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NaTour4CChange



# Strategy for Mitigation and Adaptation to Climate Change in Coastal Tourism of Herzegovina-Neretva County- Canton

The Consortium:

Institut za turizam  
Institute of Tourism



CPMR  
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Natura Jadera  
PUBLIC INSTITUTION MANAGEMENT OF PROTECTED  
AREAS IN JADAR COUNTY



UNEP  
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Hellenic Society  
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Ministarstvo poljoprivrede,  
šumarstva i vodoprivrede HNŽ



Project Information	
Project Acronym	NaTour4CChange
Project Full Title	Governing sustainable tourism in territories with high environmental value: reconnecting tourism and nature for addressing the climate crisis with an ecosystem-based approach
Project Priority	#2: A Greener Med
Project Mission	#4 Enhancing Sustainable Tourism
Specific Objective	#2.4 Promoting climate change adaptation and disaster risk prevention, resilience, taking into account ecosystem-based approaches
Type of Project	Thematic Project
Contract No	
Start date	1 January 2024
Duration	33 months

Deliverable Information	
Deliverable no	2.5.1.
Deliverable title	Strategy for Mitigation and Adaptation to Climate Change in Coastal Tourism of Herzegovina-Neretva County-Canton
Contractual date of delivery	31.12.2024.
Actual date of delivery	December 2025
Type of deliverable	External
Nature of deliverable	Report
Work Package	WP2
Activities	2.5.
Partner responsible	HNC



## TABLE OF CONTENTS

<b>1. INTRODUCTION</b>	9
1.1. Structure, content and purpose of the document	11
1.2. Policy framework and methodological approach	13
<b>2. OVERVIEW OF THE MAIN FINDINGS RELATED TO TOURISM AND CLIMATE ISSUES IN HNC</b>	21
2.1. General information	21
2.2. Tourism SECTOR - state and impacts	28
2.3. Current trends in mitigation activities and projection	31
2.4. Current CLIMATE adaptation trends and action	34
2.5. Results of climate risk assessment	38
2.6. Challenges and recommendations for tourism development	40
2.7 SWOT analysis for tourism development regarding climate issues	42
<b>3. LONG-TERM VISION, PRIORITIES AND GOALS</b>	45
3.1. Long term statement and rationale	45
3.2. Criteria for dual climate and tourism strategy -mitigation and adaptation	46
3.3. Objectives for strengthening climate actions	48
<b>4. CLIMATE ACTION PLAN FOR TOURISM MITIGATION AND ADAPTATION IN HNC</b>	51
4.1. Action plan for mitigation and adaptation activities	51
4.2. Typology and examples of measures to enhance tourism resilience	52
<b>5. ENABLING CONDITIONS</b>	54
5.1. INDICATORS	54
5.2. REPORTING	55
5.3. ENGAGEMENT	56
5.4. REVIEW	56
<b>6. CONCLUSION</b>	58
<b>REFERENCES</b>	60
<b>ANEX 1- Climate Action Plan FOR MITIGATION AND ADAPTATION OF TOURISM IN HNC</b>	64



List of tables	Page
<b>Table 2.1.</b> Climate Risks in HNC	23
<b>Table 2.2.</b> Overview of the population by cities/municipalities of HNC according to the 2013 census and population estimates for 2018-2023.	25
<b>Table 2.3.</b> Employment structure in HNC by sector	26
<b>Table 2.4.</b> Tourist arrivals and overnight stays by type of facility	29
<b>Table 2.5.</b> The trajectory to 2030 of reducing CO <sub>2</sub> e	31
<b>Table 2.6.</b> Criteria, objectives and measures for climate change mitigation in HNC	33
<b>Table 2.7.</b> Current adaptation measures for vulnerable sectors in HNC	36
<b>Table 2.8.</b> Results of the Climate Risk Assessment for the HNC	39
<b>Table 2.9.</b> Climate challenges and climate impacts on tourism development	40
<b>Table 2.10.</b> SWOT analysis – tourism and climate change issues in HNC	43
<b>Table 3.1.</b> Criteria for strategic priorities - mitigation and adaptation in HNC	77
<b>Table 4.1.</b> Climate Action Plan for HNC - goals, measures, activities, responsible parties, and timeline for climate actions (mitigation, and adaptation)	64
<b>Table 4.2.</b> Infrastructural (grey), non-structural (soft) measures and NBS for consideration	70
<b>Table 4.3.</b> Proposals for Possible Projects with NbS Measures to Enhance Climate Resilience in Tourism in HNC	72

List of figures	Page
<b>Figure 1.</b> Geographical representation of partners in the NaTour4CChange project (Source: NaTour4CChange project)	7
<b>Figure 1.1.</b> Challenges for Nature-based Solutions	12
<b>Figure 1.2.</b> Geographical position of HNC in BH (picture on the left), Map of the HNC (picture on the right)	16
<b>Figure 1.3.</b> NP Hutovo Blato, Upper horizons and appearance of the Trebišnjica hydro system.	18
<b>Figure 2.1.</b> Climate types in BiH	22
<b>Figure 2.2.</b> Number of passengers at Mostar Airport 2019-2023.	28
<b>Figure 2.3.</b> Trajectory of CO <sub>2</sub> e emission reductions without LULUCF in BiH from 2022 to 2030, by sector	32





Version	Date	Contributors
1	December 2025.	HNC, GEKOM Ltd.
final	31. December 2025.	HNC, GEKOM Ltd.



## Project Overview

**The Mediterranean region** is one of the most vulnerable, warming 20% faster than the global average due to global warming. It is the second largest biodiversity hotspot in the world due to climate change and anthropogenic pressures on ecosystems. The increase in the frequency of extreme weather events is likely to affect the choice of destinations and travel times of more than 510 million of its inhabitants. The effects of climate change will further strain already threatened ecosystems and vulnerable economies and societies, with tourism being one of the most affected economic sectors.

The European Commission's report "Transition Path for Tourism" and the United Nations' "Glasgow Declaration" provide a framework for global climate action in tourism. On the other hand, ecosystem-based management is considered as a good practice for effectively addressing these threats. It considers the different stakeholders and factors that affect ecosystems and the mechanisms needed to find solutions. In the context of tourism in European destinations, nature can offer solutions to the climate challenge, while ensuring the protection of key destination assets, such as beaches. However, policy makers and destinations need stronger **support and tools** to develop effective climate change mitigation and adaptation policies.

The project **"NaTour4CChange"** - Managing Sustainable Tourism in Areas of High Ecological Value: Reconnecting Tourism and Nature to Address the Climate Crisis with an Ecosystem-Based Approach" aims to implement synergistic global and regional climate and ecosystem policies, led by the Intergovernmental Panel on Climate Change (IPCC<sup>2</sup>) and the International Union for Conservation of Nature (IUCN<sup>3</sup>). The project also aims to improve multi-level destination governance structures, climate and environmental responsible planning and long-term involvement of the private sector and citizens.

Building on successful experiences at the Mediterranean and global levels, the project tests solutions to increase the resilience of coastal destinations in the Mediterranean (Figure 1). The project aims to establish common governance methods that will enable the regions involved to assess priorities related to climate change mitigation and adaptation in tourism and to take climate action that supports collaborative governance.

Within the framework of the NaTour4CC project, a methodology based on UN and EU documents in the fields of tourism, climate and nature conservation has been established and regional strategies have been developed as a framework for action and governance. Furthermore, in selected pilot destinations within the regions, cross-sectoral teams are developing specific climate action plans in tourism with a focus on climate change adaptation, focusing on the design

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<sup>1</sup> <https://natour4cchange.interreg-euro-med.eu/>

<sup>2</sup> Intergovernmental Panel on Climate Change (IPCC)

<sup>3</sup> International Union for Conservation of Nature (IUCN), partner on the project NaTour4CChange



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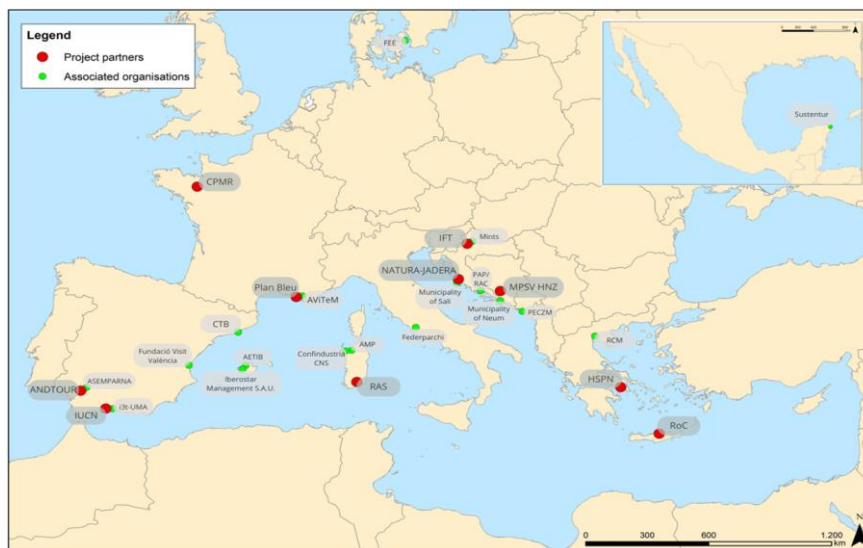


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and testing of IUCN Nature-based Solutions (NbS) to ensure their feasibility. The project also aims to establish an innovative approach to destination marketing and communication that involves tourism stakeholders in climate action and ecosystem protection.

The project also ensures **mutual learning** and exchange of experiences between the regions involved in the project and their destinations (pilot areas), to establish common methods and compare different plans and solutions being tested, which will result in best practices, lessons and recommendations for decision-makers in the regions themselves, but also European and global policies. Thus, the NaTour4CChange project represents an opportunity to transform the “tourism landscape” of the Herzegovina-Neretva County - Canton(HNC) by integrating sustainability into practices that respond to climate challenges, while at the same time promoting economic and social resilience. Through collaboration and adaptive management, the project paves the way for a sustainable tourism future in this region.

The partnership consists of 10 partners from seven countries, and the project involves 18 additional associated partners from 9 countries. The partners are: Zagreb Institute for Tourism (IFT) - lead partner of the project, IUCN (Spain), Plan Bleu (France), CPMR (France), HSPN (Greece), Regional Ministry of Tourism of Andalusia (Spain), Autonomous Region of Sardinia (Italy), Ministry of Agriculture, Forestry and Water Management of HNC (BiH), Natura-Jadera (Croatia) and Region of Crete (Greece) (Figure 1).



**Figure 1.** Geographical representation of partners in the NaTour4CChange project (Source: NaTour4CChange project)



## Glossary

**Climate Change Adaptation (CCA)** means anticipating the adverse effects of climate change and taking appropriate measures to prevent or minimise the damage they may cause, or to take advantage of the opportunities that may arise.

**Climate Change Mitigation (CCM)** means making the impacts of climate change less severe by reducing the sources of emission of greenhouse gases (GHG) into the atmosphere or by improving the storage of these gases.

**Ecosystem Services (ES)** are the benefits that an ecosystem brings to society and that improve people's health, economy, and quality of life.

**Ecosystem-based Approaches (EbA)** focus on managing biodiversity and ecological systems in a holistic way to maintain and enhance ecosystem services benefits and functions.

**Nature-based Solutions (NbS)** encompasses all actions that rely on ecosystems and the services they provide to respond to various societal challenges such as climate change, food security, resource management, or disaster risk.



## 1. INTRODUCTION

The European Union (EU) has long been at the forefront of global climate action, recognizing the urgent need to address the multifaceted challenges posed by climate change. With increasing temperatures, extreme weather events, and rising sea levels, the impacts of climate change are becoming more pronounced across Europe. In response, the EU has set ambitious targets and policies aimed at both mitigation and adaptation.

### Importance and Benefits of the Strategy for HNC

The importance of this strategy for climate change mitigation and adaptation in tourism of the Herzegovina-Neretva County-Canton, which emerged from the EURO-MED Interreg NaTour4CChange project, lies in two reasons:

- **it provides insight into the global "dealing" with the consequences of climate change**, which result in a range of risks - from extremes that threaten people's lives, property and natural resources to water and food shortages and the emergence of climate refugees
- **it provides direction for the development of climate-resilient tourism**, in line with global and EU guidelines and the county specificities of HNC for climate change mitigation and adaptation.

