, while safeguarding the environmental protection of common sea and the hinterland areas of the participating countries. With four EU members and six non EU countries the strategy will contribute to the further integration of the Western Balkans.

The participating countries of the EUSAIR agreed on areas of mutual interest with high relevance for the Adriatic-Ionian countries, being it common challenges or opportunities. The countries are aiming to create synergies and foster coordination among all territories in the Adriatic-Ionian Region in the four thematic areas pillars:

1. BLUE GROWTH
   - To promote research, innovation and business opportunities in blue economy sectors, by facilitating the brain circulation between research and business communities and increasing their networking and clustering capacity.
   - To adapt to sustainable seafood production and consumption, by developing common standards and approaches for strengthening these two sectors and providing a level playing field in the macro-region.
   - To improve sea basin governance, by enhancing administrative and institutional capacities in the area of maritime governance and services.
2. CONNECTING THE REGION
   - To strengthen maritime safety and security and develop a competitive regional intermodal port system.
   - To develop reliable transport networks and intermodal connections with the hinterland, both for freight and passengers.

- To achieve a well-interconnected and well-functioning internal energy market supporting the three energy policy objectives of the EU – competitiveness, security of supply and sustainability.

3. ENVIRONMENTAL QUALITY

   - To ensure a good environmental and ecological status of the marine and coastal environment by 2020 in line with the relevant EU acquis and the ecosystem approach of the Barcelona Convention.
   - To contribute to the goal of the EU Biodiversity Strategy to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them in so far as feasible, by addressing threats to marine and terrestrial biodiversity.
   - To improve waste management by reducing waste flows to the sea and to reduce nutrient flows and other pollutants to the rivers and the sea.

4. SUSTAINABLE TOURISM

   - Diversification of the macro-region's tourism products and services along with tackling seasonality of inland, coastal and maritime tourism demand.
   - Improving the quality and innovation of tourism offer and enhancing the sustainable and responsible tourism capacities of the tourism actors across the macro-region.

4 DESCRIPTION OF THE PROGRAMME

This chapter contains the description of the programme with a particular reference to:

a) Its geographical scope
b) Its contents
c) The projects and activities that may arise from its implementation.

4.1 Map of the Programme Area

The Interreg IPA III CBC Programme 'Greece - Republic of North Macedonia 2021-2027' expands between Greece and Republic of North Macedonia. It is builded on the experience of the current IPA II CBC Programme Greece - Republic of North Macedonia 2014-2020 and promotes further integration for the cross border region, as a structured tool to strengthen cooperation through thematic focus, allowing capitalization of experiences and results achieved so far.

The Programme's overall objective is to enhance territorial cohesion by improving living standards and employment opportunities holding respect to the environment and by using the natural resources for upgrading of the tourism product. The Programme area extends to 29,259 km^2 (14,422 km^2 in Greece and 14,837 km^2 in the Republic of North Macedonia) and has a total population of 2.4 million inhabitants; with 1.7 million located in Greece and 0.7 million in the Republic of North Macedonia. The demographic trend in the region indicates a continuous decline over recent years with both natural ageing and net emigration taking their toll.

Figure 4-1 Map of the Programme Area

The cross border area is covering six (6) territorial units at NUTS II level (Regions), and ten (10) territorial units at NUTS III level (Districts), as follows:

Greece

- Region of Central Macedonia : EL122 Thessaloniki, EL123 Kilkis, EL124 Pella and EL126 Serres and
- Region of Western Macedonia: EL134 Florina and Kozani

Republic of North Macedonia

- Regions of Republic of North Macedonia: MK001 Vardar, MK003 Southwest, MK004 Southeast, MK005 Pelagonia

Kozani is the administrative center of the Western Macedonia region. The addition of this unit in the eligible area is expected to benefit the Programme and the citizens as even more beneficiaries will be able to participate contributing with their experience. In addition, the funds of the Programme will be allocated in a more proportionate way among the 2 Greek regions. The regional unit of Kozani shares the same problems and issues with the eligible areas and will be significantly benefited.

Although there are no borders between Kozani and The Republic of North Macedonia, the Regional Units is considered to be in the border. The expansion of the eligible area is linked with the available funds for the new Programme in next period.

4.2 Programme Strategy

In the frame of the policy orientations of the new Cohesion Policy, the analysis indicates the persisting challenges that the Programme area faces in several areas (economic, environmental and social) that further hinder its potential for smart economic transformation, green transition (including carbon footprint, circularity, biodiversity preservation) and social inclusion also due to high level of unemployment and the pandemic.

Circular and competitive economy consists a factor of great importance, according the EU Circular Economy Action Plan and the EU Green Deal. The concept of circular economy has a high potential for reducing environmental pressure and offers job opportunities and new green business, thus bringing socio-economic benefits. The importance of sustaining strong sectors like tourism and culture is likewise pertinent, also in the frame of ensuring an inclusive and more social GR-MK area.

Cross-border cooperation is encouraged in order to build the resilience of the participating regions regarding the common challenges being among others national, regional and local mobility, climate change, and social services. At the same time, cooperation will enable the regions to eliminate their economic and social disparities identified by the territorial analysis.

Against this background, the Programme envisages enhanced cooperation in the GR-MK area in order to become:

- more flexible and smarter, developing intelligent and intermodal mobility in national and regional level as well as cross-border mobility;
- a greener and low carbon area, including circular economy, clean and fair energy transition, focusing on climate adaptation;
- more social and inclusive, including better employment conditions, reinforced health services and reinforced tourism and culture sectors.

4.3 Priorities

The Policy Objectives, the Interreg Specific Objectives, corresponding Priorities, Specific Objectives and the forms of support is presented in the Final Version of the Cooperation Programme. The main issues of the above will be presented in SEA deliverable 2.

In general, the programme, in order to achieve the above objectives, has chosen to intervene in four Priorities, each one including Specific objectives (SO) for each Priority:

4.3.1 Priority 1: Transition to a low carbon economy

SO 1.6: Promoting the transition to a circular and resource

The transition to a circular economy through the increasing resource efficiency, preventing waste generation and the use of waste as a resource, may be a key challenge for the eligible CBC area. It will ensure positive impacts not only on the environmental sustainability and carbon-neutrality but it is also a decisive action for the competitiveness of national and regional economies.

The circular economy still at a primary development stage in the programme area. This shows the clear need for more efforts in order to reach the relevant European targets (e.g. 65% recycling rate by 2035).

According to the “Green Deal” strategy which aims to transform the EU into a competitive economy, where economic growth is decoupled from resource use. Western Macedonia is a region with a greatest dependence on fossil fuels. The Greek government has set a goal of withdrawing all lignite plants by 2028, with the majority of units - representing over 80% of current installed capacity - being withdrawn by 2023. Throughout the decarbonization effort, a central priority is to ensure a fair development transition of the lignite areas of Western Macedonia, which is based on three pillars: employment protection, compensation of the socio-economic impact of the transition and energy self-sufficiency of lignite areas and the country at large.

Greece has a comprehensive strategic plan and a mixture of interventions and measures of economic diversification in areas such as clean energy, industry, technology, education, agriculture, tourism etc.

The Republic of North Macedonia has prepared a Strategy for Energy Development according to the requirements of the new Energy Law, which was adopted end of May 2018 and will be implemented until 2040.

SO 1.7: Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution

The protected natural sites, the rich natural heritage and biodiversity in the CBC area represent important resources and the significance of this area. The ecologically clean environment in the mountainous settlements, the unique biodiversity, the avorable Mediterranean and continental climate, with available large percentage of an area for an agricultural activity, the numerous sunny days, the natural resources – bio mass, water, sun and wind, offer perfect conditions for eco-tourism, and for renewable energy sources as well. The CBC area covers significant eco-systems and ecological corridors, which are stretching across borders.

Moreover, there is witnessed a perceptible loss of biodiversity due to climate change, land use changes and extraction of natural resources. Unsustainable economic activities lead to pollutions of air, water and soil, which is especially high in the industrial parts of the area. This ushers to a worsening of the ecosystem conditions, which will reduce their ability to offer esential eco-system services.

4.3.2 Priority 2: Strategic focus on Prespas area

SO 2.2: Developing and enhancing sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility

For the eligible Programme area, it is a crucial challenge the warranty of a better accessibility and connectivity of its regional and cross-border areas. The connection of the rural areas with the nodes of the TEN-T core network corridors (CNC), is a clear need, as it may remove bottlenecks and bridge missing transport links. This comes in line with the Territorial Agenda 2030 goals of a Just and Green Europe in terms of a balanced territorial development and sustainable connectivity of territories.

4.3.3 Priority 3: Support and upgrade of Health and Social Services

SO 3.5: Ensuring equal access to health care and fostering resilience of health systems, including primary care, and promoting the transition from institutional to family-based and community- based care

In terms of health care, one of the crucial challenges of the Programme is the lack of medical personnel and the establishment of measures for the Coronavirus treatment. Additionally, health care should be part of an integrated system ensuring coordinated care and preventing unnecessary expenditure. An important aspect that should be improved is the mitigation of the emergency care based on a finer planned health system.

Unpredictable circumstances and economic issues which are occurred due to the conditions caused by the pandemic (COVID 19) pay particular attention to the new challenges.

This is a problem, which has impacts across national borders. Consequently, cooperation is advisable to reduce the impact of the threat on the population living in border areas. At the same time, once established cooperation pays off in future similar occurrences.

SO 3.6: Enhancing the role of culture and sustainable tourism in economic development, social inclusion and social innovation

The multiculturalism of the area, the existence of folk traditions, folk crafts and material resources of historical and cultural heritage and unique natural values are great potential, which should be supported to increase the importance of the tourism sector in the CBC area. Border areas of Repuclic of North Macedonia and Greece are constitute an environmentally and culturally coherent area, and, at the same time, they are an important tourist potential. Actions taken in this direction may be also helpful in addressing the challenges such as the disappearance of cultural objects as a result of the lack of their financing.

Due to the significant impact ongoing pandemic COVID-19 (which may turn out to be long-lasting) on the tourism industry and the limitations in the possibility of conducting tourism activities, as well as the decline in demand for tourist services, particular attention should be paid to the directions of development of such projects in the support area. It is proposed to take measures to support entrepreneurs in order to help them find their way in the new reality of tourism.

The free movement of workers, one of the fundamental rights enjoyed by European citizens, has facilitated intra-EU labour mobility. However, in some regions ('sending regions') this freedom has led to a significant out-migration of their highly educated workforce to the advantage of other regions ('receiving regions'). This is determined by the growing competition for talent and the limited capacity of sending regions to create attractive conditions for these workers. Local and regional authorities (LRAs) in sending regions have to cope directly with the socio-economic effects caused by the significant loss of talent or brain drain. Addressing these effects may require the formulation of appropriate policies and/or measures to retain, attract, or regain a highly educated workforce.