Specifically, HNC is facing growing climate challenges - **heat waves, droughts, floods and forest fires**, which threaten tourism infrastructure, natural attractions and visitor safety. At the same time, tourism is a strategic sector of the economy of HNC, directly linked to agriculture, energy and transport. Without urgent implementation of mitigation and adaptation measures, the destination risks a reduction in arrivals, loss of income and degradation of the ecosystem.

**Failure to implement** this and similar strategic or planning documents may result in:

- **a reduction in the competitiveness** of the tourist destination on the national and international market
- **an increase in the costs** of infrastructure renovation, rehabilitation of natural areas after the occurrence of climate risks and human casualties
- **a loss of income** for local communities and a reduction in the economic resilience of the tourism sector
- **a degradation of natural resources** and biodiversity
- **a reduction in the quality of life** of citizens and visitors.

If strategic and planning documents in the field of climate neutrality and climate resilience, such as this Strategy, are implemented, the outcomes for HNC are that:

- **the level of resilience** of tourism and local communities to climate change is increased
- **the risk of damage** and disruption in tourist traffic is reduced.



- **reduce GHG** by reducing the carbon footprint of the tourism sector
- **diversify the tourism** offer and strengthen the attractiveness of the destination throughout the year
- **achieve economic benefits** through "green" investments, new jobs and the development of local products and services (value chain)
- **strengthen the image of HNC** as a climate-responsible and sustainable destination, aligned with EU standards.

### Five Key Messages of the Strategy

Considering global and EU guidelines, as well as national, county/canton, and local policies and documents, along with the outputs of the NaTour4CChange project (e.g., the document "Identification and Assessment of Key Issues Related to Tourism in Mitigating and Adapting to Climate Change" 2.4.1.), this Strategy encompasses an analysis of the state of HNC, a long-term vision and priorities, and proposes goals, measures, and conditions for implementation (indicators, reporting, stakeholder engagement, and performance evaluation). To succinctly present the focus of this Strategy, five of its messages can be communicated:

**Long-term and multi-level commitment and coordination are critical:** the HNC and local communities need to actively support climate measures in tourism.

**Decarbonization and climate resilience are not an option, but an imperative:** energy-efficient infrastructure and sustainable transport reduce emissions and protect tourism resources.

**The protection of natural resources and ecosystem services is the foundation of sustainable tourism;** NbS solutions enhance the resilience of ecosystems, communities, and the local economy.

**Diversification of the tourism offering and infrastructure** reduces seasonality, broadens economic benefits, and promotes development throughout the entire canton.

**A financial framework and education** ensure the implementation of the Strategy, involving the private sector and local communities, and continuously strengthen capacities for climate action.



## 1.1. STRUCTURE, CONTENT AND PURPOSE OF THE DOCUMENT

This document is a part of the NaTour4CChange project - "Governing sustainable tourism in territories with high environmental value: reconnecting tourism and nature to address the climate crisis with an ecosystem-based approach", funded by the Interreg Euro-MED programme, with the HNC Ministry of Agriculture, Forestry and Water Management as a project partner.

This document is developed according to the document ""Identification and Assessment of the Main Coastal Tourism-Related Issues Concerning Climate Change Mitigation and Adaptation for HNC" - Deliverable 2.4.1. and knowledge base of project NT4CC and other relevant sources, particularly "Blueprint for Tourism Climate Action Plans – A Guide for Regional Authorities and Destination Management Organizations (DMOs)", "Glasgow Declaration on Climate Action in Tourism", IPCC guidelines and Climate Action Planning Toolkit for Mediterranean Regional Authorities and DMOs.

The structure of this document follows logical units, so the first two chapters (Introduction and Overview of Development, Tourism and Climate Issues in HNC) are focused on presenting the policy framework, methodological guidelines, and part of the situation analysis (see Deliverable 2.4.1.) In the other two chapters (Long-term vision, Criteria and Goals, and Climate Action Plan) this document elaborates the vision, criteria, goals, measures, and activities with indicators and enabling conditions for implementation of this strategy. Finally, Chapter 5 provides the guidelines for stakeholders needed to ensure and support the smooth implementation, monitoring and reporting of this strategy.

Content of the document covers key issues regarding mitigation and adaptation of HNC and provide insight in climate related hazards that threatens the tourism industry in HNC. This document also provides Climate Risk Assessment (CRA), long term vision for resilient tourism, including mitigation and adaptation objectives, measures, activities, indicators and enabling conditions for mitigation and adaptation of tourism.

The purpose of this document is to identify and assess key issues and related solutions (measures/activities for mitigation and adaptation) linking Mediterranean and sub-Mediterranean tourism with climate change mitigation and adaptation and outlines a climate-tourism strategy for the HNC. The document aims to strengthen the resilience of HNC to climate change through the tourism sector based on Ecosystem Approach and Nature – based Solutions – NbS (IUCN<sup>4</sup>). Such IUCN framework provide basis for managing land, water, and living resources to promote conservation and equitable, sustainable use to all sectors, and tourism as well. To tackle negative relationship between tourism and climate change on the long term the focus is on Natural-based Solutions but also on other (infrastructural and non-structural) measures.

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<sup>4</sup> <https://iucn.org/resources/publication/ecosystem-approach-five-steps-implementation>



Tourism destinations are generally vulnerable to climate change. Investments in emission reduction and adaptation measures often lead to increased operational costs for tourism operators. In many cases, the financial burden associated with mitigation and adaptation projects exceeds the capabilities of tourism enterprises, especially SMEs, as well as local communities.

The project therefore aims to support the establishment of adaptive nature-based solutions (NbS) and to ensure a shared management approach for sustainable tourism in ecologically valuable areas. The aim is to ensure mutual benefits for visitors, destination management structures (pilot areas) while preserving ecosystems. Namely, NbS respond to a number of key challenges, including climate change mitigation and adaptation, strengthening ecosystem resilience and carbon sequestration capacities (Figure 1.1.).



**Figure 1.1.** Challenges for Nature-based Solutions (Source; IUCN, 2020)

In general, NbS provide visible results in responding to biodiversity loss through habitat protection and restoration, supporting species diversity. They also contribute to reducing the risk of natural disasters, e.g. by stabilizing the coast and reducing erosion. In urban areas, they improve air quality and reduce the heat island effect, contributing to healthier living conditions. NbS also provide benefits in water management by improving water quality and availability and promoting sustainable agriculture. In this way, social well-being is promoted and potentially economic, as the implementation of NbS can create new “green jobs”.





## 1.2. POLICY FRAMEWORK AND METHODOLOGICAL APPROACH

### Policy framework

The European Union (EU) has been a leader in global climate action, addressing the complex challenges posed by climate change, including rising temperatures, extreme weather, and sea level rise. In alignment with international agreements like the **Paris Agreement** and the **Glasgow Declaration**, the EU is committed to ambitious mitigation and adaptation strategies. The **EU Green Deal** is a comprehensive initiative aimed at addressing climate change by promoting sustainability, achieving urgent climate resilience (adaptation), and climate neutrality (decarbonization) across Europe by 2050.

- **Mitigation** involves reducing greenhouse gas emissions to combat global warming. Central to the EU's efforts is the European Green Deal, which aims for climate neutrality by 2050, seeking to decouple economic growth from resource use. Key initiatives include promoting renewable energy, enhancing energy efficiency, and fostering sustainable transportation, underscored by the EU Emissions Trading System (ETS) to incentivize emissions reductions.
- **Adaptation** to the unavoidable impacts of climate change is essential. The EU's Adaptation Strategy encourages member states to develop comprehensive plans that integrate climate considerations across sectors such as agriculture, tourism, Water management or urban planning. By investing in climate-resilient infrastructure and promoting sustainable land use, the EU aims to protect communities and ecosystems from climate-related risks.

This **dual approach** of mitigation and adaptation reflects the EU's commitment to a holistic response to climate change. To detect main issues and reliable measures for both climate actions, the following international and EU documents are considered:

**United Nations Framework Convention on Climate Change (UNFCCC):** As a signatory, HNC is committed to reducing greenhouse gas emissions and enhancing adaptive capacity. The UNFCCC framework serves as the foundation for all climate action strategies implemented global level.

**Paris Agreement (2015):** Through its alignment with the EU, HNC has pledged to pursue climate-neutral development pathways and adaptation strategies aimed at limiting global temperature rise to below 2°C. This commitment influences the development of climate resilience plans, particularly in relation to tourism-specific adaptation measures in the region.



**Sendai Framework for Disaster Risk Reduction (2015–2030):** This global strategy emphasizes disaster risk reduction as a critical component of climate resilience.

**EU Green Deal (2019):** As part of the EU framework, HNC aligns with the objectives of the Green Deal, which seeks to achieve climate neutrality by 2050, promote climate adaptation, protect biodiversity, and facilitate the transition to clean energy. EU funding mechanisms under this initiative support implementation in HNC.

**EU Adaptation Strategy (2021):** This strategy focuses on building climate-resilient societies through improved knowledge and data (Climate Adapt), increased risk awareness, and support for nature-based solutions. It strongly aligns with the climate risk assessments and action plans.

**Glasgow Declaration on Climate Action in Tourism (2021):** Launched at COP26, this global initiative calls for the tourism sector to accelerate climate action by reducing tourism-related emissions by 50% by 2030 and achieving Net Zero by 2050. Signatories commit to measuring their carbon footprint, restoring, and protecting ecosystems, collaborating across sectors, and securing financing for climate action through annual updates to their climate action plans.

This strategy for the mitigation and adaptation of tourism in HNC to climate change has been developed through a review of the legislative framework of BiH, FBiH, and HNC, as well as the mentioned **international and EU documents**. Table 1.1. provides a summary of their relevance in the context of HNC's strategic commitment to developing climate-neutral and resilient tourism.

Table 1.1. shows information about key conventions, legal frameworks, and initiatives in the area of mitigation and adaptation in tourism, as well as a description of their contribution to the creation of this document.

**Table 1.1.** Key international and EU documents, agreements, and initiatives

Document/ Initiative	Year	Goals/obligations for HNC	Contribution to HNC climate- strategy tourism	EU/International relevance
<b>UN Framework Convention on Climate Change (UNFCCC)</b>	1992	Reduction of greenhouse gas emissions, strengthening adaptation capacity in vulnerable sectors	Guidelines for climate policies and climate risk assessment in tourism and natural areas	Global commitment; BiH is a signatory
<b>Paris Agreement</b>	2015	Climate-neutral development;	Integration of tourism-specific adaptation	EU and global coordination of



		limiting global temperature rise to < 2 °C	measures (e.g., protection of natural attractions, infrastructure resilience)	climate policies; BiH is a signatory
<b>Sendai Framework for Disaster Risk Reduction</b>	2015 – 2030	Reduction of disaster risk and strengthening resilience	Development of protocols and plans for the resilience of tourist destinations to floods, fires, and extreme weather events	Global risk management framework
<b>European Green Deal</b>	2019	Climate neutrality by 2050; biodiversity protection; transition to clean energy	Inclusion of green infrastructure in tourist destinations and NbS approaches	EU strategic framework + financial instruments (e.g., LIFE, IPA, WBIF)
<b>EU Climate Adaptation Strategy</b>	2021	Building a climate-resilient society; Climate Adapt, data, and awareness	Development and application of nature-based solutions (NbS) in tourism; education of tourism stakeholders	EU instrument for adaptation and financing
<b>Glasgow Declaration on Climate Action in Tourism (Tourism COP26)</b>	2021	Reducing tourism emissions by 50% by 2030; Net Zero by 2050	Monitoring tourism emissions, restoration and protection of ecosystems, involving other sectors that support tourism, collaboration	Global initiative; relevant to EU policies and financing for climate action in tourism

Analyses of relevant data and information is provided according to content of following **national, county/cantonal, and local documents** (full list is available in References section):

- Tourism Development Strategy of the Federation of Bosnia and Herzegovina 2022-2027
- Federal Environmental Protection Strategy 2022-2032
- Herzegovina-Neretva County Development Strategy for the period 2021-2027
- Herzegovina-Neretva County Tourism Development Strategy 2011-2021
- Tourism Development Strategy of the West Herzegovina County for the period 2020 - 2027
- Spatial Plan for HNC (2021)
- Spatial Plan of the City of Municipality of Čapljina 2023
- Integrated Development Strategy for Čapljina 2017-2027
- Water Management Plan for the Adriatic Sea River Basin District 2022 – 2027
- Spatial Plan of the Area of Special Characteristic for the Area of Importance for HNC “Hutovo Blato Nature Park” for the perios from 2013 to 2023
- Spatial Plan for HNC

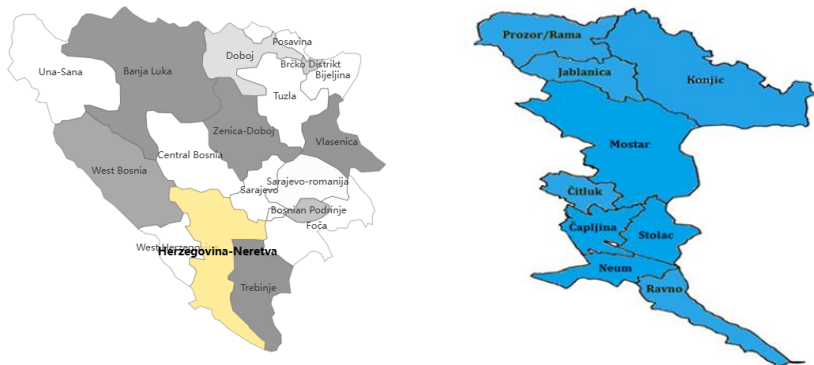


- Development Strategy of Mostar for the period 2022-2027.
- Development Strategy of the Municipality of Stolac 2015-2025
- Spatial Plan of the Municipality of Stolac for the period 2013 – 2023

All the above documents recognize the issue of the impact of climate change and necessity of responsible planning, management, and improvements to provide foundation for tourism while respecting the principles of sustainability.

### Area of interest

The area of interest is the **Herzegovina-Neretva County - Canton (HNC)** with Mostar as its capital city (Figure 1.2). This county is part of the Federation of Bosnia and Herzegovina (BiH) and an administrative region located in the southern part of Bosnia and Herzegovina (BiH). The economy of the HNC relies heavily on agriculture, tourism and manufacturing industry. Destinations such as Mostar, Stolac, Neum, Čapljina, Prozor-Rama and Konjic are cultural and economic centres. The area is known for its diverse landscapes in the Neretva Valley and the near the Adriatic coast (Neum). It is rich in cultural heritage, including the Old Bridge in Mostar, a UNESCO site. The region plays a key role in promoting tourism due to its natural beauty and cultural and historical sites.



**Figure 1.2** Geographical position of HNC in BH (picture on the left), Map of the HNC (picture on the right)

The HNC has valuable natural and cultural-historical resources that represent a strong foundation for sustainable and competitive tourism development. The diversity of landscapes, rich cultural heritage, historical sites, traditional lifestyle and gastronomic offer enable the formation of a year-round and diverse tourist offer.

The primary tourist destinations of the HNC are Mostar, Međugorje and Neum, which play the role of the carrier of tourism and recognition on the international market. In addition, secondary destinations such as Počitelj, Blagaj, Blidinje



National Park, Hutovo Blato Nature Park, Boračko Lake, Stolac, Čapljina, Konjic, and municipalities of Jablanica, Prozor – Rame, and Ravno<sup>5</sup> have significant tourism potential. These destinations contribute to the dispersion of tourist flows and the development of special forms of tourism (i.e. cultural, gastro and rural tourism). Most accommodation capacities are in private facilities (family-owned).

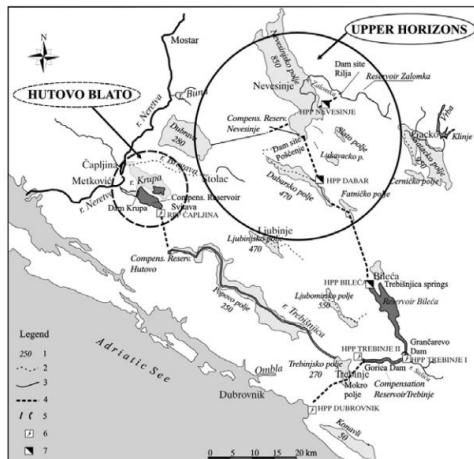
The target markets include domestic tourists, visitors from the Adriatic coast, tourists from the wider region, foreign guests with a special emphasis on Western European markets and the Republic of Turkey, as well as the diaspora and tourists from selected overseas markets. Key target groups include religious pilgrims (Međugorje), nature and active holiday lovers (Neretva Valley and protected areas), cultural and gastronomic tourists (Mostar, Počitelj), athletes, as well as pupils and students.

**The significance of the NaTour4CChange** project for HNC lies in the analysis and planning of socio-economic activities, which are deeply rooted in its natural values. Namely, the deep intertwining of natural resources and climatic conditions of this region and climate change play a key role in shaping tourism activities in this region. Globally, tourism contributes significantly to greenhouse gas emissions (5-10%) and is increasingly exposed to extreme weather conditions and other climate-related hazards. To implement the appropriate steps within the NaTour4CChange project, the document "Identification and assessment of the main issues related to tourism related to climate change mitigation and adaptation" was prepared prior to this strategy (deliverable no. 2.4.1.). Parts of this document, primarily an overview of data and activities related to climate mitigation and adaptation, as well as climate vulnerability analysis and tourism statistics, were incorporated into this strategy for a comprehensive insight into the situation, which is important for decision-making and planning the development of HNC.

In addition, this strategy represents the basis for the creation of a **local "Climate Action Plan for the destination Nature Park Hutovo Blato"**, with the aim of ensuring its long-term climate resilience and sustainable tourism (Figure 1.3).

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<sup>5</sup> The Municipality of Ravno contains the protected landscape 'Vjetrenica – Popovo Polje' with a total area of 4,710.17 ha."



**Figure 13.** NP Hutovo Blato, Upper horizons and appearance of the Trebišnjica hydro system. Legend: 1 = altitude; 2 = temporary flow; 3 = permanent flow (river or canal); 4 = tunnel route; 5 = dam or dam site; 6 = power plant (in operation); 7 = power plant (proposed); Source: Milanović, 2006

**Hutovo Blato Nature Park** (NP Hutovo Blato) was established in 1995. It is in southeastern Herzegovina on the left bank of the Neretva River in the municipalities of Čapljina and Stolac. It covers an area of 7.824 ha. It is 20 km from the state border with the Republic of Croatia. The area includes the mountainous parts of Londža and Košćel with the highest elevation of 588 m above sea level (Budisavina) and a water part with six larger lakes: Deransko, Svitavsko, Jelim, Orah, Drijen and Škrka (altitudes 1.5–2.5 m). Some springs reach 15 m below sea level. The Krupa River directly connects Hutovo blato with the lower reaches of the Neretva. Most tourist activities, which are still in developing phase, take place on Karaotok. The visiting season is in spring and early autumn.

PP Hutovo Blato has been a **Ramsar site** since 2001. It was declared as a nature park in 1995. The Ramsar Convention promotes the sustainable use of wetlands, especially as bird habitats, through local, regional and international measures. The park is one of the largest wintering grounds for birds in Europe and a green oasis that removes more carbon from the atmosphere than all the forests in BiH. This habitat for numerous plant and animal species is important from an ornithological, ichthyological, scientific, ecological and touristic point of view.

A large part of the park is under some form of anthropogenic influence, which poses a challenge in the management and protection of natural values. Namely, hydropower systems (HE Čapljina and systems upstream of the Neretva River) and intensive agriculture, which takes place in a significant part of the park itself, are irreversibly degrading the ecosystem. Threats from human activity combined with climate change (a global mega-trend) are irreversibly damaging this valuable resource of the HNC.



The inclusion of NP Hutovo Blato in the NaTouCChange project is important not only because of its exceptional biological diversity, but also because of its socio-economic importance for the local community.

### Methodological approach

This document was developed based on relevant analyses of available documents, statistical and other data related to the general characteristics of the HNC territory (hydrological and climatic conditions, tourist and attraction base, demographics and economic data), and analyses of climate and tourism policies, as well as based on climate risk assessment and examples of good practice. The document "Identification and assessment of key tourism-related issues related to climate change mitigation and adaptation" (deliverable 2.4.1.) was consulted.

The methodological approach to climate change mitigation was based on an assessment of the decarbonization process at the national, federal and county/cantonal levels. However, specific data on energy consumption and greenhouse gas (GHG) emissions at the NUTS2 and NUTS3 levels are not available. The document - deliverable 2.4.1., presents available data and information, including measures currently implemented in the field of climate change mitigation. General recommendations for improvement in this area are also provided.

Regarding the topic of climate change adaptation, data on the most pronounced climate threats were taken from the document (from deliverable 2.4.1.) and from available sources: the Federal Hydrometeorological Service<sup>6</sup>, Copernicus Atlas<sup>7</sup>, in cooperation with Plan Bleu (one of the project partners)

To assess climate risks for tourism, a climate vulnerability analysis was conducted for three thematic areas (TP):

- a) tourism infrastructure
- b) tourism offers
- c) protected areas.

**A participatory approach** was applied through a questionnaire. The questionnaire was distributed to decision-makers, tourism managers, experts, managers of the NP Hutovo Blato and the local community. Spatial and socio-demographic data were also considered, and climate risks was conducted (Chapter 2.5.).

To determine the **criteria, objectives, measures, activities and indicators** for the purposes of this strategy, in addition to document deliverable 2.4.1. the following documents and guidelines were used:

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<sup>6</sup> <https://www.fhmbzbi.gov.ba/latinica/>

<sup>7</sup> <https://atlas.climate.copernicus.eu/atlas>



- Methodological Framework for Regions and Destinations for Assessing the Main Coastal Tourism-Related Issues Concerning Climate Change (Deliverable 1.4.)
- Blueprint for Tourism Climate Action Plans – A Guide for Regional Authorities and Destination Management Organizations (DMOs)<sup>8</sup>
- Glasgow Declaration on Climate Action in Tourism<sup>9</sup>, IPCC guidelines<sup>10</sup>
- Climate Action Planning Toolkit for Mediterranean Regional Authorities and DMOs<sup>11</sup>
- IUCN Global Standards for NbSs<sup>12</sup>.

The aim is to propose measures, activities, and indicators in the foreseeable future (short, medium, and long term) for both mitigation and adaptation.

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<sup>8</sup> <https://sustainable-tourism.interreg-euro-med.eu/wp-co>

<sup>9</sup> <https://www.untourism.int/the-glasgow-declaration-on-climate-action-in-tourism?utm>

<sup>10</sup> [https://www.adaptationcommunity.net/download/va/vulnerability-guides-manuals-reports/vuln\\_source\\_2017\\_EN.pdf](https://www.adaptationcommunity.net/download/va/vulnerability-guides-manuals-reports/vuln_source_2017_EN.pdf)

<sup>11</sup> <https://natour4cchange.interreg-euro-med.eu/wp-content/uploads/sites/49/n4cc-climate-action-planning-toolkit-1.pdf>

<sup>12</sup> <https://iucn.org/our-work/topic/iucn-global-standard-nature-based-solutions>





## 2. OVERVIEW OF THE MAIN FINDINGS RELATED TO TOURISM AND CLIMATE ISSUES IN HNC

### 2.1. GENERAL INFORMATION

The spatial, climatic, and socio-economic profile of HNC offers critical insights into the region's characteristics and its potential for adaptive and sustainable development. Understanding the geographical, geomorphological, climatic, and demographic contexts, including economic trends such as employment structures in key sectors and the tourism industry is essential for evaluating the climate resilience of tourism and related activities.

#### Climatic Characteristics

**The climate of BiH** is very complex due to the influence of geographical and climatic factors. The **Adriatic Sea** has a significant impact on the climate, especially during the colder part of the year when it releases large amounts of thermal energy, mitigating winter temperature extremes.

Elevation and relief, particularly the arrangement of **mountain** ranges, lowlands, basins, and karst fields, strongly influence the climate and largely modify it. The Dinaric Mountains have a pronounced climatic impact as they act as a natural barrier, preventing the influx of cold air masses from the north and warm air masses from the south.

Through **karst basins** and valleys of large rivers, cold air masses from the north and warm air masses from the south penetrate deeper into the interior of the country, bringing characteristics of Central European continental and Mediterranean climates. The type of substrate, as well as the vegetation and snow cover, also affect the characteristics of climatic elements, further shaping the climate of a particular area.

Therefore, three basic climate types can be distinguished in Bosnia and Herzegovina: continental and moderately continental climate, mountain and mountain-basin climate, and Mediterranean and modified Mediterranean climate, which can be detailed in Figure 2.1.