Investing in human capital would help promote economic growth through innovation in the cross-border region of Greece and the Republic of North Macedonia. In practice, jobs will be created, either in existing businesses or as self-employment. This could be achieved by creating networking opportunities and synergies between academia and the business community. Businesses will benefit from the knowledge and innovation capability released by academic institutions, while young scientists will benefit from upgrading their skills and competencies. This in turn will maximize their ability to enter the local labor market, thus avoiding migration elsewhere.

4.3.4 Priority 4: Improving governance for cooperation

ISO 1: A better cooperation governance

Merged, integrated policies and multi-level governance processes are significant for enhancing regional development and cohesion across borders. This comes in line with the Territorial Agenda 2030.

This is in specific due for compounded territorial challenges such as, digitisation, health or common crises, which affect the eligible region in similar ways. They are best addressed by integrated and cross-sectoral approaches and require the provision of and equal access to public services.

4.4 Expected results

The transnational cooperation on the CBC area offers significant benefits in addressing, among others, the following specific needs:

- Fostering integrated circular economy policies
- Building up circular value added chains and development of resource efficient solutions and technologies
- Increasing resource efficiency and waste recycling across all sectors
- Establishing and bracing circular economy skills in the private and public sector
- Inspiring behavioural changes and give rise to the generation of new life and business models
- Enhancing the area with functional links
- With a focus on public transport, to promote better links of rural and peripheral areas to the main transport corridors and nodes
- Fostering the tendency towards greener solutions
- Upgrading transport across borders and decreasing bottlenecks and barriers, especially in regional areas
- Creating and strengthening mobility in rural areas in order to further territorial cohesion and social inclusion
- Enhancing logistic chains in areas of periphery
- Decrease water, air and soil pollution
- Maintaining and enhancing eco-systems services for the benefit of the population
- Preventing biodiversity loss and ensuring ecological connectivity
- Lengthening green infrastructure that connects habitats and strengthen their recreational potential
- Protecting natural resources and supporting their sustainable use

- Reducing legal and administrative barriers to cooperation
- Promoting place-based, integrated policy making, addressing complex societal challenges
- Assisting high-quality public services of general interest
- Promoting digital governance and better digital public services
- Strengthening multi-level governance
- Enhancing the operational capacity of implementing entities and organizations, especially those of the civil society
- Assisting the accession process of the Republic of North Macedonia to the European Union.

4.5 Financing Plan

The financial appropriations by year is shown in the next table:

Table 4-1 Financial appropriations by year

Fund	*2021*	*2022*	*2023*	*2024*	*2025*	*2026*	*2027*	*Total*
IPA III CBC ([1])	0,00	*1.865.500,00*	*2.665.000,00*	*6.662.500,00*	*6.662.500,00*	*4.797.000,00*	*3.997.500,00*	*26.650.000,00*
Total	**0,00**	***1.865.500,00***	***2.665.000,00***	***6.662.500,00***	***6.662.500,00***	***4.797.000,00***	***3.997.500,00***	***26.650.000,00***

(1) Interreg A, external cross-border cooperation

5 ALTERNATIVES

Directive 42/2001/CE in articles 5 and 9, require an analysis of the alternatives and a justification of choices made. Especially, according to Article 5 / par. 1 of the Directive 2001/42/EU "where an environmental assessment is required under Article 3, an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme are identified, described and evaluated."

The risk of significant negative effects means alternatives must be considered within the Programme to provide decision makers the opportunity to select options that will eliminate or reduce environmental impacts and will improve the global environmental footprint of the programme.

In accordance with the SEA Directive, the alternatives should be realistic, i.e they should be feasible and eligible based on the specific data and regulations of the programme framework. The territorial cooperation Programme is not offered for an exhaustive study of alternatives mainly because it does not include any primary projects of large scale with significant potential environmental impacts. So, two (2) realistic alternatives have been considered:

- Zero alternative ("do nothing scenario"), in which the non- implementation of the programme is being examined consisting the zero scenario
- The suggested alternative, which best integrates the requirements consisting the proposed solution

For these two alternatives the effects on the environment and sustainable development are presented and evaluated, as follows.

5.1 Zero alternative: zero solution (No Plan or Programme)

The zero scenario or the "do nothing scenario", i.e the non-implementation of the programme, will impede the real convergence with the developed regions of each country and the EU, with a negative impact on the economy, on the improvement of the living standards in the eligible areas, on the protection and enhancement of the natural and cultural wealth and on the improvement and protection of natural resources. More specifically it would result in the immediate cancellation of the funding of several million euros which should be directed towards actions with positive environmental impact. In this case, however, the expected environmental effect that will be lost is estimated to be much higher. The main element that will lead to the loss of this added value is the absence of the same programming framework that will allow coordination of actions for the joint protection and management of natural and cultural resources that require special support. Furthermore the cooperation and contact between two neighboring countries will be diminished. In addition, the non-implementation of the Programme, is

opposed to the general principle of the EU for the cohesion and balancing of inequalities in governmental and regional level.

5.2 Suggested alternative: Preparing the Development Programme for the Period 2021-2027 based on a Centralized Strategic Planning (Planned Growth)

The proposed solution, which was presented in Chapter 4, is considered to best integrate the requirements of actual environmental policy in the area and contribute to the pursuit of sustainable development in the cross-border area.

The present alternative solution aims to address deficiencies and problems that haven't been adequately addressed in the previous programming period and to give greater emphasis on actions relating to sustainable development and quality of life. In this way, the strategy will ensure the coherence and continuity with the present programming period in order to improve the effectiveness of the programme in the cross border area.

The new planned growth aims to exploit the strengths and the advantages of the cross border area, to address the weaknesses, to create new opportunities for socio – economic and regional development and to face the risks.

The Programme aim at the exchange, testing and spreading of good practices and policies. The Development Strategy of the programme, as specified in priorities and specific objectives, in the INTERREG IPA III CBC Programme Greece - Republic of North Macedonia 2021-2027, is consistent with the development needs of the Cross Border Area and includes the need for:

- Environmental protection and sustainable use of natural sources and the renewable energy as well.
- Risk Prevention and Natural Disaster Management.
- Promotion of sustainable transport infrastructures, information and communications network, water and waste management and energy efficiency.
- Improvement of the cross border capacity to support entrepreneurship, business sustainability and competiveness.
- Conservation of cultural and natural resources as a precondition for the development of tourism.

Regarding the Zero Solution, the non-implementation of the Programme will impede the real convergence with the developed regions of each country, with a negative impact on the economy, the living standards of the eligible areas, the protection and enhancement of the natural and cultural wealth and the protection of natural resources.

The Suggested Alternative is selected, since it is going to improve natural and human environment and natural resources, building on and highlighting the strengths and reducing or/and eliminating the weaknesses, thereby reaching the goal of Sustainable Development.

Consequently, the evaluation of the alternatives for the implementation and non implementation of the CBC Programme (zero solution), for the programming period 2021- 2027,is based on criteria, which are related to the priorities of the EU in favor of sustainable development, protection and improvement of environmental quality, enhancement of economic growth, competitiveness and employment and social inclusion.

6 DESCRIPTION OF THE CURRENT STATE OF THE ENVIRONMENT

This section provides valuable information about the current situation of the environment by highlighting the key environmental issues and identifying the environmental characteristics of areas likely to be significantly affected within the study area.

6.1 Abiotic environment

6.1.1 Natural – Geographical characteristics

The cross-border region combines favorable natural resources (mountains, forests, lakes, biodiversity, unique natural forms, geothermal and mineral waters, waterfalls) and favorable climate conditions.
The surface of the cross-border area between Greece – Republic of North Macedonia covers the extent of 29,259km². The Greek part of the program's area constitutes the 8% of the total surface of Greece, while the Republic's part is 39.7% of the total country's surface. The eligible Programme's area enjoys the benefits of having a vast, varied and mostly unspoilt natural environment. The region has a rich mixture of natural heritage in the form of flora and fauna, rivers, lakes, wetlands, grasslands, agro-ecosystems and forests. The main characteristics, along the borderline, are the Prespa Lakes with the adjacent plains of Florina and Resen in the west, the mountain range of Voras/Nidze reaching up to 2.560m (constitutes a natural border between the two states), the Axios/Vardar Valley, the Doirani/Dojran Lake and Beles/Belasica mountain range, reaching up to 2.029m in the East. In the south the Gulf of Thermaikos and the Axios/Vardar plain and Delta dominate.

6.1.2 Atmospheric environment

Following the economic and social development of Greece, the sources of urban air pollution are mainly transport and central heating. The major challenges of transport in urban areas are the rising number of vehicles, their increased average age, and traffic congestion. Air quality problems from industrial sources mainly concern areas with thermo-electrical power stations and industrial units located close to residential areas.

In Florina, during the winter months, there were frequent reports of elevated levels of micro particles in the air, emanating mainly from the burning of unsuitable wood stoves and fireplaces. The levels of SO_2 and CO are low, while the level of ozone is high compared to the limit. Thessaloniki suffered severe air pollution problems during the last decades, mostly related to PM_{10} levels. The air quality, combined with the strong hot season of the Mediterranean climate, is known to be one of the worse in Europe, especially in summer, and leads to serious sanitary concerns.

According to the collected data on air quality in urban centers the Republic of North Macedonia, it is concluded that the levels of air pollutant aren't so high. The main pollutant, PM_{10}, in urban areas exceeded

the limit values for daily and annual mean concentration as a result of production processes, combustion processes in industry, production of electricity and heat, road transport and the building industry. With regard to NOx emissions, the highest contributors are electricity production and transport owing to poor quality of fuels and an obsolete vehicles fleet. The most significant among the key emission sources in the Republic of North Macedonia, is the energy transformation sector, where the total emission actually originates from thermal power plants based on lignite.

6.1.3 Climate

There is a wide array of different climatic conditions noted throughout the study area. In Florina, the mesoclimate is affected by the presence of large mountain volumes and is characterized by significant inter-seasonal and diurnal difference, due to the high altitude and the morphology of area. In the region of Central Macedonia there are three main climate types, which differ considerably. *The Mediterranean type* is found in the coastal zone and the lowlands, *the Continental type* is found in the mountainous and semi-mountainous part of the region and *the Mountain type* which is the closer Medio-european retaining largely typical of the Mediterranean climate.

Despite the relatively small surface of the Republic of North Macedonia, the climate varies significantly. There are five different types of climate: the Sub-Mediterranean area (50-500m), the Moderate continental sub-regions (up to 600m), the Warm continental forest continental mountain (600-900m), the Subalpine area (1,650-2,250 m) and the Alpine area (>2,220m). According to the climate change scenarios developed under the National Communication on Climate Change, Republic of North Macedonia is in the group of vulnerable countries with significant mean temperature increases projected for the coming period.