**Figure 2.1.** Climate types in BiH (Source: Federal Hydrometeorological Institute<sup>13</sup>)

**The climate of the HNC** is predominantly characterized by a Mediterranean and modified Mediterranean climate, while the mountain climate occurs secondarily, limited to the higher and more relief-complex areas of the canton. It is precisely the combination of marine influence, valley penetrations, and mountain barriers that makes the climate in HNC distinctly diverse.

The HNC is located in the **southern part of BiH**, which, according to climate regionalization, belongs to the sub-Mediterranean and Mediterranean climate areas. The proximity of the Adriatic Sea and the openness of the Neretva River valley enable a strong maritime influence, especially in the lowland and valley parts (Mostar, Čapljina, Stolac). In these areas, mild and humid winters, hot and dry summers, a winter maximum, and summer minimum precipitation, as well as a very high number of sunny hours, are characteristic.

**In the higher altitude areas of HNC** (Prenj, Čabulja, Velež, and parts of the Čvrsto area), the climate takes on mountain and mountain-basin characteristics: lower temperatures, higher amounts of precipitation, more frequent snow, and longer duration of snow cover, as well as greater spatial differences in climatic elements. These areas represent a transitional zone between Mediterranean and continental-mountain climates.

<sup>13</sup> <https://www.fhmzbih.gov.ba/latinica/KLIMA/klimaBIH.php>



## Key Climate Risks and Threatened Resources in HNC

Climate change is a global trend and manifests itself in a series of changes in landscapes, ecosystems, as well as in property and human health. Among the climate risks faced by HNC, **droughts, heat waves, floods, forest fires, and changes in water regimes** stand out particularly (Table 2.1.).

**Table 2.1.** Climate Risks in HNC

Climate risk	Description of the risk	Most threatened resources/sectors
<b>Droughts</b>	Prolonged dry periods and reduced precipitation in summer months	Water resources, agriculture, water supply, ecosystems
<b>Heat Waves</b>	Increased frequency and intensity of extremely high temperatures	Population health, agriculture, energy sector
<b>Floods and Flash Floods</b>	Intensive precipitation in a short period, rise in river water levels	Agricultural land, infrastructure, settlements
<b>Forest Fires</b>	High temperatures, drought, and low humidity	Forest ecosystems, soil, biodiversity
<b>Erosion and Soil Degradation</b>	Soil washing due to heavy precipitation and relief features	Agricultural land, forests, watercourses
<b>Changes in Water Regime</b>	Reduced inflows and seasonal irregularity of flows	Hydropower potential, aquatic ecosystems

These risks directly threaten water resources, agriculture, forest ecosystems, biodiversity, infrastructure, and the energy sector, thereby increasing the need for systematic climate change adaptation measures and strengthening the **resilience of the population, space, and economy**, including tourism.

## Spatial Characteristics

HNC is a part of BiH and administratively part of the Federation of Bosnia and Herzegovina (FBiH). It is situated in the southwestern region of FBiH, with the government and assembly located in the City of Mostar. The HNC encompasses nine local self-government units: Cities of Mostar, Čapljina, Solac, and Konjic, along with the municipalities of Čitluk, Jablanica, Prozor-Rama, Neum, and Ravno, (Figure 1.2.).

HNC holds strategic significance for FBiH, providing a connection to the **Adriatic Sea**. The region is renowned for its rich cultural and natural heritage, highlighted by historic cities like Mostar, Stolac, and Počitelj. The Neretva River traverses the landscape, giving rise to fertile valleys that bolster agricultural development. The coastal area in Municipality of Neum, characterized by a Mediterranean climate, is particularly conducive to tourism. The most



prominent sectors in HNC are agriculture, industry (mainly processing), and tourism.

**The landscape** is diverse, featuring plateaus, canyon valleys, wetlands, and unique hydrological phenomena that contribute to a distinctive ecosystem. This diversity arises from extensive geological changes and the area's position between continental and coastal influences. The Dinaric karst terrain includes an underground network of watercourses that shape the landscape, with water flowing both above and below ground through caves, channels, and sinkholes. While this karst environment creates fertile zones like Hutovo Blato, risks associated with hydrological characteristics represent a key challenge.

**The water source** for the region is the Neretva River, nourished by numerous tributaries such as Rama, Grabovica, Drežnica, Buna, Radobolja, Trebižat, Krupa, and Bregava. These water bodies form a complex system crucial for local livelihoods, irrigation, and food production. Lakes and reservoirs within HNC play vital roles in energy generation, environmental protection, and tourism by providing extensive ecosystem services. For instance, the role of Jablanica Lake is evident in protecting the city of Mostar from floods, and complex watercourse systems also regulate river flow during droughts and improve water quality by filtering pollutants. Water bodies also help moderate the microclimate, stabilize temperatures, and support hydropower, thus reducing dependence on fossil fuels. Additionally, these reservoirs provide water for agriculture, industry, and drinking, fostering economic growth.

The serene waters, picturesque landscapes and nature (especially those that are protected) **promote tourism and recreation**. The nature areas also hold cultural and scientific significance, drawing ecotourists, and researchers. The diverse natural and hydrological features of HNC represent the basis for further improvement of energy security, tourism, agriculture while preserving biodiversity and local identity.

### Demographic Characteristics

Regarding available data source<sup>14</sup>, in 2013 HNC had 222,007 inhabitants, but by 2024 the number had dropped to around 212,100, which is a consequence of emigration and migration from rural to urban areas (Table 2.2.). The share of urban population in HNC is 42.5%. The largest urban centre is Mostar (around 63% of the urban population of the HNC).

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<sup>14</sup> Federal Statistical Office: <https://fzs.ba/index.php/demografska-statistika-statisticki-bilteni/>



**Table 2.2.** Overview of the population by cities/municipalities of HNC according to the 2013 census and population estimates for 2018-2023.

City/ municipality	2013	2018	2019	2020	2021	2022	2023	2024
Čapljina	26,157	25,024	24,892	24,807	24,547	24,363	24,178	23,992
Čitluk	18,14	17,955	17,944	17,916	17,843	17,828	17,733	17,700
Jablanica	10,111	9,730	9,658	9,622	9,517	9,440	9,380	9,265
Konjic	25,148	24,140	23,959	23,770	23,445	23,135	22,936	22,82
Grad Mostar	105,794	105,371	105,203	105,074	104,409	103,948	103,685	103,467
Neum	4,653	4,432	4,389	4,369	4,371	4,358	4,342	4,340
Prozor-Rama	14,280	13,643	13,515	13,414	13,271	13,104	12,960	12,823
Ravno	3,219	3,201	3,209	3,197	3,210	3,204	3,218	3,223
Stolac	14,502	14,269	14,201	14,079	13,910	13,747	13,669	13,621
<b>Total</b>	<b>222,004</b>	<b>217,765</b>	<b>216,970</b>	<b>216,248</b>	<b>214,523</b>	<b>213,127</b>	<b>212,101</b>	<b>211,251</b>

Source: Federal Statistical Office, 2024.

The proportion of young people (under 15 years) remains significant but is gradually decreasing, while the percentage of individuals aged 65 and over is on the rise. Considering this trend in **aging population** poses challenges for the region, as it may lead to increased demands on social services and healthcare systems.

**Migration** is a notable demographic trend in HNC, with a history of both internal and external migration. This trend has resulted in a decline in the population of certain rural areas, leading to concerns about depopulation and the sustainability of local communities. Conversely, HNC has also attracted migrants from other parts of BiH and neighbouring countries due to its strategic geographical position and economic opportunities, particularly in tourism and trade.

**Urbanization** is another critical demographic trend affecting HNC, particularly in Mostar, which serves as a cultural and economic hub. As urban areas expand, issues such as infrastructure development, housing, and public services become increasingly important. In response, local authorities are tasked with implementing comprehensive urban planning strategies to accommodate population growth and improve living conditions.

### Economic trends and connectivity

Demographic trends in HNC have significant economic implications. The aging population may strain the labour market and social welfare systems,



necessitating policies to encourage workforce participation among older adults and strategies to attract younger generations. Additionally, the reliance on migration for economic growth highlights the need for supportive measures that enhance local job creation, particularly in sectors such as tourism, agriculture, and services.

Employment in the HNC is shaped by a combination of economic, social, and historical factors. Although the region shows promise in areas such as agriculture, tourism, manufacturing, and services, it faces significant obstacles, particularly in terms of high unemployment rates and mismatches in specific competencies and skills (including technical skills, tourism and hospitality skills, digital literacy, entrepreneurial skills, and soft skills). In response to employment challenges, local authorities and organizations have implemented various labour market policies and initiatives aimed at supporting job creation and enhancing workforce participation.

In 2024, HNC recorded a total of **57,200 employed persons**, distributed across several main sectors according to the National Classification of Activities (NKD 2007)<sup>15</sup>. The employment landscape of HNC is notably diverse, reflecting a balanced mix of industrial, service, and public-sector activities (Table 2.3.).

**Table 2.3.** Employment structure in HNC by sector in 2024

Economic Activity (NKD 2007)	Number of Employees	Share (%)
C – Manufacturing Industry	<b>7,623</b>	<b>13.3</b>
G – Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	<b>10,758</b>	<b>18.8</b>
H – Transportation and Storage	<b>2,969</b>	<b>5.2</b>
I – Accommodation and Food Service Activities (Tourism and Hospitality)	<b>4,578</b>	<b>8.0</b>
O – Public Administration and Defence; Compulsory Social Security	<b>5,099</b>	<b>8.9</b>
P – Education	<b>5,229</b>	<b>9.1</b>
Q – Human Health and Social Work Activities	<b>5,682</b>	<b>9.9</b>
Other Sectors	<b>15,261</b>	<b>26.7</b>
Total Employment	<b>57,200</b>	<b>100.0</b>

Source: Institute of Statistic FBiH<sup>16</sup>

The **service sector** dominates the employment structure, accounting for over **70% of total jobs**, which aligns with trends in other Mediterranean and Central European regions transitioning toward service-oriented economies. The

<sup>15</sup> <https://fzs.ba/wp-content/uploads/2025/07/hercegovacko-neretvanski.pdf>

<sup>16</sup> Federal Statistical Office: <https://fzs.ba/wp-content/uploads/2025/06/8.4.pdf>; <https://fzs.ba/wp-content/uploads/2025/07/hercegovacko-neretvanski.pdf>



wholesale and retail trade sector (18.8%) are the single largest employer, reflecting the canton's strong commercial base and cross-border trade activity.

The **manufacturing industry** employs 13.3% of the workforce, representing a vital but modest component of the HNC's economic output. Although smaller in scale, this sector contributes to export competitiveness and local supply chains, particularly in food processing, metalworking, and construction materials.

**Public services**, including public administration (8.9%), education (9.1%), and health and social care (9.9%), together account for over a quarter of all employment. This segment provides essential services of social stability. These sectors play a critical role in disaster preparedness, emergency response, and community health resilience, and pose as key factors in vulnerability assessment.

**The HNC is located on key traffic routes** that connect Bosnia and Herzegovina with Croatia, and therefore with the rest of Europe. Road traffic is developed because the main road routes pass through this county-canton and connect it with other parts of Bosnia and Herzegovina, but also with neighboring countries. The most important road route is the M17 highway that connects Mostar with Sarajevo in the north and with Dubrovnik in the south, across the border with Croatia. Although the M17 road is crucial for connectivity and the importance of road traffic, it is burdened with **traffic jams** during the tourist season.

Besides the main road M17, the **Vc corridor** represents a key transport artery for HNC, as it connects the north and south of the country and ensures faster and safer transit to Croatia and the rest of Europe. It connects Hungary, Croatia, and Bosnia and Herzegovina along the route Budapest – Osijek – Sarajevo – Ploče. The construction of the highway to the Bijača border crossing is particularly significant for improving connectivity between Neum, Mostar, and other tourist destinations, as well as for reducing congestion during the summer tourist season.

However, transport is one of the main sources of **GHG emissions** arising from tourism (about 40%<sup>17</sup>), with air traffic leading the way. Road traffic is another significant source of emissions. HNC has an airport (Mostar) and is, from a tourism perspective, primarily a **road destination**. Since a large portion of arrivals occur by car and bus, and emissions from air traffic have been rising in recent years (Figure 2.2.), it is clear that there is a challenge in decarbonizing the transport sector. By increasing capacity and improving the quality of transport infrastructure, it is possible to reduce delays and unnecessary emissions. Therefore, the continued development of transport infrastructure is crucial for economic growth, tourism, and general mobility of citizens and visitors in HNC.

In this context, it is important to introduce so-called sustainable modes of transport into tourism development measures, including electric vehicles,

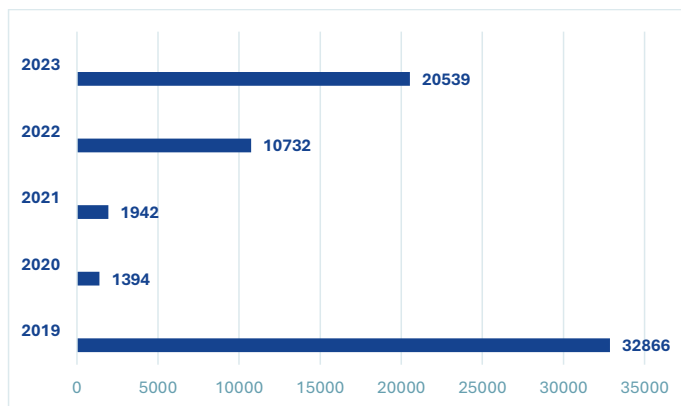
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<sup>17</sup> <https://wttc.org/news/global-travel-tourism-sector-cuts-emissions-intensity-economic-prosperity-grows>



public transport, and a combination of road and rail transport. The goal is to raise the level of road infrastructure to the standards of European countries, to integrate BiH and HNC into the European transport system.

**Rail traffic** is not as developed as road traffic. Rail traffic in the region still has a number of limitations but is considered important for the transport of goods and people to the Adriatic coast. The main railway line connects Mostar with Sarajevo. Although Neum has access to the sea, **maritime transport** is not particularly developed due to geographical limitations and the absence of major ports. **Air transport** is increasingly important (Figure 2.1.). Mostar Airport provides direct flights to an increasing number of European destinations.



**Figure 2.2.** Number of passengers at Mostar Airport 2019-2023. (Source: Directorate of Civil Aviation)

## 2.2. TOURISM SECTOR - STATE AND IMPACTS

The tourism sector in HNC significantly contributes to the local economy by creating jobs, generating income, and stimulating growth in sectors such as hospitality, agriculture, and retail. The tourist potential is based on natural beauty, cultural heritage, outdoor and adventure tourism and gastronomic offer. Infrastructure development, promotion of this area and investments in sustainable tourism can enable the HNC to become one of the most attractive destinations for all types of tourists. However, this economic boost should be balanced with sustainable practices to mitigate climate impacts on people, assets, and natural values.

HNC is located at a strategic **crossroads between the Adriatic Sea and the Balkan interior**. The Neretva Valley has been a key road and trade artery for centuries, shaping the cultural mosaic of this region. In this mosaic, different civilizations meet, and traces of their influence are visible in the rich cultural and historical heritage: from ancient sites and medieval cities to Ottoman bridges





and traditional villages, which testify to the different peoples, beliefs and architectural styles that have shaped this area over the centuries. This shaping of this region over the centuries is an important, albeit still untapped, tourism potential.

According to currently available data, **accommodation capacities** continue to develop. Accommodation facilities are mainly in households and represent additional income for the residents and local communities. Hotels are available in all categories, and number of overnight stays have seen a noticeable increase in recent years. There has also been a significant increase in the number of campsites that have been active since 2021 (Table 2.4.). The share of tourism in employment remains relatively modest at **8.0%** (2024). Compared to previous years, their growth is visible, which has the potential to make a significant contribution to HNC's income.

**Table 2.4.** Tourist arrivals and overnight stays by type of facility

Year/Type of accommodation	Tourist arrivals			Overnight stays		
	Total	Domestic	Foreign	Total	Domestic	Foreign
<b>2020</b>	<b>66.637</b>	<b>50.046</b>	<b>16.591</b>	<b>204.237</b>	<b>161.436</b>	<b>42.801</b>
Hotels	63.785	47.650	16.135	197.634	155.588	43.046
Resorts	2.852	2.396	456	6.603	5.848	755
Number of beds	<b>4.510</b>					
<b>2021</b>	<b>116.478</b>	<b>65.716</b>	<b>50.762</b>	<b>273.457</b>	<b>153.863</b>	<b>119.594</b>
Hotels	110.203	60.268	49.935	258.536	141.119	117.417
Resorts	6.157	5.366	791	14.756	12.642	2.114
Camps	118	82	36	165	102	63
Number of beds	<b>4.505</b>					
<b>2022</b>	<b>207.018</b>	<b>84.237</b>	<b>122.781</b>	<b>479.541</b>	<b>184.155</b>	<b>295.386</b>
Hotels	198.289	78.162	120.127	460.093	170.426	289.667
Resorts	8.669	6.030	2.639	19.369	13.669	5.700
Camps	60	45	15	79	60	19
Number of beds	<b>6.228</b>					
<b>2023</b>	<b>246.914</b>	<b>82.843</b>	<b>164.071</b>	<b>537.885</b>	<b>177.825</b>	<b>360.060</b>
Hotels	236.647	75.525	161.122	515.790	160.556	355.234
Resorts	9.266	6.561	2.705	20.419	15.984	4.435
Camps	1.001	757	244	1.676	1.285	391
Number of beds	<b>5.129</b>					

Source: Federal Institute of Statistics, 2024

"During the summer season, the share of foreign visitors is significant, especially tourists from Croatia, the USA, Germany, and Turkey, while the winter season mainly attracts visitors from local and wider regional areas. According to data from the Federal Bureau of Statistics (2022), HNC records an **annual growth of 15% in the number of tourists** over the past decade, with an emphasis on the summer season. In addition to summer tourism, religious tourism is also developing in HNC, as Međugorje, one of the most important Marian pilgrimage sites in Europe, is located there. It is estimated that over 1 million visitors come to Međugorje annually. Regarding the length of stay, most visitors in Mostar do not spend the night, while Neum (the only one municipality on the coast) records the longest stay for tourists, averaging 7 nights."



**Two seasons** stand out in the HNC area – summer and winter. The summer season (June–September) is the most active, especially around Neum. Cities such as Mostar and Čapljina experience an increased number of visitors during this period. Winter tourism is less developed, but it is present in mountainous areas like Blidinje, which is popular for skiing and winter sports. There is a growing interest in hiking and ecological tourism, particularly in areas that offer pristine nature and rich biodiversity.

Overall, it is possible to categorize tourism in HNC based on the following **categories of destinations**:

**Destinations with a high number of visitors** and developed tourist infrastructure, such as Mostar – a cultural and historical city, Međugorje – a religious center, and Neum – "sun and sea" with a well-developed hotel and catering offer.

**Sensitive destinations in areas that require special protection** (due to ecological sensitivity), such as Hutovo Blato – a protected Ramsar wetland complex and an important habitat for birds and flora, and Blidinje – a mountainous area with rare ecosystems.

This differentiation allows for targeted tourism management, where mass destinations are developed with a focus on infrastructure, energy efficiency, and service quality, while sensitive destinations are protected through measures of sustainable and nature-based tourism, including visitor number regulation, education, and the implementation of nature-based solutions (NbS).

**Seasonal employment** in tourism and hospitality indicates the high economic vulnerability of the community, which highlights the importance of diversifying special forms of tourism throughout the year.

**Cultural tourism** is important tourism form, and it takes place mainly in the historic cities of Mostar, Počitelj and Stolac. Currently, the development of special forms of tourism is focused on '**outdoor**' tourism with adventure activities and rural tourism. Mountain lodges, hotels, resorts and similar accommodation offer **stays in nature** and experiences such as hiking, cycling, rafting and kayaking. The most attractive locations include the natural attractions of the Neretva, Prenj, Čvrsnica and Velež rivers and the Blidinje. In the NP Hutovo Blato, tourism is still in early development phase, and plans for its development are under construction. The continued development of 'outdoor' tourism - hiking, running, cycling, horse riding, swimming, rowing, fishing tourism as well as new forms of tourism such as 'birdwatching' and photo-tourism could enrich the diversity of the tourist offer. **Gastronomy** is a strong tourist asset. The region is known for its traditional dishes such as japrak, cheese from the bellows, ičija, lamb sarmica, fig stew and various meat specialties. Local wines and domestic products further enrich the visitor experience.

The goal is to carefully plan and organize the tourist offer, which includes the establishment of tourist boards (e.g. in Stolac, Čapljina), tourist agencies and an increase in accommodation capacities, the protection and preservation of



cultural and natural values, and progress in education and the acquisition of new skills of employees in tourism and the economic sectors that support it. Namely, it is crucial to connect agriculture, entrepreneurship and crafts with the development of tourism. The existing entrepreneurial and industrial potentials should serve the development of SMEs that are oriented towards ecological production, services and traditional crafts.

### 2.3. CURRENT TRENDS IN MITIGATION ACTIVITIES AND PROJECTION

Energy supply in the HNC could be assessed as satisfactory. The most developed 110 kV electric power network is implemented in the entire county. Electricity production, along with the processing industry, represents one of the most important branches of the production sector, with hydropower potential playing a dominant role. Seven hydropower plants were built in the county, one of which is in the Trebišnjica river basin (Čapljina HPP), while the remaining six are located in the Neretva river basin.

Regarding **decarbonization of society** (climate change mitigation), BiH's and its entities commitments are influenced by its obligations under the United Nations Framework Convention on Climate Change (UNFCCC), its EU accession aspirations, and the policy directions of its entities. The country ratified the **Paris Agreement** in 2017 and submitted its updated **Nationally Climate Change Adaptation and Low Emission Development Strategy for BiH 2020–2030**<sup>18</sup> address climate challenges. The aim is to transition BiH into advanced green economy by 2030 while significantly reducing emissions. This Strategy submitted to the UNFCCC in 2023 aims for a 50% reduction by 2050 compared to 2014 levels, and an **80%** reduction by 2050 relative to 1990 levels.

The **Integrated Energy and Climate Plan BiH - NECP**<sup>19</sup> define the targeted GHG emission reduction value for 2030. This value has been derived as a result of planning the development of the energy sector, based on decarbonization and adherence to criteria established to achieve carbon neutrality by 2050. In this regard, the following targets shown in Table 2.4. have been set.

**Table 2.5.** The trajectory to 2030 of reducing CO<sub>2</sub>e

Decarbonization aspect	Target/current emissions value; share
Total CO <sub>2</sub> e emission with LULUCF in 2030	15.65 MtCO <sub>2</sub>
Total CO <sub>2</sub> e emission without LULUCF in 2030	22.15 MtCO <sub>2</sub>
Total emission of CO <sub>2</sub> e with LULUCF in 1990	26.62 MtCO <sub>2</sub>
Emission reduction in 2030 compared to 1990 (with LULUCF)	41.21%

<sup>18</sup>[https://unfccc.int/sites/default/files/resource/ENG\\_CC%20adaptation%20and%20Low%20emission%20development%20Strategy%20BiH%202020-2030.pdf](https://unfccc.int/sites/default/files/resource/ENG_CC%20adaptation%20and%20Low%20emission%20development%20Strategy%20BiH%202020-2030.pdf)

<sup>19</sup> [https://www.mvteo.gov.ba/data/Home/Dokumenti/Energetika/Nacrt\\_NECP\\_BiH\\_loc.pdf](https://www.mvteo.gov.ba/data/Home/Dokumenti/Energetika/Nacrt_NECP_BiH_loc.pdf)



LULUCF in 2030	6.51 MtCO <sub>2</sub>
LULUCF in 2018	5.83 MtCO <sub>2</sub>
Increase in LULUCF in 2030 compared to 2018	11.68%
Emissions from the power sector in 2030	8.96 MtCO <sub>2</sub>
Emissions from transport in 2030	3.65 MtCO <sub>2</sub>
Emissions from industry in 2030	1.15 MtCO <sub>2</sub>
Total Share of RES in 2030	43.6 %
The RES share in electricity consumption in 2030	70.1 %
RES share in heating and cooling in 2030	60.8 %
RES share in transport in 2030	8.4 %

Source: NECP BiH

The current state and projections of emission reductions without the LULUCF sector are presented in Figure 2.3., broken down by sectors.