6.1.4 Aquatic environment

In Greece, there are 14 River Basin Districts while two of them belong in the eligible area (the Western Macedonia River Basin District and the Central Macedonia River Basin District). The water district of Western Macedonia (13,624 km2) is characterized by intense ground relief, small plains and has a sufficiency in water. A great part of the water demand is supplied by the transnational Small and Big Prespa Lakes, while the River Aliakmonas is used for the water supply of the city of Thessaloniki. The river basin of Aliakmonas has the largest area in the district (8,847 km2 or 65% of total) while the river's length is 93 km. Twenty-eight per cent of the total area consists of small watersheds. On the contrary, the water district of Central Macedonia (10,171 km2) has a deficiency in water resources; it has the second poorest water resources.

The demand for water in urban and agricultural usage is high because of the city of Thessaloniki, the second most important center of industrial development after Athens. As a result, the crop productivity of the district is high. The demand for water is mainly supplied by the adjacent Aliakmonas river basin and from transnational water resources as the River Axios and Doirani Lake.

The hydrographical territory of the Republic of North Macedonia is a unique natural basin in the Balkan Peninsula and the wider area, due to the fact that 84 % of the available water consists from internal waters and only 16 % external.
In the Republic of North Macedonia, there are four river basins: Vardar, Cm Drim, Strumica and Juzna Morava. The eligible area of the Programme is covered by the three river basin districts Vardar, Crn Drim and Strumica. Vardar basin which is shared between Republic of North Macedonia and Greece, covers almost the entire country of Republic of North Macedonia and outflows into the Aegean Sea (Mediterranean Sea) at Thermaikos Gulf (Greece).
There are three major natural lakes in the eligible area: Ohrid, Prespa, and Dojran, all three of which are shared with neighboring countries. They are also part of the eligible area. Water uses are irrigation with 44%, then nature (minimum accepted flows) with 31%, followed by industry with 14% and drinking water supply for the population and tourists only 11%.

6.1.5 Natural risks

The Region of West Macedonia belongs entirely in Zone I (low seismic hazard) and the Region of Central Macedonia to Zone II. The Central Macedonia and the Western Macedonia eligible area is highly seismogenic. The areas that suffer from floods are closed hydrological basins in karst areas, river floodplain, and urban areas. Summer drought episodes did not show any particular trend for the same period. Deforestation and urbanization significantly contribute to the genesis of floods. Deforestation, also related to soil erosion, is a major problem in Greece and in particular in the eligible area.
The territory of the Republic of North Macedonia, which is located in the Mediterranean and Balkan seismic region, is exposed to intensive neo-tectonic movements, causing relatively high and frequent seismic activity. According to World Bank estimates, the Republic of North Macedonia is among the ECIS countries that are most likely to experience dramatic increases in climate extremes (fifth among the twenty-eight countries analyzed). Climate change is responsible for the increased severity and frequency of natural disasters, which have a significant impact on the environment, the economy and the development of the area. The frequency and intensity of floods in the past several years in the Republic of North Macedonia are on the rise. Statistics show that floods are caused by overflow of the large rivers Vardar, Crna Reka, Strumica. 44% of all disasters in the 1989-2006 period were floods or flood related disasters.

6.2 Biovidersity – flora – fauna

In terms of biodiversity the eligible area combines a great range of habitat niches and a spectacular flora and fauna. Apart from protected areas primarily related to wetlands, forests and mountains, there are many valuable and sensitive ecosystems located throughout the region which are critical water recipients. In the Region of Central Macedonia, five main vegetation zones can be found, in which Greece is divided. The Western Macedonia is recognized for its diversity and the complexity of the geological and

geomorphological background. The wetlands of Central Macedonia are vital sites for breeding, wintering and migratory passage of many bird species, while the tops of the mountains and valleys are particularly important for the welfare of raptors. The water systems of the Western Macedonia Region are characterized by the diversity of the fish fauna and the specificity of amphibians. In Aliakmona, for example, is estimated to live 20 to 25 species of fish. In the eligibible area on the Greek side there are 43 sites of the NATURA 2000, four National Parks and four wetlands of international importance according to the Ramsar Convention. Greece hosts some 6,600 taxa of vascular plants with the highest number of endemics in Europe (approximately 1,450 taxa, which are 22% of the total indigenous flora).
The fauna comprises 115 mammal species, 12 of which are marine, 446 bird, 22 amphibian and 64 reptile species. Moreover, 162 freshwater and 476 marine fish species are hosted in Greece's waters. Some 30,000-50,000 invertebrates are also present, exhibiting a very high degree of endemism, exceeding 50% in some groups.

Republic of North Macedonia is at the top list of countries in Europe, with impressive biodiversity. Several ecosystems are present such as wetland, shore, grassland, highland, steppe-like, forests and mountains with more than 260 flora communities recorded. Species diversity is represented by more than 16 000 taxa of wild flora, fungi and fauna. The fact that more than 900 regionally endemic species, among which 850 are truly endemic, exist in the Republic of North Macedonia, is of particular importance. Lake Prespa is a natural monument and Ramsar Site (18,920 ha), which includes Strict Nature Reserve Ezerani (2,080 ha). Additionally, large parts of Galicica National Park and Pelister National Park are found within the Prespa Basin. The area is protected as a National Park and as a Special Protection Area under EU Directive 79/409, and also as a RAMSAR wildlife habitat. Other important natural lakes are the Ohrid Lake which has been a UNESCO World Natural Heritage site since 1980 and Doirani/Dojran Lake.

In general, within the eligible area, there are numerous protected areas under International Conventions, European Directives and National legislative frameworks which are analyzed in the following chapter.

6.2.1 Protected Areas: Status and Management

NATURA 2000

As far as Greece is concerned, up until March 2018, the national list of the European ecological network Natura 2000 was in force. After April 2018 an update of national list has been done, according the Journal of the Hellenic Government (FEK B 4432/15.12.2017). The number of the NATURA 2000 areas has now reached 446, having **239 Special Areas of Conservation (SACs), 181 Special Protection Areas (SPA) for birds** and the rest 26 areas as both characterizations, according to EU Directive 79/409 as applicable. In the eligible area, on the Greek side, there are 43 sites of the Natura 2000, four National Parks and four wetlands of international importance. The sites of the NATURA 2000 network are presented in the following figure.

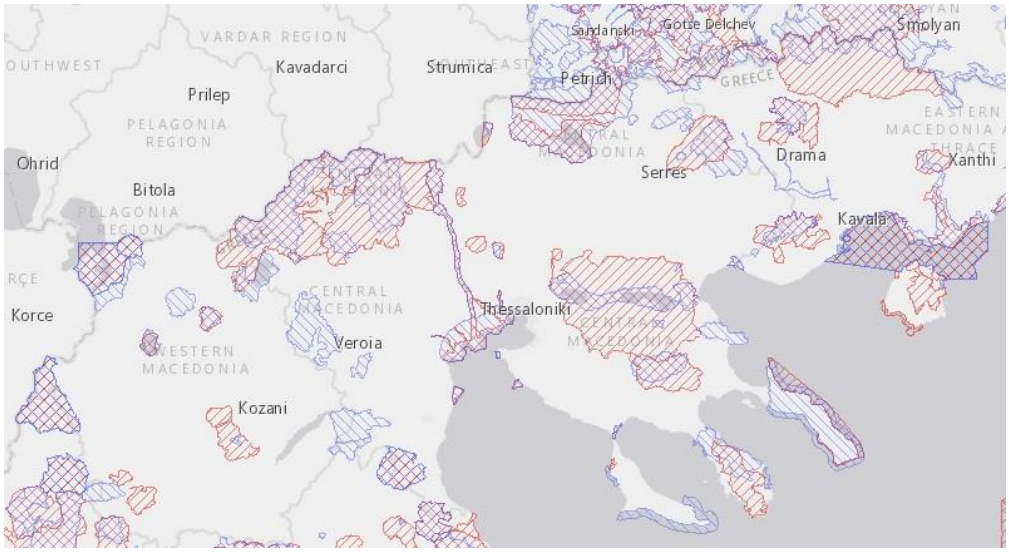

Figure 6-1: NATURA 2000 network sites of the study area

In the Republic of North Macedonia, there are 86 protected areas listed, which occupy around 12.48%[4] of the National territory; the majority of them are National parks followed by monuments of nature and multi-purpose areas.

By World Conservation Union (IUCN) category, the Republic's protected areas are divided to six categories; Category I: Strictly Protected Natural Reserves, Category II: National Parks, Category III: Natural Monuments, Category IV: Nature Parks, Category V: Protected Landscape and Category VI: Multipurpose Areas.

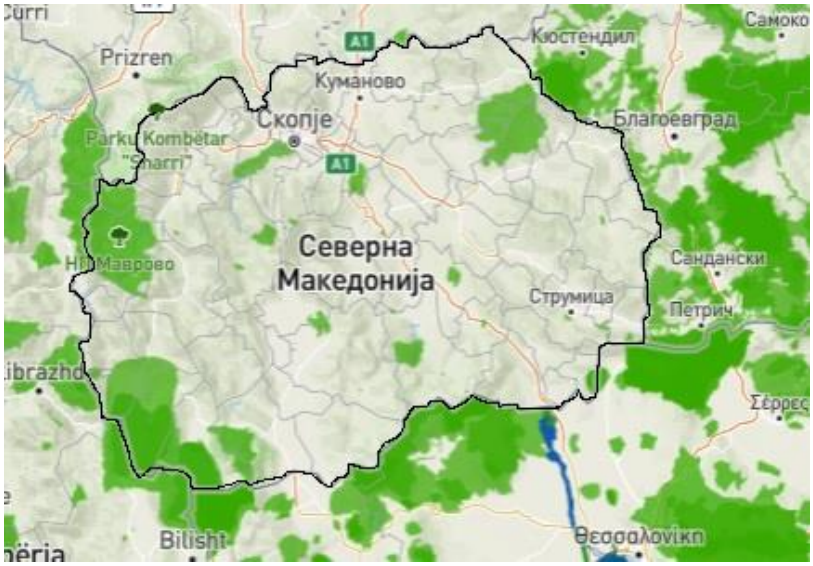

Figure 6-2: Protected areas in the Republic of North Macedonia

[4] https://www.protectedplanet.net/country/MKD

RAMSAR Wetlands

In the eligible Greek area there are four wetlands of international importance according to the Ramsar Convention. In addition, in the Republic's part, three lakes of international importance are found, as presented in the following table.

Table 6-1: Identified Ramsar Wetlands

Name	Date of inclusion		Area
Lakes Volvi & Koronia	21/08/75	Kentriki Macedonia (GR)	23,649 ha
Artificial Lake Kerkini	21/08/75	Kentriki Macedonia (GR)	10,996 ha
Lake of Mikri Prespa	21/08/75	West Macedonia (GR)	5,078 ha
Lake Prespa		Pelagonia (NM)	18.920 ha
Dojran Lake	02/08/07	Southeast Macedonia (NM)	2,696 ha
Lake Ohrid		Southwest Macedonia (NM)	25.205 ha
Delta of Axios, Loudias, Aliakmonas	21/08/75	Kentriki Macedonia (GR)	11,808 ha

Balkan Green Belt

Within the framework of the activities of the IUCN, concerning the initiative for establishment of the Balkan Green Belt, the Republic's part was established in 2004 in its border regions with Bulgaria, Greece and Albania.