**Figure 2.3.** Trajectory of CO<sub>2</sub>e emission reductions without LULUCF in BiH from 2022 to 2030, by sector (Source: NECP for BiH)

**Energy-related emissions** constitute the majority of greenhouse gas profile, highlighting substantial potential for decarbonization in the electricity, heat, and transport sectors, which are heavily dependent on fossil fuels. **Decarbonizing<sup>20</sup> the power sector** presents challenges, as the country and its entities aim to preserve power export revenues. However, the current reliance on coal-fired generation is increasingly problematic. Namely, phasing out coal is a complex issue, requiring careful consideration of economic, social, and environmental impacts. To ensure energy security and meet decarbonization targets, **BiH and its entities** should attract investment in cleaner energy alternatives.

At the county/cantonal (regional) and local level, consistent emission data for NUTS 2 and NUTS 3 areas are **unavailable**. Recently adopted environmental

<sup>20</sup> Climate change mitigation encompasses decarbonisation, energy efficiency, energy saving and the deployment of renewable energy. It also includes taking measures to reduce greenhouse gas emissions or increase greenhouse gas sequestration and is based on EU policy on emission reduction targets for 2030 and 2050.



strategies define measures to improve mitigation objectives, including the 2020-2030 Climate Change Adaptation and Low Emission Development Strategy for BiH, and therefore for HNC (Table 2.6).

**Table 2.6.** Criteria, objectives and measures for climate change mitigation in HNC

Criteria	Objectives	Measures
<i>Environmental sustainability and efficient resource use</i>	Long-term reduction of greenhouse gas emissions, conservation of natural resources, improvement of sustainable natural resource management, integration of sustainable technologies (e.g., RES), and including monitoring and digitization for operation optimization.	<ul style="list-style-type: none"> <li>- Introduce modern technology in mining</li> <li>- Utilize hydro energy and manage natural resources sustainably</li> <li>- Promote continuous monitoring and digitization, innovative technologies and business models for cost efficiency and improvement of work processes</li> </ul>
<b>Safe and affordable energy</b>	Ensure energy security by diversifying energy sources (challenge due to lack of domestic oil and gas resources) and establish an energy mix that is cost-competitive and can withstand future economic pressures due to market and policy changes.	<ul style="list-style-type: none"> <li>- Maintain current average costs of electricity production and prepare for disruptions caused by economic and geopolitical crises</li> <li>- Include cost increase risks in planning (e.g., ETS, deregulation)</li> <li>- Ensure energy accessibility and competitiveness concerning environmental regulations</li> </ul>
<b>Energy efficiency</b>	Focus on rationalizing energy use in end consumption (households, industry, transport, and commercial/public services), reducing losses during transformation, transmission, and distribution, and promoting cogeneration and energy efficiency.	<ul style="list-style-type: none"> <li>- Improve national and county/cantonal legal, regulatory, and financial frameworks</li> <li>- Conduct informational campaigns to reduce energy consumption and promote the use of RES</li> <li>- Educate and strengthen human capacities</li> <li>- Promote energy efficiency and high-efficiency cogeneration</li> </ul>
<b>Energy transition and environmental responsibility</b>	Commitment to significantly reducing emissions with the aim of increasing the share of RES in gross final consumption and significantly reducing pollutants by preparing strategic environmental and nature protection plans based on monitoring.	<ul style="list-style-type: none"> <li>- Reduce levels of NOx and PM pollution from industry and household heating, as well as from transport</li> <li>- Achieve the targeted share of RES by 2030 (70.1%)</li> <li>- Develop environmental and nature protection strategies aligned with the energy strategy</li> </ul>
<b>Development of the regulatory and institutional framework</b>	Development of a comprehensive reform; strengthening legislative alignment with EU acquis; fulfilling obligations under the Energy Community Treaty and complying with EU directives	<ul style="list-style-type: none"> <li>- Accelerate alignment of legislation with the EU framework</li> <li>- Transfer and implement obligations under the Treaty (Energy Community)</li> </ul>



	within the Fit for 55 decarbonization framework.	- Align sectoral regulations with EU directives to support sectoral reforms and integration.
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Source: strategic, planning, legal and reporting documents (relevance for HNC)

Over the past few years, there has been an intensification of investments in **energy efficiency**, especially through renovation and thermal insulation programs for public buildings and through investments in renewable energy sources - **RES**. Given the county's significant natural potential in the field of RES (hydropower), the existing trends in the use of **wind and solar energy** have significant potential for further development, both in electricity production and in the introduction and development of heating and cooling systems, which are currently lacking in urban centres of the HNC.

## 2.4. CURRENT CLIMATE ADAPTATION TRENDS AND ACTION

Climate change adaptation is needed across all sectors and at all levels of governance. Mitigation actions should address existing climate impacts and protect assets, the environment and people from climate risks. Effective scaling up of action at national, county/cantonal and local levels requires concrete targets to measure progress. The national adaptation framework has been developed through the **National Adaptation Plan – NAP BiH**<sup>21</sup>. Adopted in 2021 this document provides a clear division of responsibilities between national and county/cantonal institutions.

**Disaster risk mapping** is at an early stage of development. The project “Flood Hazard and Flood Risk Maps in Bosnia and Herzegovina”<sup>22</sup> funded by the WBIF developed 136 hazard maps and 152 risk maps during 2017–2020. In 2024, severe floods and landslides affected Jablanica, Konjic, Fojnica, Kiseljak and Kreševo (Figure 2.3). The integration of vulnerability and climate risk assessments into adaptation strategies for vulnerable sectors, such as agriculture, forestry and tourism, is at an early stage.

In 2021, the **Strategy for Agriculture and Rural Development of the Federation of BiH for the period 2021-2027**<sup>23</sup> was developed. This strategy considered scenarios of the impact of climate change on agricultural production. Encouraging environmental care and climate change measures should be given a more significant place in the definition of measures for all sectors, including tourism. Attention should be paid to the fight against environmental degradation, which is a key tourism resource for the HNC.

<sup>21</sup> <https://unfccc.int/sites/default/files/resource/NAP-Bosnia-and-Herzegovina%20.pdf>

<sup>22</sup> <https://heis.ba/en/projects/flood-hazard-and-flood-risk-maps-project-in-bosnia-and-herzegovina-fhrm>

<sup>23</sup> <https://fmpvs.gov.ba/wp-content/uploads/2022/03/04-Strategija%20PRR%20FBiH%202021-2027-%20Drugi%20dio%20-%20NACRT.pdf>



**The Rural Development Strategy of the HNC for the years 2021-2027<sup>24</sup>** defines a vision and plan for the transformation of agriculture and rural areas towards a sustainable, climate-resilient, and competitive agricultural-food sector. The strategy is aligned with the development priorities of the Federation of BiH, the state of BiH, and the EU and provides an institutional, financial, and operational framework for the implementation of measures, monitoring effects, and attracting investments to strengthen climate resilience and sustainable development. The central vision of the strategy is based on **preserving the vitality of rural areas** through sustainable management of natural resources, adapting agricultural production to climate change, and strengthening demographic sustainability and quality of life in rural communities.

The Rural Development Strategy of HNC encompasses the entire **value chain**, from agricultural production on farms through processing and distribution to markets and consumer demands, while taking into account the climate, environmental, and socio-economic challenges of today. By connecting climatic and agro-ecological conditions, preserved water resources, quality soil, and the possibility of multiple vegetation cycles per year, as well as the synergy of agriculture with tourism and cultural-historical heritage, the strategy has established preconditions for sustainable production, enhanced competitiveness, and diversification of the rural economy, including tourism.

In the context of climate neutrality and resilience, **Strategic Goal 2 – Sustainable Management of Natural Resources and Climate Change** is particularly important and focuses on: the protection and restoration of agricultural land, water, and forests; integrated water management (water supply, drainage, purification, and irrigation); reducing the vulnerability of agriculture to climate risks (droughts, floods, extremes); strengthening capacities for managing natural risks and climate disasters; promoting ecological and integrated agriculture; preserving biodiversity and landscapes; and developing a circular economy, sustainable tourism, and renewable energy sources, especially biomass.

**From the perspective of climate change mitigation**, the tourism sector plays an important role in achieving climate neutrality and resilience in HNC. By implementing measures to reduce greenhouse gas emissions, such as energy efficiency and renewable energy sources in accommodation facilities, as well as implementing more environmentally friendly modes of transport for tourists (electric vehicles/vessels), it is possible to directly reduce the overall carbon footprint while simultaneously strengthening the competitiveness of the destination. By introducing energy efficiency in accommodation capacities (building renovations, efficient heating and cooling systems), utilizing renewable energy sources (solar power plants, heat pumps), and developing local and short supply chains for food and services, tourism reduces emissions, enhances resilience to climate and energy shocks, and generates additional economic benefits. This approach allows for a reduction in the operating costs of tourist companies and family accommodation, strengthens local agriculture,

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<sup>24</sup> <https://heis.ba/en/projects/flood-hazard-and-flood-risk-maps-project-in-bosnia-and-herzegovina-fhrm>





preserves natural resources, and positions HNC as a sustainable and climate-responsible tourist destination, aligned with European and global climate policies.

**Adapting to climate change** is particularly important for the most vulnerable sectors: agriculture, tourism, water management, and urban management. Due to the impact of climate change, which manifests as changes in temperature and precipitation patterns and extreme weather events that damage infrastructure and degrade the tourism offer, various infrastructure adaptations (e.g., raising coastlines and levees, building rainwater storage) and "soft" solutions (awareness-raising, education) as well as nature-based solutions (NbS) are now being implemented in tourism (Table 4.2.). On the other hand, "smart-climate" tourism, which integrates digital technologies ("smart" solutions) and climate-responsive measures to reduce greenhouse gas emissions, significantly increases the climate resilience of tourism and the community. This concept connects energy efficiency, renewable energy sources, smart resource management (digitalization and data), and data-driven decision-making for sustainable and resilient tourism.

**Minimizing climate risks** (after the risk occurs) entails the so-called mitigation of the consequences of climate change, primarily through responses from institutions responsible for protection and rescue, firefighting, water management, and health care. The introduction of information and communication technologies to provide timely responses and reactions to the consequences of climate change (river floods, fires) can significantly help address the negative impacts of climate change on the population and the overall economy of HNC.

Documents and data required for the adaptation measures evaluation were analysed, and the main measures relevant for the HNC are listed in Table 2.7.

**Table 2.7.** Current adaptation measures for vulnerable sectors in HNC

SECTOR	ADAPTATION MEASURES	STAKEHOLDERS
AGRICULTURE	Transition to more resilient crops and development of climate-resistant genotypes; management of diseases and pests; incentives for planting new more resilient crops; reconstruction and maintenance of drainage systems; development of early warning systems; implementation of effective water management (irrigation, reservoirs, flood defence channels); shifting to an ecosystem-based approach to address challenges (e.g., NbS).	<ul style="list-style-type: none"><li>- Government of HNC (coordination)</li><li>- Ministry of Agriculture, Forestry and Water Management of HNC (in coordination)</li><li>- Local decision-makers</li><li>- Farmers</li><li>- Crisis response services</li><li>- Scientific institutions</li></ul>





<b>WATER RESOURCES</b>	Improve management of riverbeds and cleaning of channels; development/update of flood risk maps; construction of flood protection and irrigation reservoirs; assessment of water availability and quality; establishment of early warning systems for floods and related risks; mapping/assessment of mountain lakes and ecosystems.	<ul style="list-style-type: none"> <li>- Government of HNC (coordination)</li> <li>- Ministry of Agriculture, Forestry and Water Management of HNC (in coordination)</li> <li>- Local decision-makers</li> <li>- Expert institutions for water management in HNC</li> <li>- Crisis response services</li> <li>- Scientific institutions</li> <li>- NGOs (Red Cross, etc.)</li> </ul>
<b>BIODIVERSITY AND FORESTRY</b>	GIS mapping of forest areas; afforestation with native species; monitoring forest health and replacing damaged trees; studying climate impacts on endemic species and biodiversity; fire protection; improvement of protected areas and conservation; development of green roofs to reduce heat impact in urban areas.	<ul style="list-style-type: none"> <li>- Government of HNC (coordination)</li> <li>- Ministry of Agriculture, Forestry and Water Management of HNC (in coordination)</li> <li>- Ministry of Trade, Tourism and Environmental Protection of HNC (in coordination)</li> <li>- Local decision-makers</li> <li>- Public institutions for forest management</li> <li>- Public institutions for nature protection and management</li> <li>- Forest owners</li> <li>- Scientific institutions</li> </ul>
<b>HUMAN HEALTH</b>	Development of legislation and establishment of monitoring for climate-related health issues; strengthening public health capacities and emergency response; increasing citizen awareness of climate impacts on health; studying climate-related diseases and control measures (e.g., vector-borne infectious diseases); increasing the share of the population connected to water supply networks (especially in rural areas).	<ul style="list-style-type: none"> <li>- Government of HNC (coordination)</li> <li>- Ministry of Health, Labor and Social Welfare of HNC (in coordination)</li> <li>- Ministry of Agriculture, Forestry and Water Management of HNC (in coordination)</li> <li>- Public health institutes</li> <li>- Local health institutions</li> <li>- NGOs (Red Cross, etc.)</li> </ul>
<b>TOURISM</b>	Development of new forms of tourism focusing on environmentally friendly types and new tourism types (e.g., birdwatching, photo tourism, equestrian tourism); development of year-round tourism in natural attractions and cultural centres, development of summer recreational tourism (rivers, lakes, cycling, hiking); development of mountain tourism and promotion of a holistic-healthy lifestyle; sustainable water resource	<ul style="list-style-type: none"> <li>- Government of HNC (coordination)</li> <li>- Ministry of Agriculture, Forestry and Water Management of HNC (in coordination)</li> <li>- Ministry of Trade, Tourism and Environmental Protection of HNC (in coordination)</li> <li>- Tourist boards</li> <li>- Public institutions for nature protection and management</li> <li>- Institutions responsible for water management</li> <li>- Institutions responsible for managing and financing</li> </ul>



	management, increasing energy efficiency and share of RES in tourism; promotion of a circular economy in tourism activities and offerings.	environmental protection and energy efficiency - Tourist operators - Local community
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Source: strategic, planning, legal and reporting documents (relevance for HNC)

## 2.5. RESULTS OF CLIMATE RISK ASSESSMENT

The IPCC defines **climate risk** as the potential harm to human or ecological systems arising from hazards (climate events), exposures (assets at risk) and vulnerabilities (sensitivity). Risks can arise from climate impacts or human responses to risks. Risk occurs when climate hazards encounter a sensitive system that has a limited capacity to adapt.

A Climate Risk Assessment (CRA) was developed to assess the level of vulnerability of the tourism sector in HNC. The assessment is based on meteorological and hydrological data<sup>25</sup>, as well as information on risks present in BiH<sup>26</sup>, cartographic data on forest fires<sup>27</sup>. In addition, the analysis was supported by data obtained through a participatory approach through a questionnaire. The questionnaire was distributed to decision-makers, tourism managers and experts from public institutions responsible for environmental and nature protection, as well as local communities (a total of 14 respondents).

To analyse the impact of the most important climate risks in the current and future climate, the IPCC methodology<sup>28</sup> was used for three key thematic areas: tourist infrastructure, tourist offer and natural resources (Table 2.8.).

<sup>25</sup> <https://www.fhmzbih.gov.ba/>; <https://insitu.copernicus.eu/state-of-play/data-providers>; <https://cis2.eea.europa.eu/data/list/>; <https://atlas.climate.copernicus.eu/atlas>; <https://data360.worldbank.org/en/planet/climate-change>

<sup>26</sup> <https://thinkhazard.org/en/report/34-bosnia-and-herzegovina>

<sup>27</sup> <https://website-98de14b3.ksw.pcv.mybluehost.me/poweb/pozari.htm>

<sup>28</sup> Zebisch, M.; Renner, K.; Pittore, M.; Fritsch, U.; Fruchter, S.R.; Kienberger, S.; Schinko, T.; Sparkes, E.; Hagenlocher, M.; Schneiderbauer, S.; et al. Climate Risk Sourcebook, 2nd ed.; Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH: Bonn, Germany, 2023; pp. 1–201.

**Table 2.8.** Results of the Climate Risk Assessment for the HNC

CLIMATE VARIABLES /HAZARDS	THEMATIC AREAS	CLIMATE RISK LEVEL	
		Current climate	Future climate
<b>Extreme air temperatures</b>	Tourist infrastructure	2	3
	Tourists offer	2	3
	Natural areas	2	3
<b>Heat waves (land)</b>	Tourist infrastructure	3	3
	Tourists offer	2	3
	Natural areas	2	3
<b>Drought (reduced water availability)</b>	Tourist infrastructure	2	3
	Touristic offer	1	2
	Natural areas	2	3
<b>Forest fires</b>	Tourist infrastructure	3	4
	Touristic offer	2	3
	Natural areas	4	4
<b>River floods</b>	Tourist infrastructure	2	4
	Touristic offer	1	3
	Natural areas	2	4
<b>Strong winds and storm surges</b>	Tourist infrastructure	2	3
	Touristic offer	1	2
	Natural areas	2	2

Source: According to deliverable 2.4.1.

Legend:

<b>0</b>	No risk / negligible
<b>1 – 2</b>	Low risk level
<b>3 – 4</b>	Medium level of risk
<b>5</b>	High level of risk

According to the results in Table 2.7, natural areas are the most vulnerable, especially to the risk of forest fires in current and future climate conditions (4). Tourism infrastructure is particularly exposed in the future climate to: the risk of forest fires (4), river floods (3), extreme air temperatures, heat waves, droughts and strong winds and storm surges (3). In general, in the future, extreme temperatures and heat waves will pose a medium risk (3) for infrastructure, tourism offers and natural areas. The increasing risks are a consequence of atmospheric warming, an increase in average and extreme temperatures and prolonged dry periods that increase the risk of forest fires.

This assessment highlights the necessity for sector-integrated adaptation strategies that include environmental, social and economic dimensions. Coordination between key sectors in HNC - energy, forestry, agriculture, water management, tourism and spatial planning is essential to ensure the long-term sustainability of tourism and ecosystems, whose services are important for the sustainability of the county's socio-economic sustainability. This assessment is



the basis for the development of climate action plans to increase the resilience of both the county and its local communities.

## 2.6. CHALANGES AND RECOMMENDATIONS FOR TOURISM DEVELOPMENT

According to the document "Identification and Assessment of the Main Coastal Tourism-Related Issues Concerning Climate Change Mitigation and Adaptation for HNC" (Deliverable 2.4.1.) and CRA (Table 2.8.), in Table 2.9. are summarized the challenges and impacts of climate change on tourism.

**Table 2.9.** Climate Impacts and Challenges for Tourism Development in HNC

Climate Risks	Challenges and Impacts on Tourism
<b>Increase in Air Temperature</b>	Rising air temperatures, increasingly frequent heat waves, and the growing frequency of droughts, along with the degradation of natural resources (ecosystems), affect agricultural yields, leading to higher food prices and potentially impacting the costs of tourism services.
<b>Forest Fires</b>	More frequent forest fires threaten biodiversity and natural attractions, which are significant motivators for visitor arrival, potentially reducing visitor numbers and revenue.
<b>Changes in Precipitation Patterns</b>	Extreme rainfall and flooding disrupt the functioning of tourism infrastructure and activities, causing property damage and affecting the accessibility of natural attractions.
<b>Water Scarcity</b>	Reduced water availability for irrigation impacts agricultural production, which may affect the quality and prices of hospitality services within the tourism sector, and also influence visitor mobility and experience.
<b>Loss of Biodiversity</b>	Climate-induced negative effects in bio-climatic zones can threaten ecosystems and endemic species, reducing the appeal of protected natural areas that are crucial for ecotourism and outdoor activities.
<b>Extreme Weather Events</b>	The increased frequency of extreme weather events such as storms and heavy rains damages tourism infrastructure (e.g., accommodations, roadways), making access to attractions more difficult and potentially reducing visitor arrival.
<b>Rising Sea Levels</b>	Salinization and rising sea levels threaten freshwater ecosystems, impact irrigation and local agriculture, which can diminish quality and volume of yields and change local economic dynamics.
<b>Health Risks</b>	Climate change increases the frequency of heat-related illnesses and vector-borne diseases, resulting in a burden on the healthcare system and affecting the safety and attractiveness of destinations (especially for children and vulnerable groups).



In the context of these negative climate impacts, it is important to highlight the impacts on key sectors of HNC – **energy, agriculture and tourism**. Namely, climate impacts on local agriculture can lead to food shortages and inflated prices, which affects the dependence of the tourism sector on local products and changes visitors' expectations regarding local products. Changing climate conditions can result in reduced visitor numbers and a decline in income for the local economy.

As the world faces the growing impacts of climate change due to global warming, the strategic direction of development in HNC needs to assess the level of vulnerability and resilience of key sectors, including tourism. Overall, tourism in HNC is particularly exposed to increasingly frequent extreme events - heavy rains and storms that result in flooding, and heat waves that can lead to fires. Such climate hazards, combined with pressures from tourism (especially in the summer months of the season) degrade ecosystem services.

**Ecosystem services**, on which tourism is based, encompass all the direct and indirect ways in which ecosystems contribute to human well-being. Providing food, building materials and energy sources, mitigating weather and other natural disasters, preserving the conditions necessary for life, and enabling spiritual, cultural and intellectual connections with nature are just some of the services that are of key importance to humanity. Therefore, it is extremely important to systematically review, evaluate and protect ecosystems to ensure their long-term and comprehensive provision. Species and habitats in a favorable state of conservation represent the basis for the quality functioning of tourism activities in the HNC.

Therefore, HNC needs to adopt a multidimensional approach that prioritizes:

- a clear commitment from all policy levels to the mitigation and adaptation of tourism and related economic activities
- stable financial resources for the implementation of policy objectives
- a focus on nature and environmental conservation
- a focus on the economic resilience of local communities
- engagement and cooperation of local populations.

Tourism is strongly linked to other sectors – energy, nature protection, agriculture, water management, so it is necessary to understand the interdependence of these human activities and climate risks. The **costs of decarbonization and adaptation measures** and the growth of **insurance costs** due to more frequent extreme events represent additional challenges. The climate resilience of infrastructure (public and private) is also crucial. Climate-resilient infrastructure reduces recovery costs and increases the safety of people and visitors.

The Act on Amendments to the Act on Tourist Boards and the Promotion of Tourism in the HNC is currently in force, according to which the funds collected from the **tourist tax** and tourist membership fees in tourist boards are distributed so that 60% of the funds go to the tourist board of the municipality



or city, and 40% to the tourist board of the county. Tourist boards are obliged to distribute the funds from the tourist tax and tourist membership fees so that 40% is invested in the promotion of tourism, and 10% is earmarked for the preservation, protection and restoration of natural heritage and cultural-historic heritage that have a tourist character and tourist potential. The funds are spent according to the annual program adopted by the assemblies of the tourist boards of the county, municipalities and cities.

In addition to the **tourist tax** charged to visitors in a symbolic amount, destinations are increasingly adopting the so-called **ecological contribution** (e.g. in Croatia, based on a decision of the representative body of local self-government units, pursuant to the Tourism Act, Official Gazette 156/23). These funds are intended exclusively for reducing the negative impacts of tourism on the environment, climate, space and for environmental and nature conservation measures, which ensures the preservation of the resource base of tourism in the destination.

## 2.7 SWOT ANALYSIS FOR TOURISM DEVELOPMENT REGARDING CLIMATE ISSUES

Previously elaborated findings highlighted the interconnectedness of climate challenges and their impacts for the tourism sector in HNC, emphasizing the need for proactive measures to adapt and mitigate these impacts. Based on the prepared analysis, key factors from the internal environment (strengths and weaknesses) and external environment (opportunities and threats) are detected for the development of tourism in the HNC (Table 2.10).