The Republic's Green Belt includes 11 protected areas: the three National Parks Pelister, Mavrovo and Galicica; three natural lakes, which are also Monuments of nature - Ohrid, Prespa and Dojran; a Strict nature reserve - Ezerani (Prespa Lake); Monuments of nature – Vevcani springs, Smolare waterfall, Kolesino waterfall; and a floral site - Majdan.

The goal of the initiative is to link the protected areas in South Eastern Europe to provide integrated protection of nature and biodiversity, and promote cooperation between countries for the protection of natural heritage.

In total 42 areas have been identified in the Republic of North Macedonia as the most Important Plant habitats (IPA), 77 sites as Corine biotopes, 14 Important Bird Areas (IBA) and 8 important butterfly areas (ILA).

National Emerald Network

In accordance with the provisions of the Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979) and the Law on Nature Protection, four projects that aim to establish the National Emerald Network in the republic of North Macedonia, were implemented between 2002 and 2008. This was an important enabling activity/mechanism for the establishment of a coherent European Natura 2000 network.

Thirty-five sites have been identified in the National Emerald network of areas of special importance for conservation. Under the first project implemented in 2002-2003, three areas were identified: SNR Ezerani, NP Galicica and MN Dojran Lake, with a total area of 27.660 ha –3.6% of the total network. Under the second project implemented in 2004, three more areas were identified: SNR Tikves, NP Pelister, and MN Demir Kapija, with a total area of 28.000 ha –3.8% of the total network. Under the third project implemented in 2005-2006, 10 areas were identified with a total area of 144.783 ha – 19.1%, and under the fourth project implemented in 2008, 19 areas were identified with a total area of 556.447 ha – the remaining 73.5%. By this, the National Emerald Network comprises 35 sites covering 752.223 ha or 29 % of the Republic's territory.

6.3 Environmental Infrastructure

Wastewater - solid waste management

In Europe, the treatment of urban wastewater is regulated by the Council Directive 91/271/EEC concerning urban waste water treatment (UWWTD). A time plan has been set out for the construction of necessary infrastructure for collecting and treating waste water in agglomerations (urban areas), which generate more than 2 000 p.e. of waste water. The UWWTD sets common standards among countries for the concentrations of organic pollution, suspended solids, nitrogen and phosphorus in the discharges of treated urban waste water, as well as the necessary monitoring frequency. Each urban area that generates waste water more than 2 000 p.e. is assessed for its compliance with the UWWTD. In Greece, 96%[5] of sewage is treated in line with EU legislation; urban wastewater is treated in 232 plants across the country before it is discharged. In the eligible area are found 32 biological treatment plants; most of them treating waste with nitrogen and/or phosphorus removal.

The Republic of North Macedonia lags behind in sanitation and water-supply infrastructure. Taking into consideration all existing treatment plants, the total rate of population served by waste water treatment is estimated at approximately only 12,5%. The oldest waste water treatment plants in the country are precisely those at the lakes; their treatment processes are now clearly outdated and the infrastructure is insufficient for assuring sustainable utilization of water resources. Most of the waste is disposed of in landfills, both legal and illegal. Waste recycling is very limited. Municipal solid waste is one of the main waste streams generated. The quantity of municipal waste was 349 kg/inhabitant or 0.9 kg/inhabitant per day in 2008. Around 77 % of the population is covered by the public municipal waste collection system operated by public enterprises.

[5] https://water.europa.eu/freshwater/countries/uwwt/greece

6.4 Population

According to Hellenic Statistical Authority data, the population of Greece was 10.816.286 inhabitants (ELSTAT Population - Housing Census, 2011), individuals of which 5,3m were males (49,0%) and 5,51m females (51,0%). The current population of the Republic of North Macedonia is 2.083.320 inh. (Worldometer elaboration of United Nations data, 2021).

The cross-border region counts approximately 2.4 million inhabitants. In the programme's Greek eligible area, the actual population stands at 1.708.690 inhabitants (incl. Kozani), of which 826.473 are males (48,37%) and 882.217 are females (51,63%). The total population of the cross-border area of the Republic of North Macedonia was 770.333 inhabitants (State Statistical Office, 2019). The human ratio is 387.961 males (50,36%) and 382.372 females (49,64%).

6.5 Social – Economic Environment

6.5.1 Educational status – Employment

In the eligible area of Greece (incl. Kozani), 16,73% of population hold a PhD/Masters/Bachelor degree, 4,54% graduated from a Vocational Training Center or College, 23,28% graduated Lyceum, 13,44% graduated high school, 23,25% graduated elementary school, 12,40% left primary school/know to read-write/don't know to read-write and 6,35% is not classified (persons born after 1/1/2005). 83,27% of the population in the area doesn't hold a university degree.

The unemployment rate in Greece in 2020 was 15,47% which sets the country as the one with the highest unemployment rate of all E.U. member states. Due to its debt crisis since 2010, the unemployment rate increased to its highest rate in 2013, reaching 27,47%. Regarding the Greek regions of the cross-border area, the average unemployment rate of the active population is approximately 22% in almost all regions. The unemployment rate is very high in the younger population, from 15 to 34 years old, and varies from 30,83% to 37,71%, (ELSTAT database).

Totally, the unemployment rate in the Republic of North Macedonia was 17,3% in 2019, corresponding to male of 16,5% and 18,4% of female, (State Statistical Office). Unemployment rate has significantly decreased over the last decade, but it is still one of the highest in Europe, especially unemployment of youth. The highest percentages refer on the younger population (15-19: 37,5%, 20-24: 35,3%, 25-29: 27,0%). The employment rate of 20 to 64 year-olds at 53,3% is much lower than the EU average of 71,0%. The employment rate of recent graduates is 46,9%, considerably lower than the 78,2% in the EU. The unemployment rate for 20 to 34 year-olds has gone down by 7,0% since 2010. Regarding the Unemployment Rates in the cross-border area, there is a high unemployment rate at 24,4% in the Southwest regional unit, which surpasses country's rate by 7,1%.

According to ELSTAT and World Bank, the Gross Domestic Product (GDP) in Greece was worth 183,4 billion euros in 2019. The Greek cross-border area offered 13% of the total GDP in 2018. Most of the GDP in this

area is offered by Thessaloniki and reaches 15,77 billion euros. The GDP per Capita of Greece in 2018 was 16.745 euros, while the highest value was back to 2008 with 21.845 euros. The results of the GDP per Capita per region suggest there is a significant drop in Florina, Kilkis and Kozani after 2015, while Thessaloniki, Pella and Serres were not affected (ELSTAT 2018). However, Florina and Kozani show a higher GDP per capita compared to the country's average due to the power generation establishments in their region. The decarbonization will severely affect the GDP within the region as both the energy generation will drop significantly and many related jobs will be lost. Their GDP will normally drop to the level of Pella and Serres.

In summary, the recent economic crisis hit hard Greece having as a consequence the massive decrease of its GDP, unemployment rose to extremely high levels and subsequently brought poverty and social exclusion for a large number of inhabitants. Moreover, gender inequality, lifelong learning and recycle are targets far behind the national targets. However, after 2016, economy started to rebalance, but a higher effort is needed in order to reach the targets that lead to sustainable growth according to UN Sustainable Development Goals and EU27 targets.

Regarding the Republic of North Macedonia, in 2019 and based on State Statistical Office, the GDP was 689.425 million denars (approximately 11,204 million euros) and the GDP per Capita was 331.982 denars (approximately 5.395 euros). The cross-border area offers 36,50% of the total GDP in 2019; while 3 of 4 Programme regions present a GDP per Capita higher than the state's average, the Southwest region is lower by 22%.

6.6 Cultural heritage

In the eligible area, there is a combination of significant areas of natural beauty, rich historical and cultural heritage. The cultural heritage in Central Macedonia is particularly rich and diverse and covers all stages of the Hellenic civilization from the Paleolithic era to the modern times. The diachronic presence of the humans in the Macedonian area is enriched with numerous monuments, residential complexes, artwork or other creations that cover all the historical range. Prehistory - Ancient - Classical - Hellenistic - Early Christian - Byzantine - Metabyzantine –recent periods. Florina, is characterized by diversity of ecological zones and rarely for the Greek area lake systems including impressive picturesque villages.
The Republic of North Macedonia has a rich history with heritage especially from ancient, medieval and Ottoman period. In the illegible area of the Republic of North Macedonia, is the natural and cultural heritage of the Ohrid region, included in the World Heritage List of UNESCO, which is situated on the shores of Lake Ohrid. In addition, the town of Ohrid is one of the oldest human settlements in Europe.

7 ASSESSMENT, EVALUATION AND MANAGEMENT OF ENVIRONMENTAL EFFECTS OF THE PROGRAMME

7.1 Introduction

The evaluation of the impacts will be based on the environmental parameters that are suggested through the Directive 2001/42/EC of the European Parliament as adapted by the JMD 107017/2006 of Greek Legislation, on the assessment of the effects of certain plans and programmes on the environment. These parameters will examine and reveal the possible effects that may arise through the programme's implementation. A considerable selection of these parameters is vital in order for the Strategic Environmental Assessment to be substantial.

The selection of the parameters is following:

1. Biodiversity
2. Population- Human health
3. Soil
4. Water
5. Air, Climate and climate change
6. Infrastructure
7. Cultural Heritage
8. Landscape
9. Noise
10. Sustainable development
11. Interrelationship

The above parameters are in accordance with the appendix 3 of the JMD 107017/2006; with an addition of noise and sustainable development. The connection between the above parameters, is a factor which estimates the interaction and interrelationship of the above parameters with regards to the expected impact of them.

7.2 Methodology

For the evaluation of the environmental impacts, the methodology of **guiding questions** is being followed. This is a widely spread methodology, being introduced amongst others in «*Handbook on SEA for Cohesion Policy 2007 - 2013»* of the Greening Regional Development Programmes Network. According to this methodology, a network of evaluating questions is being formed, taking under consideration the environmental aims of the SEA, in order to determine all the possible environmental impacts for each

environmental parameter. The questions are formed in a way to get a yes or no answer. Moreover, the answers may give a clue of the magnitude of the impact.

This option promotes significantly the granularity of diagnosis, for the following reason: an environmental objective (e.g. improved air quality) depends on a number of environmental parameters (e.g. concentrations of NO2, SO2, PM10, emissions of these pollutants by sector, etc.). Turning the focus of critical questions on environmental parameters can determine not only whether the INTERREG IPA III Cross-Border Cooperation Programme "Greece-Republic of North Macedonia 2021 -2027" helps achieve the environmental objective, but also which parameters contribute to environmental impacts, so as further evaluations can focus on detailed causal factors of impact and to propose appropriate measures.

The environmental impacts on each parameter will be examined per Priority and Specific Objective (SO).

The guiding questions which will be used in this SEA report are demonstrated in the following table.

Environmental Parameters	Guiding Questions
1. Biodiversity-flora and fauna	**Is the implementation of the SO expected to affect:** B1**: The extent and consistency (internal) of protected areas?** B2**: the conservation of habitats and protected species of flora and fauna?** B3: **The extent and consistency (internal) of forest ecosystems?** B4 **The maintenance of racial or genetic diversity, richness and composition of populations of wildlife species?**
2. Population, public health	**Is the implementation of the SO expected to affect:** P1**: the population demographics?** P2: **the population employment?** P3**: the population education level?** P4**: the level of public health services and the public health protection?** P5**: The exposure of individuals to new or increased sources of pollutants, radiations or other substances or energy that may be harmful to human?**
3. Soil	**Is the implementation of the SO expected to affect:** G1**: ground stability and geomorphology?** G2: **soil quality against pollution from waste and wastewater?** G3: **Effective waste management and compliance with the European obligations**
4. Water	**Is the implementation of the SO expected to affect:** W1**: inland and coastal waters hydromorphology?** W2**: water resources efficiency;** W3**: waters quality against pollution from waste and wastewater?**
5. Air, climate and climate change	**Is the implementation of the SO expected to affect:** AC1**: Air Quality?** AC2: **Climate change adaptation** AC3: **Climate change mitigation by the reduction of GHGs emissions and the increase of CO2 absorption** AC4: **The achievement of the targets for renewable energy and energy efficiency?**

6. Material Assets-Infrastructure	**Is the implementation of the SO expected to affect:** M1: **The value of land, the public character and access to public goods?** M2: **The balanced territorial development (retaining population and income) and relationships of town - countryside?** M3: **the infrastructure**
7. Cultural Heritage	**Is the implementation of the SO expected to affect:** H1: **the protection and enhancement of cultural sites - monuments?**
8. Landscape	**Is the implementation of the SO expected to affect:** L1: **The existing character of the landscape,** L2: **the enhancement of natural landscape quality** L3: **The commitments of protection of the coastal zone?**
9. Noise	**Is the implementation of the SO expected to affect:** N1: **Noise levels** N2: **protection of people from noise pollution?**
10. Sustainable Development	**Is the implementation of the SO expected to affect:** S1: **the increase of the GDP while keeping low carbon footprint?** S2: **promoting the goals according to The 2030 Agenda for Sustainable Development?**
11. Interrelationship	**Is the implementation of the SO expected to affect the interrelationship of the above parameters?**

The environmental impact assessment of each Priority or Specific Objective element is evaluated using the following criteria:

1. **Probability:** It expresses how much expected or not, an impact may be. The evaluation is primarily based on the consideration of:
   (a) The impacts which are highly expected from an action, a type of project or an activity according to the experience on similar projects and
   (b) The uniqueness of the conditions in which the programme is implemented, such as those identified in the current state of the environment.
2. **Scale-Direction of Impact:** Each action can have zero, positive or negative direction impacts, which may have different Scale, being strong or weak regarding the degree of intensity. The variation of the intensity is associated with the main scale of the project, the perception of the changes that are expected to bring about in critical factors, and the importance of the parameter that affects the type of area.

   It is noted that, besides clear negative or positive impacts, ambiguous or mixed impacts may be identified and have one or both of the following characteristics:

   a) Have a positive effect on one environmental parameter, but negative on another. This case occurs often in actions involving different impacts direction during construction and operation phase (+/-).

   b) The scale and the direction of the impact depends on certain conditions which will be primarily determined by the specificity of actions. In these cases, beyond the identification of actions, those conditions will be

investigated in order to be proposed as measures to improve the environmental performance of the programme (see Chapter 8)

3. **Duration:** It refers to the amount of time that the impact will last. Short term duration usually happens during construction phase (eg, noise from machinery, dust, etc.), while Long term duration mostly happens in some cases during the operation phase.. As medium-term impacts are the impacts that occur after a critical concentration of a factor that creates disturbance.
4. **Reversibility:** It refers to the ability of the Priority or Specific Objective elements to prevent, reduce or offset or restore to the previous state of the environmental objective in the case either that the related action ends/ stops functioning or suitable mitigation measures are implemented. This criterion is not used for positive impacts.
5. **Cross- border dimension:** Refers to the spatial extent of the impacts, whether they affect both countries areas or one country only (local impact).
6. **Sequence**: It refers to the type of expected impacts, whether they are primary or secondary impacts. Primary impacts happen near the Programme implementation area and concurrently with it. Secondary impacts of the Programme may occur because of the Programme implementation but in a distant geographical area or at another time.
7. **Interaction:** Refers to the cumulative or synergistic nature of the impact and the cumulative effects that may arise by the implementation and coexistence of two or more impacts and how their scale is affected.

The symbols that will be used to assess the environmental impact of the IPA III CBC Programme “Greece – Republic of North Macedonia 2021-2027”, are illustrated in Table 7-1.

The assessment and evaluation of the impacts occurring by the programme's implementation, will take into consideration the content of the CBC Programme "Greece-Republic of North Macedonia 2021-2027" and the environmental status of the eligible area, as it's described in Chapter 6. The relevant analysis will result in a number of environmental parameters, identified to have a negative or positive impact. These findings will be presented in Table 7-2.

Table 7-1: Impact Assessment Criteria and Symbols

Criterion		Abbreviation	Evaluation rank	Symbol
1	Probability	**Prob**	Very Probable	**+ +**
			Probable	**+**
			Non Probable	**0**
2	Scale-Direction	**Scale**	Large scale Negative impact	**- -**
			Small scale Negative impact	**-**
			No impact	**0**

			Large scale Positive impact	+ +
			Small scale Positive impact	+
3	Duration	**Dur**	Long term or permanent impact	> >
			Short term or temporal impact	>
			No impact	**0**
4	Reversibility	**Rev**	Reversible	+
			Irreversible	-
			No impact	**0**
5	Cross Border dimension	**Cross**	Cross border impact	**B**
			Non Cross border impact-Local	**L**
			No impact	**0**
6	Sequence	**Seq**	Primary	**P**
			Secondary	**S**
			No impact	**0**
7	Interaction	**Int**	Cumulative	**CU**
			Synergistic	**SY**
			No interaction	**n-I**
			No impact	**0**

7.3 Do no significant harm (DNSH)

Before the strategic environmental impact assessment which will follow, the Programme will be first evaluated according to the **"Do no significant harm (DNSH)" principle**.

According to the **Taxonomy regulation** "The Funds should support activities that would respect the climate and environmental standards and priorities of the Union and would do no significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) No 2020/852 ".

In order to implement the DNSH principle, the following environmental objectives will be examined, as defined in Article 17 of the Taxonomy Regulation.

1. Climate change mitigation
2. Climate change adaptation
3. Sustainable use and protection of water and marine resources
4. Circular economy
5. Pollution prevention and control
6. Protection and restoration of biodiversity and ecosystems.

The DNSH principle evaluation is presented in the next table. As it is shown, the evaluation is based on the answer given on a specialized question which is addressed to each environmental objective.

Table 7-2: Environmental Assessment of the Programme using DNSH objectives

Questions		Answer	Documentation of DO NO SIGNIFICANT HARM
Climate change mitigation	Is the Programme expected to lead in significant GHG emissions?	NO	The energy sector is a key factor for the development of 2030 energy and climate policies, for both countries. Greece has the National Energy and Climate Plans (NECP) until 2030 which includes targets to reduce it's GHG emissions as well as saving energy and improving energy efficiency performance. The Republic of North Macedonia submitted its revised National Determined Contribution (NDC2) in April 2021. It's NECP though, is still to be finalized and adopted. The implementation of the programme is in line with the above guidlines and it will not lead to significant GHG emissions.
Climate change adaptation	Is the Programme expected to lead to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature and assets?	NO	In the context of climate adaptation, prevention and preparedness measures, awareness campaigns for disaster risk management, flood protection and the development of early warning systems, constitute significant challenges in the eligible area. The programme is in line with the above guidelines.
Sustainable use and protection of water and marine resources	Is the Programme going to be detrimental to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters?	NO	In the cross-border area, investment needs should be identified, enhancing the sustainable water management. Investments and interventions are considered very important for the development of green infrastructure for the management of wastewater; including surface water and groundwater. Through the programme, cooperation actions may implement for the elimination of soil, air and water pollution.
Circular economy	Is the Programme expected to lead to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources, or if it significantly increases the generation, incineration or disposal of waste, or if the long-term disposal of waste may cause significant and long-term environmental harm?	NO	The environmental resources protection, is a key factor for the overall development of the eligible area. The transition to a circular economy can be strengthen by the cooperation of the two members in the specific fields for example of sustainable production and consumption of products, less waste with greater value, ect; which is vital for the environmental sustainability of the Region.
Pollution prevention and control	Is the Programme expected to lead to a significant increase in emissions of pollutants into air, water or land?	NO	The cooperation actions for the reduction of the air, soil, noise and water pollution are expected to fullfil the eligible area's needs.

Protection and restoration of biodiversity and ecosystems	Is the Programme going to be significantly detrimental to the good condition and resilience of ecosystems, or detrimental to the conservation status of habitats and species, including those of Union interest?	NO	The protection of the natural environment and biodiversity, is the baseline priority of both countries, which is brought in alignment with the EU Biodiversity Strategy and the EU Forest Strategy. Cooperation actions and exchange of good practices should be implemented in the frame of protection and prevention of the natural environment e.g. in the forest environment; In particular, significant attention should be given to the raise of social awareness and the involvement of the society in the above issues.

7.4 Environmental Impact Assessment

The evaluation which is performed in the following table illustrates that the programme demonstrates a clear compatibility with the objectives of the Green Deal and the proposed Eighth EU Environmental Action Programme. Moreover, the programme has adopted environmental sustainability as a horizontal principle.

The analysis of the Policy Objectives followed by the environmental Impact assessment evaluation in tabular form, are following.

PO2: A greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management

- SO 1.6: Promoting the transition to a circular and resource
- SO 1.7: Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution

The concept of circular economy has a high potential for reducing environmental pressure and offers job opportunities and new green business, thus bringing socio-economic benefits. The programme will promote actions which will support transnational synergies in order to increase the implementation of circular economy approaches across the eligible area. Potential cooperation actions include the joint creation and implementation of strategies, action plans, pilot actions and related solutions, are going to have a positive effect in the frame of Circular economy and Sustainable Development following the directions of the EU Circular Economy Action Plan and the EU Green Deal. Actions that promote the improvement of product life cycles, foster sustainable consumption and circular economy processes (reduce, recover, reuse, repair, refurbish, remanufacture, recycle) will be developed and implemented. For these actions all relevant stakeholders must be involved. Producers who redesign appropriately reparable and recyclable products especially in the key value chains such as plastic, textiles, etc, well informed citizens (inhabitants of the Programme area) who will implement the separate collection of the materials and the take-back programs, academics and researchers to connect innovation, high technology and enterpreneurship and public authorities especially in regional and local level to coordinate and boost all the above mentioned actions. These actions will have a wide scale of positive environmental impacts

primary and secondary as well. Less natural sources will be used, less energy will be consumed and as a secondary result there will be a positive effect in energy efficiency, in the reduction of GHGs (CO2) and air pollutants emissions, in the conservation of flora and fauna; by keeping low the carbon footprint and act positively in terms of sustainable development. Transnational synergies should boost the transition to a circular economy by promoting the expertise and knowledge, improving policy learning and testing good practices.

In the frame of a greener, low-carbon Europe, the programme is going to fund actions that emphasize on the implementation of environmental policies, such as improving the system of protection against natural disasters. Another action with cross-border dimention, would be the setting of environmental corridors to maintain and enhance healthy ecosystems. The above actions will have a significantly positive impact in biodiversity protection, as well as the extent and consistency of forest ecosystems. Protection of biodiversity is expected to have positive cumulative effects also in the protection of natural resources (soil, water, climate, landscape, air) while improving the living conditions of the population.

Table 7-3: Environmental Assessment of PO2

Impact Evaluation of SO1.6 and SO1.7								
Environmental parameter	**Environmental Objective-Question**	**Prob**	**Scale**	**Dur**	**Rev**	**Cross**	**Seq**	**Int**
Is the implementation of the SO expected to affect:								
Biodiversity - flora- fauna	**B1**: The extent and consistency (internal) of protected areas?	+	+	>>	0	B	P	CU
	B2: the conservation of habitats and protected species of flora and fauna?	++	++	>>	0	B	P	CU
	B3: The extent and consistency (internal) of forest ecosystems?	+	+	>>	0	B	P	CU
	B4: The maintenance of racial or genetic diversity, richness and composition of populations of wildlife species?	+	++	>>	0	B	P	CU
Population - Public Health	**P1**: the population demographics?	+	+	>>	0	L	S	SY
	P2: the population employment?	++	++	>>	0	B	P	CU
	P3: the population education level?	++	++	>>	0	B	S	CU
	P4: The level of public health services and the public health protection?	++	++	>>	0	B	S	CU

	P5: The exposure of individuals to new or increased sources of pollutants, radiations or other substances or energy that may be harmful to human?	0	0	0	0	0	0	0
Soil	**G1**: ground stability and geomorphology?	0	0	0	0	0	0	0
	G2: ground quality against pollution from waste and wastewater?	++	++	>>	0	L	S	CU
	G3: Effective waste management and compliance with the European obligations	++	++	>>	0	L	P	CU
Waters	**W1**: inland and coastal waters hydromorphology?	0	0	0	0	0	0	0
	W2: water resources efficiency?	++	++	>>	0	B	P	CU
	W3: waters quality against pollution from waste and wastewater?	++	++	>>	0	B	P	CU
Air, climate and climate change	**AC1**: the air quality?	+	++	>>	0	B	S	SY
	AC2: the climate change adaptation?	++	++	>>	0	B	S	SY
	AC3: Climate change mitigation by the reduction of GHGs emissions and the increase of CO2 absorption?	++	++	>>	0	B	P	SY
	AC4: The achievement of the targets for renewable energy and energy efficiency?	++	++	>>	0	B	P	SY
Material Assets - Infrastructure	**M1**: The value of land, the public character and access to public goods?	++	++	>>	0	B	S	CU
	M2: The balanced territorial development (retaining population and income) and relationships of town - countryside?	++	++	>>	0	B	S	CU
	M3: the infrastructure?	+	+	>>	0	L	S	n-I
Cultural Heritage	**H1**: the protection and enhancement of cultural sites - monuments?	+	+	>>	0	L	S	SY
Landscape	**L1**: The existing character of the landscape?	+	+	>	0	L	S	n-I
	L2: the enhancement of natural landscape quality?	+	+	>	0	L	S	n-I
	L3: The commitments of protection of the coastal zone?	+	++	>>	0	B	P	CU
Noise	**N1**: the noise levels?	+	+	>	0	L	S	n-I

	N2: the protection of people from noise pollution?	+	+	>	0	L	S	n-I
Sustainable Development	**S1**: the increase of the GDP while keeping low carbon footprint?	++	++	>>	0	B	P	CY
	S2: promoting the goals according to The 2030 Agenda for Sustainable Development?	++	++	>>	0	B	P	CY
Interrelationship	The interrelationship of the above parameters?	+	+	>>	0	B	P	CU

PO3: A more connected Europe by enhancing mobility and regional ICT connectivity

- SO 2.2: Developing and enhancing sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility

The objectives of the Programme, under this priority, are focused on the development of the Prespas area. The accessibility to the main nodes and transport corridors is still limited especially for rural and peripheral regions, including those that cross borders. The development of transport services shall have a positive effect on the population considering demographics and employment; promoting a balanced territorial development and relationship of town-countryside. The development of smart and sustainable transport services will create connections and will remove bottlenecks in order to ensure good accessibility. In line with the EU Green Deal directions which define a 90% reduction of transport emissions until 2050, these actions will have a positive impact in CO2 reduction and long-time enhancing air quality.

It is expected that the accessibility of the Prespa area, which is remote and isolated, will provide opportunities for the development of tourism, improvement of business environment and mainly safe access for the area's residents. Sharing good practices and developing sustainable solutions for improvement of regional mobility services, will increase the public interest and the resilience in times of emergency circumstances.

Provisions for a sufficient framework for preventing adverse environmental effects will be at place. Arrangements will be made during the distinct phases of the Project cycle (planning, implementation, monitoring), in order to identify at an early stage environmental and related risks and undertake appropriate remedial action.

Table 7-4: Environmental Assessment of PO3

Impact Evaluation of SO2.2								
Environmental parameter	**Environmental Objective-Question**	**Prob**	**Scale**	**Dur**	**Rev**	**Cross**	**Seq**	**Int**
Is the implementation of the SO expected to affect:								
Biodiversity - flora- fauna	**B1**: The extent and consistency (internal) of protected areas?	+	-/+	>	+	B	S	n-I
	B2: the conservation of habitats and protected species of flora and fauna?	++	++	>>	0	B	P	n-I
	B3: The extent and consistency (internal) of forest ecosystems?	0	0	0	0	0	0	0
	B4: The maintenance of racial or genetic diversity, richness and composition of populations of wildlife species?	+	+	>>	0	B	P	n-I
Population - Public Health	**P1**: the population demographics?	++	++	>>	0	B	P	CU
	P2: the population employment?	++	++	>>	0	B	P	CU
	P3: the population education level?	+	+	>>	0	B	P	CU
	P4: The level of public health services and the public health protection?	+	++	>>	0	B	P	CU
	P5: The exposure of individuals to new or increased sources of pollutants, radiations or other substances or energy that may be harmful to human?	0	0	0	0	0	0	0
Soil	**G1**: ground stability and geomorphology?	0	0	0	0	0	0	0
	G2: ground quality against pollution from waste and wastewater?	+	-/+	>	+	L	S	n-I
	G3: Effective waste management and compliance with the European obligations	++	++	>>	0	L	S	CU
Water	**W1**: inland and coastal waters hydromorphology?	0	0	0	0	0	0	0
	W2: water resources efficiency?	+	+	>>	0	B	S	n-I
	W3: waters quality against pollution from waste and wastewater?	+	+	>>	0	B	S	CU
Air, climate and climate change	**AC1**: the air quality?	+	-/+	>	+	L	S	n-I
	AC2: the climate change adaptation?	+	+	>>	0	B	S	n-i

	AC3: Climate change mitigation by the reduction of GHGs emissions and the increase of CO2 absorption?	++	++	>>	0	B	S	n-I
	AC4: The achievement of the targets for renewable energy and energy efficiency?	++	++	>>	0	B	S	n-I
Material Assets - Infrastructure	**M1**: The value of land, the public character and access to public goods?	++	++	>>	0	B	S	CU
	M2: The balanced territorial development (retaining population and income) and relationships of town - countryside?	++	++	>>	0	B	S	CU
	M3: the infrastructure?	+	++	>>	0	L	S	CU
Cultural Heritage	**H1**: the protection and enhancement of cultural sites - monuments?	+	+	>>	0	L	S	n-I
Landscape	**L1**: The existing character of the landscape?	+	-/+	>	+	L	S	n-I
	L2: the enhancement of natural landscape quality?	+	+	>>	0	L	S	n-I
	L3: The commitments of protection of the coastal zone?	+	++	>>	0	B	P	n-I
Noise	**N1**: the noise levels?	+	-/+	>	+	L	S	n-I
	N2: the protection of people from noise pollution?	+	+	>>	0	L	S	n-I
Sustainable Development	**S1**: the increase of the GDP while keeping low carbon footprint?	++	++	>>	0	B	P	CU
	S2: promoting the goals according to The 2030 Agenda for Sustainable Development?	++	++	>>	0	B	P	CU
Interrelationship	The interrelationship of the above parameters?	+	+	>>	0	B	P	CU

PO4: A more social Europe implementing the European Pillar of Social Rights

- SO 3.5: Ensuring equal access to health care and fostering resilience of health systems, including primary care, and promoting the transition from institutional to family-based and community-based care
- SO 3.6: Enhancing the role of culture and sustainable tourism in economic development, social inclusion and social innovation

The programme is going to support joint synergies for the reinforcement the health sector and services in order to ensure better access to such systems in the Greece-Republic of North Macedonia area. The

Programme's strategy promotes the use of technology that will allow the provision of better and affordable health services, mainly at the level of preventionand monitoring. The integration of ICT also in the health systems, which are lagging behind in terms of the application of digital technologies will have a positive and great in scale impact in public health. In this frame, the programme will support the increase of the number of services of general interest (for example hospitals, primary schools and train stations) that are also located in disadvantageous areas. In this way, the transition to a more social and inclusive GR-RoNM area is going to be promoted, and the programme will have positive impacts in the sector of infrastructure by enhancing the public character and access to public goods.

Tourism sector is linked to economic, social and environmental aspects. The implementation of innovative technologies in the tourism sector, will possibly increase the number of visitors in the eligible area, which can lead to relatively significant environmental impacts in the protection of the natural environment and sensitive ecosystems. These are indirect impact which can be avoided or limited, by the implementation of the appropriate measures.

The programme is going to enhance the role of culture and tourism with a focus to sustainable tourism taking into account advanced technologies and the potential offered in the frame of the new reality that has occurred since the pandemic outbreak. The proposed actions will aim in this frame to promote sustainable and thematic cultural routes at regional as well as macro-regional level by further distributing tourism flows. The implementation of these objectives will be aligned with the goals of UN 2030 Agenda for Sustainable Development, leaving a strongly positive impact in this parameter.

The promotion of sustainable tourism and social innovation in the cultural heritage sectors is achieved by actions to support youth and unemployed, aiming at gaining skills and professional qualifications in the field of tourism market and cultural tourism, as one of the fastest growing segments of the tourism industry. Against this background, the workforce that is employed in the sectors of tourism and culture will need to have the necessary capacities and enhanced skills. This will have a positive impact in the population in terms of education and improvement of skills. In addition, these actions will lead as well to the protection and enhancement of cultural sites- monuments.

Table 7-5: Environmental Assessment of PO4

Impact Evaluation of SO 3.5 and SO 3.6								
Environmental parameter	**Environmental Objective-Question**	**Prob**	**Scale**	**Dur**	**Rev**	**Cross**	**Seq**	**Int**
Is the implementation of the SO expected to affect:								
	B1: The extent and consistency (internal) of protected areas?	+	-/+	>	+	B	S	n-l

Biodiversity - flora- fauna	**B2**: the conservation of habitats and protected species of flora and fauna?	+	-/+	>	+	B	S	n-l
	B3: The extent and consistency (internal) of forest ecosystems?	0	0	0	0	0	0	0
	B4: The maintenance of racial or genetic diversity, richness and composition of populations of wildlife species?	+	-/+	>	+	B	S	n-l
Population - Public Health	**P1**: the population demographics?	+	+	>>	0	L	S	SY
	P2: the population employment?	++	++	>>	0	B	P	SY
	P3: the population education level?	++	++	>>	0	B	P	SY
	P4: The level of public health services and the public health protection?	++	++	>>	0	B	P	SY
	P5: The exposure of individuals to new or increased sources of pollutants, radiations or other substances or energy that may be harmful to human?	0	0	0	0	0	0	0
Soil	**G1**: ground stability and geomorphology?	0	0	0	0	0	0	0
	G2: ground quality against pollution from waste and wastewater?	+	+	>>	0	L	S	n-l
	G3: Effective waste management and compliance with the European obligations	+	++	>>	0	L	S	n-l
Waters	**W1**: inland and coastal waters hydromorphology?	+	+	>	0	L	S	n-l
	W2: water resources efficiency?	+	++	>>	0	L	S	CU
	W3: waters quality against pollution from waste and wastewater?	+	++	>>	0	L	S	CU
Air, climate and climate change	**AC1**: the air quality?	+	-/+	>	+	L	S	n-l
	AC2: the climate change adaptation?	+	+	>>	0	B	S	CU
	AC3: Climate change mitigation by the reduction of GHGs emissions and the increase of CO2 absorption?	+	++	>>	0	B	S	CU
	AC4: The achievement of the targets for renewable energy and energy efficiency?	+	+	>>	0	L	S	CU
Material Assets - Infrastructure	M1: The value of land, the public character and access to public goods?	+	++	>>	0	L	S	CU

	M2: The balanced territorial development (retaining population and income) and relationships of town - countryside?	+	++	>>	0	L	P	n-l
	M3: the infrastructure?	++	++	>>	0	L	P	n-l
Cultural Heritage	**H1**: the protection and enhancement of cultural sites - monuments?	++	++	>>	0	B	P	n-l
Landscape	**L1**: The existing character of the landscape?	+	-/+	>	+	L	S	n-l
	L2: the enhancement of natural landscape quality?	+	+	>	0	L	S	n-l
	L3: The commitments of protection of the coastal zone?	+	+	>	0	L	S	n-l
Noise	**N1**: the noise levels?	0	0	0	0	0	0	0
	N2: the protection of people from noise pollution?	+	+	>	0	L	S	n-l
Sustainable Development	**S1**: the increase of the GDP while keeping low carbon footprint?	++	++	>>	0	B	P	CU
	S2: promoting the goals according to The 2030 Agenda for Sustainable Development?	++	++	>>	0	B	P	CU
Interrelationship	The interrelationship of the above parameters?	+	+	>>	0	B	P	CU

ISO1: A better cooperation governance

This Interreg Specific Objective (ISO) is aimed to improve and reinforce the existing capacities of the public authorities and all stakeholders, as well as to increase the level of coordination and collaboration at cross-border level. By this priority joint solutions, cooperation and organisational processes will be developed and implemented in order to ensure the successful implementation of the Programme. This ISO is expected to facilitate the flow of actions as well as the faster completion of integrated projects in the other priorities. No environmental impact is expected by this priority. It safeguards the effective management and implementation of the Programme and its positive environmental, social and economic impacts.

In order to protect the environment and the quality of life, projects under the Interreg Cross-Border Cooperation Programme Greece-Republic of North Macedonia 2021-2027, which are listed in Annex I (or Annex II) of Directive 2011/92/EU (EIA Directive) shall be made subject to an assessment in accordance with Articles 5-10 of the above mentioned Directive. The effects of such a project on the environment should be assessed in order to take account of concerns to protect human health, to contribute by means of a better environment to the quality of life, to ensure maintenance of the diversity of species, to maintain the reproductive capacity of the ecosystem as a basic resource for life

and to achieve the Climate objectives of Paris Agreement both on mitigation and adaptation fields. For such projects, the evaluation of an Environmental Impact Assessment Study (provided by the developer of the project) is needed and the competent authority or authorities in Greece and Republic of North Macedonia shall adopt for such projects all appropriate and necessary measures in national or/and transboundary level in order to ensure the implementation of the prevention and precautionary principle.

8 MITIGATION MEASURES AND MONITORING

8.1 MITIGATION MEASURES

The prevention, reduction and mitigation of environmental impacts of the Programme is realized through two main mechanisms: a) the environmental permitting of projects and activities as it is in force and b) the creation of special provisions and / or conditions that will be applied in the implementation of the programme and will be integrated in the management processes (projects approvals etc).

a) Environmental permitting of projects and activities.

The impacts of each project are controlled by the environmental permitting process as it is in force in Europe acquis and is specialized on the implementation procedures of the institutional framework of the two countries. The approval of a project in the programme does not modify its obligations according to the Environmental Permitting, under which specific terms and conditions of its implementation are imposed. The relevant Environmental Impact Assessment Reports (EIA) should (not exclusively) include the following issues:

- Compliance with the specific emission limit values of pollutant loads and concentrations for air, water and soil in accordance with the applicable provisions.
- Compliance with the specific limit values of noise.
- Compliance with national or regional planning for the environment, such as waste management plan, the basin management plans of the WFD, etc.
- The suitability of locating in accordance with the approved land use plans and building restrictions.
- Taking into account all the necessary measures that are provided by the legislation in relation to the prevention and reduction of pollution of protected areas, sea and forest.
- Projects that are located in areas included in the Natura2000 network (as SCI or SPA), will have to comply with Article 6.3 of Habitats Directive 92/43/EEC, that is: *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect on it, either individually or together with other projects, it is should be estimated regarding its impacts on the site by taking into account its conservation objectives''*.

b) Specific measures in order to protect the environment.

- Proposals that finance enterprises (innovation - entrepreneurship - competitiveness) and that include (in addition to the mandatory rules of the environmental law) investment in "green infrastructure and technologies" (eg, use of geothermal energy etc), bioclimatic principles and/or promote the reduction and reuse of materials (according to the hierarchy of waste management), would be highly desirable to be primed during the project selection process.
- In the process of specifying and selecting clusters, it should be considered to include enterprises that manage products or waste that are produced throughout the value chain.

- The actions of tourism development or enhancement of natural resources within Natura 2000 areas should be consistent with the management plan areas. In cases, where the projects are listed in areas with Management Agency, its opinion is necessary. In any case, it should be documented that the increase of visiting the protected ecosystems for tourism or other purposes does not have impact on the conservation status.
- Appropriate measures should be taken for technical projects that are implemented within the coastal marine area and may cause either a water quality pollution or a disruption of benthic substrate. Such measures should prevent and reduce the potential pollution of waters and the sediment.

More specifically, the aforementioned mitigation measures should address all the environmental parameters that might be affected by the projects of the Programme, according to the assessments of chapter 7.

Table 8-1 Proposed measures to mitigate environmental impacts

1	Biodiversity	• Utilization of EIA procedures to avoid damages to natural areas, NATURA 2000 and habitats • Integrate biodiversity protection criteria in the selection process of proposals for inclusion in the INTERREG Programme Greece-Republic of North Macedonia 2021-2027 (e.g planting native species, actions on the promotion of the environment, environmental awareness and education, information material on protected species) • Provide advice to stakeholders to improve their proposals in terms of biodiversity protection • Integrate ecodesign criteria, environmental management and sustainable natural resource management in the selection of proposals for inclusion in the INTERREG Programme Greece-Republic of North Macedonia (e.g bioclimatic design, implementation of Environmental Management Systems, reuse of excavated material, installation of energy and water saving systems) • Provide advice to stakeholders in terms of achieving the above objectives • Apply measures for the conservation of biodiversity and the reduction of possible disturbance during the construction phase
2	Population- Human health	• reduce dust emissions and dispersion during construction • promote projects that enhance human physical activities (sports, cycling, running, walking)
3	Soil	• Encourage the use of clean technologies, practices to reduce waste and avoid toxic waste disposal, oily substances or salts in the soil. • Promoting entrepreneurship in introducing innovation in solid waste management in developing R & D and specialized services in the sector • Measures to protect soils from desertification • Reuse of excavation soils for backfilling

4	Water	• Encourage the use of clean technologies, practices to reduce wastewater and avoid waste disposal in the aquatic environment. • Encourage the introduction of technologies for reuse and saving water • Encouraging entrepreneurship in the sector of environmental management and protection of water resources
5	Air, Climate and climate change	• Encourage the use of clean technologies, replacement with cleaner fuels, installing pollution filters etc. • Encourage the use of RES • Encourage the use of public transport • Inclusion criteria for energy saving and reducing greenhouse gas production in the selection process of proposals for inclusion in the INTERREG Programme Greece-Republic of North Macedonia 2021-2027 (eg RES, use or replacement of equipment with energy-saving devices, actions for raising awareness and education for the public and business on climate change) • Provide advice to stakeholders in terms of achieving the above objectives and the need to reduce traffic volumes in relation to the movement of work force, raw materials and products
6	Infrastructure- Tangible Assets	• Encourage the use of local population workers in construction phase
7	Cultural Heritage	• Avoid installation of disturbing activities within or crossing areas of cultural interest • Use features that provide actions for the development of the tourism sector for the promotion and protection of monuments and sites of cultural interest • Take measures so that the improved accessibility to sites and cultural events areas will not have a negative impact to the cultural environment
8	Landscape	• The INTERREG Programme Greece- Republic of North Macedonia, should introduce selection criteria of proposals for the establishment of enterprises in statutory or degraded areas, protection of rural and urban landscape and the development of green infrastructure (eg installation of plants at industrial or business parks, regeneration or creating of green areas, use of clean technologies, use of energy and water-saving technologies, waste and waste-water management) • Advising stakeholders to protect the landscape from degradation
9	Noise	• Use of noise reduction techniques during construction and operation phases
10	Sustainable development	• Promotion of projects which combine development with environmental friendly features

The above mentioned measures will be further analyzed during the assessment of projects implemented under the provisions of Directive 2011/92/EU (EIA Directive); for all the projects listed in Annex I (or Annex II) of the aforementioned directive. The measures will be analyzed as for their application on impacts arising during the construction or operational phase.

8.2 MONITORING

The Monitoring System includes all the relevant environmental indicators per environmental parameter (e.g. biodiversity, air quality and climate change, soil, water, landscape and culture, etc) and identifies the authorities that carry out the monitoring as well as the frequency of monitoring.

Data collection is suggested to be based on two sources: **(a)** primary data resulted from measuring environmental parameters and **(b)** assessment of environmental indicators.

The process of finding data through measuring is possible to involve the Regional Authorities (Regions), but also the State Authorities (e.g. Ministry of Environment), Local Authorities, scientific and professional bodies and utilities (e.g. landfills, wastewater treatment plants). Measuring environmental indicators is a complex process; either it is a regular or, even more, a continuous process.

The Regional Directorates should have a key role in regard with the data management and dissemination. In this context, the respective Departments must plan and act as a hub for the collection, analysis and dissemination of information. In particular, the role of the Regional Departments should include the following:

- Data collection from measurements performed by the Regional Services, either on a permanent or a temporary basis.
- Primary data collection performed by regional utilities (e.g. landfills, wastewater treatment plants, Municipal Enterprises for Water Supply and Sewerage, Public Power Corporation, Management bodies of protected areas).
- Primary data collection performed by public administration (e.g. National Monitoring System for the surface water quality, etc.)
- Primary data collection performed by scientific and other bodies.
- Analysis and synthesis of data in order to draw conclusions on the environmental state within the Region.
- Data storage and development of time series in order to monitor environmental status over time.
- Data dissemination through appropriate reports, according to the current legislation or/and Regional decisions. These reports are intended to **(a)** meet the relevant requirements of legislation, **(b)** inform those that participate to the planning and monitoring process of the INTERREG Programme Greece- Republic of North Macedonia 2021 - 2027 implementation (decision makers) and **(c)** inform the public affected by the INTERREG Programme.

It is noted that, as mentioned before, the impact monitoring of INTERREG Programme Greece-Republic of North Macedonia 2021 - 2027 will be carried out, where possible, using data derived from:

- The existing network for monitoring environmental parameters of the Ministry of Environment of the two countries or other bodies. Some indicative monitoring networks are:
    - Air pollution quality,

- Water quality (surface waters, ground waters, coastal bathing waters).

- Separate and independent studies for identifying the impact of the overall program or part of it.
- Reports provided by contractors, either primary or based on data included in the EIA of the projects funded by the INTERREG Programme Greece-Republic of North Macedonia 2021-2027.

The environmental indicators for each environmental parameter, the monitoring body and the monitoring frequency are provided in the next table. All indicators values should be measured or estimated **before the project** included in the Programme **- during construction** (if the project has a construction phase) **- during operation** (or implementation).

Table 8-2 Monitoring Indicators

No	ENVIROMENTAL PARAMETER	ENVIRONMENTAL INDICATOR	MONITORING AUTHORITY	MONITORING FREQUENCY
01	Biodiversity - fauna- flora	• satisfactory condition of habitats in the area of a project • satisfactory condition of important species population in the area of a project • Area covered by forests	• Management bodies of protected areas • Competent Directorates of Regions	According to the Management Plan (if exists) Annually
02	Population – human health	• Years of healthy life expectancy • Number of occupational accidents • Percentage of people living below the poverty line	• Competent Directorates of Regions	Annually
03	Soil	• Percentage of degraded land • Quantities of waste disposed in landfills • Development of per capita and total waste generation • recycling (paper, glass, BMW14, aluminium)	• Competent Directorates of Regions • Landfill Management Bodies	Annually
04	Water	• Surface Water Quality (N, P, BOD5, COD, SS, TDS, Conductivity, Feacal Colliforms) • Groundwater quality (Nitrate, Phosphate, Conductivity, Heavy Metals) • Bathing waters Quality (Feacal Colliforms, transparency) • Percentage of water recycling or reuse	• Competent Directorates of Regions • WWTP Management Bodies • Ministry of Environment	Sampling and measurements in accordance to the environmental terms of each WWTP. National System of Surface Water Quality Monitoring for Greece According to the Monitoring Programme of bathing water quality on beaches for Greece
05	Air Climatic factors	• Days of exceedance of air quality limits (CO, SOx, NOx, PM10) • Emissions by Source • Greenhouse Gas Emissions • Development of energy demand • Percentage of RES (%)	• Ministry of Environment • Competent Directorates of Regions	Annually

		• Evolution of number of passenger vehicles		
06	Cultural Heritage (including architectural and archaeological heritage)- Landscape	• Number of preserved buildings restored • Number of visitors • Urban green per inhabitant	• Competent Directorates of Regions	Annually

9 REGULATORY ACT

According to the JMD 107017 of Greek Legislation the issuance of a regulatory act for the environmental approval of the Programme is needed.

This act will contain all the measures and monitoring activities described in chapter 8.

10 DIFFICULTIES DURING THE CONDUCT OF SEA

During the preparation of the Strategic Environmental Assessment (SEA) of the INTERREG PROGRAMME Greece- Republic of North Macedonia 2021-2027, the following major difficulties were encountered by the authors of this report:

- the extremely tight time-schedule in relation to the required highly detailed, multi-level and in-depth analysis of strategic planning in a cross-border region and the different cultures, languages and development, environmental policies and legislation, etc.
- the different levels of digital convergence and e-government applications between the two countries which made difficult the direct access to information regarding the application of environmental policies and legislation.

However, the study focused on issues that were considered to have significant effects on the environment of the eligible cross border area and which were analyzed using the most appropriate methodologies and comparative tables. So, all difficulties were finally faced sufficiently and satisfactorily by the authors of this study and according to the Legislation.

11 BASIC STUDIES AND RESEARCHES

This chapter refers to the main studies and research that should be elaborated before the approval of the projects and actions described in the INTERREG Programme Greece- Republic of North Macedonia 2021-2027. In this framework, the following studies are recognized not as a prerequisite for the application of the programme but as supportive to the general environmental protection framework and as environmental studies of high priority to set an environmental baseline inventory. Although for few projects of the Program (like the ones that include constructions like infrastructure projects) an Environmental Impact Assessment (EIA) study might be mandatory:

- Special Environmental Studies for all NATURA sites and other areas under national protection regime and the establishment of appropriate five-year management plans.
- Ecological Studies for projects at areas that are included in NATURA network and other protected areas.
- Environmental Impact Assessment studies for all infrastructure projects in the cross-border area of cooperation which may precede or follow the mild measures proposed by the Program.
- Selection and evaluation of environmental indicators to establish a baseline environmental database which would enable benchmarking and ex post evaluation of the program results in specific fields such as water management, conservation status of biodiversity, etc.
- geotechnical studies and surveys,
- surveys mapping the atmospheric and the meteorological environment,
- noise level studies
- systematic recording of protected species of flora and fauna habitats (ecological baseline studies) especially if the region of study is characterized as of high environmental interesting (sites included in the Lists of NATURA 2000, CORINE, Convention Ramsar, SPA, National Forest, etc.).

12 CONSULTATION OUTCOMES

This chapter will be analyzed after the public and services consultation phase.

13 ANNEXES

13.1 BIBLIOGRAPHY

1. The Agenda 2030 of UN and the 17 Sustainable Development Goals (SDGs) (https://www.un.org/sustainabledevelopment/)
2. UN Convention on Biological Diversity and its protocols (https://www.un.org/ldcportal/convention-on-biological-diversity-cbd/)
3. United Nations Framework Convention on Climate Change – The Paris Agreement (https://unfccc.int/)
4. European Green Deal (https://www.eea.europa.eu/policy-documents/com-2019-640-final)
5. EU Biodiversity Strategy for 2030 (https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030)
6. European Climate Law (https://ec.europa.eu/clima/eu-action/european-green-deal/european-climate-law)
7. EU Strategy on Adaptation to Climate Change (https://ec.europa.eu/clima/eu-action/adaptation-climate-change/eu-adaptation-strategy_en)
8. COM(2013) 169: Green Paper. A framework for climate and energy policies 2030.
9. COM (2011) 244 final. Our life insurance, our natural capital: an EU biodiversity strategy to 2020
10. COM(2020) 652 final. Proposal for a Decision of the European Parliament and of the Council on a General Union Environment Action Programme to 2030.
11. Commission Communication entitled “Thematic Strategy for Soil Protection” (COM (2006) 231).
12. Natura 2000 network. (https://geodata.gov.gr/dataset/to-diktuo-natura2000-kai-prostateuomenes-periokhes).
13. Maritime Strategy for the Adriatic and Ionian Seas (COM(2012) 713
14. Integrated Coastal Zone Management (ICZM)
15. Protocol on Integrated Coastal Zone Management in the Mediterranean (2008).
16. Greece’s National Energy and Climate Plan (FEK 4893/B/31.12.2019). (https://ec.europa.eu/energy/sites/default/files/documents/el_final_necp_main_el.pdf)
17. Greece’s National Strategy for adaptation to Climate Change (https://ypen.gov.gr/wp-content/uploads/legacy/Files/Klimatiki%20Allagi/Prosarmogi/20160406_ESPKA_teliko.pdf)
18. ELSTAT, 2019. Estimated population and Migration Flows, 31 December 2019 (https://www.statistics.gr/documents/20181/79d452ad-8f9ec6eb-9f0e-82916e714866).
19. Greece’s National Action Plan for Circular Economy

20. Greece's National Waste Management Plan
21. Greece's National Waste Prevention Plan
22. Official Journal of the European Union (2011), COMMISSION IMPLEMENTING DECISION of 11 July 2011 concerning a site information format for Natura 2000 sites.
23. 'Clean Energy for EU Islands' launched in Malta (2017), https://ec.europa.eu/en 'Clean Energy for EU Islands' launched in Malta | Energy (europa.eu).
24. Clean Energy for EU Islands (2019), (https://euislands.eu/
25. Official Journal of the European Union, Directive 2008/50/ec on ambient air quality and cleaner air for Europe.(https://eur-lex.europa.eu/legal-content/EL/TXT/HTML/?uri=CELEX:32008L0050&from=el)
26. Just Transition Development Plan of lignite areas, (https://www.sdam.gr/sites/default/files/consultation/Master_Plan_Public_Consultation_ENG.pdf)

13.2 MAPS

1. REGIONS COVERED BY THE PROGRAMME
2. CORINE LAND COVER
3. PROTECTED AREAS

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