**Table 2.10.** SWOT Analysis - Tourism and Climate Change in HNC

<b><u>STRENGTHS</u></b>	<b><u>WEAKNESSES</u></b>
<p><b>1. Increased interest in ecological and sustainable tourism</b> - climate change raises awareness about the importance of sustainable development. This can stimulate the growth of ecotourism, where tourists prefer destinations with environmentally friendly practices and contribute to nature conservation.</p> <p><b>2. Attracting tourists to new areas (interior)</b>, which can enhance diversification of the tourism offer and reduce pressure on specific destinations during peak/summer season (Neum).</p> <p><b>3. Innovations in the tourism sector</b> - climate change encourages the application of technological innovations in tourism. This includes the development of</p>	<p><b>1. An expected increase in extreme weather events</b> as climate change leads to more frequent floods, droughts, heavy rains, storms, heat waves, and wildfires, which can significantly disrupt tourism and reduce visitor numbers in certain destinations. In the short term, this can affect tourist safety and damage infrastructure.</p> <p><b>2. Increased costs</b> for securing buildings, reconstructing infrastructure, or investing in the adaptation of accommodation facilities.</p> <p><b>3. Dependency on specific climatic conditions for destinations</b> especially oriented towards summer tourism (Neum) or winter tourism (Blidinje),</p>



energy-efficient facilities, “smart” solutions for resource automation (electric and thermal energy), the implementation of sustainable transportation solutions (electric vehicles/vessels), and the use of technologies to reduce tourism’s environmental impact (reducing drinking water flow, treating “gray” water).	including outdoor activities (Neretva River). Such destinations become vulnerable to changes in climate conditions, which can reduce visitor numbers and impact accommodation capacities and revenues.
<p><b>OPPORTUNITIES</b></p> <p><b>1. The development of new products and services</b> (diversity of bio-climatic zones) provides an opportunity for new tourist offerings, such as expanding tourism along the sea, rivers, and in the mountains, as well as attracting digital nomads.</p> <p><b>2. Encouraging off-season tourism</b>, as climate change may allow for an extended tourist season or enable activities that were previously considered impossible during certain parts of the year. This is also an opportunity to reduce the problem of seasonality in HNC.</p> <p><b>3. Increasing trend towards sustainable forms of tourism and travel</b> - a growing number of visitors actively seek destinations, accommodation, and tourism services that are environmentally and climatically responsible. Tourists increasingly prefer hotels and facilities with sustainability certifications, restaurants that use local and organically grown products, and activities that minimally impact the environment.</p> <p><b>4. Introduction of an ecological fee</b> that tourists pay in a symbolic amount when arriving at the destination to tourist boards (together with the residence tax). Such funds are intended exclusively to respond to climate change and to protect nature and the environment</p>	<p><b>THREATS</b></p> <p><b>1. The impact of climate change on natural resources</b> is reflected in biodiversity loss and changes in landscapes, which reduce the appeal of destinations to visitors.</p> <p><b>2. A decline in tourist arrivals and overnight stays</b> at popular destinations due to heat waves, reduced snow cover at ski resorts, or rising sea levels in coastal areas results in economic losses.</p> <p><b>3. The impacts on public and private tourist infrastructure and transport connectivity</b> caused by long-term climate effects (e.g., high summer air temperatures) and extreme weather events (e.g., floods) complicates visitor movement or blocks access to tourist destinations. This issue threatens travel safety as well as the health of residents and visitors, as well as natural and cultural values.</p> <p><b>4. Given global and EU climate policies</b>, many destinations face <b>new regulations</b> as well as financial and organizational demands related to decarbonization and climate adaptation requirements. This can <b>increase operating costs</b> and reduce the competitiveness of the destination, impacting access to markets.</p>

Tourism needs to be **low-carbon, climate-adaptable** and focused on **sustainable forms of tourism** (rural, eco-tourism, 'outdoor'), which enables the revitalization of underdeveloped tourist areas and a shift from a position of a highly seasonal destination to a destination where tourist movements are more evenly distributed throughout the year.



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It also should provide visitors with preserved natural and cultural attractions, as well as safety and comfort. Without investment in decarbonization and adaptation to climate change, destinations become less competitive. Such **changes in touristic demand** encourage destinations to direct development towards conservation of natural resources, reduction of emissions and promotion of environmentally friendly experiences, making sustainable tourism a key competitive factor in the market.

It is important to involve the private sector and local communities in planning and managing sustainable tourism. Local producers, family crafts and trades that enrich the tourist experience (e.g. organic food, handicrafts, cultural events and festivals) should be supported. Equally important is the education and employment of local people in tourism, which enables balanced economic development while preserving heritage and nature.





### 3. LONG-TERM VISION, PRIORITIES AND GOALS

#### 3.1. LONG TERM STATEMENT AND RATIONALE

According to the analysis of the situation (Deliverable 2.4.1.) and the commitments regarding low-carbon development and resilience to climate change, the HNC makes a long-term statement on the carbon neutrality and resilience of tourism to climate change. This statement reflects a commitment to sustainable and climate-resilient practices to preserve the environment, increase economic prosperity and quality of life.

##### Long-term vision statement

The Herzegovina-Neretva County is committed to achieving climate neutrality and developing climate-resilient and sustainable tourism that values, preserves and promotes the county's natural resources. Tourism development is aimed at the prosperity of the local community, preserving its history and cultural authenticity. A climate-neutral and resilient, environmentally sustainable and socially responsible commitment will significantly contribute to the international tourism recognition and economic vitality of the county/canton.

##### Explanation of the long-term vision

Alignment with national and EU goals: This vision is aligned with the European Green Deal, EU climate policies, and BiH national tourism, climate, environmental, and cultural strategies, confirming the determination of HNC to contribute to the achievement of HNC's and global climate goals and goals of environmental, social, and economic sustainability. By striving to achieve climate neutrality, HNC contributes to the overall global efforts to mitigate climate change, and by facilitating tourism, it reduces the potential for HNC's climate-related risks.

Response to climate challenges: Expected climate challenges, such as rising temperatures, water scarcity, extreme weather events, and biodiversity loss, pose a significant threat to the HNC's economy, especially in key sectors such as energy, agriculture, and tourism. The implemented strategy and plans for climate neutrality and resilience of HNC provide a response to HNC's vulnerability, protecting the lives, property, and natural resources of the local community.

Biodiversity protection and ecosystem-based approaches: Protecting and restoring natural habitats and biodiversity are key to preserving ecosystem services and strengthening their resilience. HNC's commitment to climate neutrality and resilience promotes the protection of natural and cultural heritage, with nature-based solutions (NbS) being one of the key directions.



Sustainable economic growth: The transition to a low-carbon economy and the promotion of sustainable practices will boost economic opportunities in HNC. Diversifying the tourism offer, dispersing visitors to a wider area within and outside the county and investing in “green” technologies and NbS will create new jobs, attract new investments, and increase the HNC’s tourism competitiveness.

Improving quality of life: HNC’s climate-neutral and climate-resilient directions will improve the quality of life and the level of security of its citizens and visitors through long-term care and protection of all ecosystem services.

Community engagement and education: By engaging local stakeholders and promoting educational initiatives, HNC will empower the community and experts to actively participate in climate action. Raising awareness about the importance of sustainable tourism will highlight responsible individual behaviour and enhance collective commitment to caring for the environment and nature, which will be reflected in the economic and social prosperity of the county.

### 3.2. CRITERIA FOR DUAL CLIMATE AND TOURISM STRATEGY - MITIGATION AND ADAPTATION

In response to the urgent challenges posed by climate change, this strategy defines key **criteria and targets**, as well as climate measures and actions for climate mitigation and adaptation (Chapter 4). The criteria are based on the principles of integrating climate neutrality and resilience, long-term sustainability of tourism and local governance, in line with the broader **IPCC agenda, the Glasgow Declaration, the European Green Deal, national and regional climate strategies** and other relevant documents (see list of References).

By strengthening the **decarbonisation process and climate resilience** in the tourism sector and related economic activities, it is possible to ensure the sustainability of tourism and adaptation to changing climate conditions. Through its active climate action (Chapter 4), HNC seeks to reduce greenhouse gas emissions and increase the resilience of tourism to climate risks, and to encourage and promote sustainable tourism practices in line with the conservation of nature, as its fundamental resource.

The selection of these criteria is further supported by relevant documents, the implementation of which is currently underway. This includes the Strategy for adaptation to climate change and low-carbon development for BiH, local policies of the City of Čapljina and the municipality of Stolac, and the expert basis of the NaTour4CChange project (see References).

**Table 3.1.** Criteria for strategic priorities - mitigation and adaptation in HNC

<b>CRITERION</b>	<b>Description of concrete action</b>
<b>1. STRENGTHEN COORDINATED MANAGEMENT AND GIVE POLITICAL SUPPORT TO CLIMATE ACTION</b>	Improve political support and governance for climate action and financial mechanisms for its implementation
	Establish a policy framework for climate-tourism initiatives, including data monitoring systems
	Support and promote energy efficiency, implementation of RES and climate change adaptation measures and educate tourism stakeholders
	Support and promote the implementation of monitoring systems and inform stakeholders and the wider public
	Establish funding sources for public calls for proposals for climate mitigation and adaptation (including innovative mechanisms such as public-private partnerships)
	Ensure the linkage of tourism with climate emergency management, preparedness and information
<b>2. SUPPORT ENVIRONMENTAL, SOCIO – CULTURAL AND ECONOMIC SUSTAINABILITY</b>	Strengthen existing mechanisms for financing and managing natural resources in accordance with environmental, socio-cultural and economic sustainability standards.
	Improve measures and existing capacities of institutions for the protection of key water bodies, sea and coastal areas, regions and spaces, and natural habitats and species
	Involve residents in the decision-making process and ensure information on progress made
<b>3. ESTABLISH A FRAMEWORK FOR LOW-CARBON AND CLIMATE RESILIENT TOURISM</b>	Support and promote the development of climate-neutral and climate-resilient public and private tourism infrastructure (e.g. public spaces, accommodation)
	Expand the tourism portfolio to be based on cultural values (history and heritage) and environmentally responsible forms of tourism throughout the year
	Support and promote sustainable climate practices in transport (e.g. electric vehicles/vessels, rail transport).
	Integrate climate validation into the planning of public and private tourism infrastructure (greenhouse gas emissions calculations and vulnerability and climate risk analysis)
	Establish educational tools and educate tourism professionals on innovative nature protection measures and the importance of ecosystem services (NbS)



### 3.3. OBJECTIVES FOR STRENGTHENING CLIMATE ACTIONS

In accordance with the criteria (Table 3.1.) for mitigation and adaptation activities, the following strategic objectives are defined:

#### 1. Ensure clear political commitment to climate action and define concrete measures

*Rationale:* Political commitment in governance structures at all levels and clearly defined climate measures are key factors for achieving climate-neutral and resilient tourism. Without strong political commitment, concrete climate measures and initiatives may lack support and consequently may not produce visible results. Monitoring progress data is essential for assessing the effectiveness of implemented measures and activities. This mechanism is important for their evaluation and correction, as necessary. Overall, this criterion strengthens the resilience of tourism and related economic activities and informs stakeholders about overcoming climate challenges.

#### 2. Support decarbonization and make climate resilience an imperative

*Rationale:* Decarbonization of accommodation, service and transport infrastructure can reduce dependence on fossil fuels, i.e. reduce greenhouse gas emissions. The implementation of these decarbonisation measures supports sustainable tourism development, reduces energy consumption costs, improves the visitor experience and contributes to economic growth and energy security. By placing climate resilience as a core value of tourism, it increases the safety of local communities and visitors and ensures the economic stability of the HNC. Decarbonisation and climate resilience of the HNC support and promote a long-term vision of sustainable tourism, which prioritizes the care of natural resources, social justice and economic stability of the HNC, in line with global and EU climate goals.

#### 3. Strengthen the protection of natural resources and ecosystem services

*Rationale:* The protection of natural resources, i.e. ecosystem services, is essential for human health and well-being. Ecosystems generate profits using ecosystem services, which are classified into several basic groups:

- provisioning services, which include the provision of food, drinking water, timber, fibre and genetic resources
- regulatory services, such as climate regulation, flood protection, disease control and water quality maintenance
- cultural services, which include recreation, ecotourism and other intangible benefits
- supporting services, which include soil formation, pollination and nutrient cycling.



In addition to cultural ecosystem services, it is equally important for tourism to preserve ecological balance, biodiversity, water quality, climate regulation and disease control (e.g. diseases resulting from heat stress, water/sea pollution or vector-borne diseases). Namely, tourism takes place in different climate zones, and visitor behaviour is highly susceptible to climate change. The protection of natural resources significantly contributes to the preservation of ecosystem services, which is carried out through the so-called Ecosystem-based Adaptation (EbA).

**Ecosystem-based Adaptation** is a strategy that uses nature (biodiversity and ecosystem services) to help people adapt to the impacts of climate change (e.g. floods, droughts). Restoring and managing ecosystems in the HNC provides benefits such as water regulation, food security, and natural defences against floods and droughts. Ecosystem-based Adaptation with the NbSs is a holistic solution that complements traditional engineering. It includes actions such as sustainable agriculture, wetland conservation, or the establishment of green urban areas to strengthen the resilience of ecosystems, and thus people and tourism activities, to climate change.

#### **4. Direct the diversification of tourism offer and infrastructure towards climate and environmentally sustainable solutions**

Reasoning: Diversification of the tourist offer helps mitigate the risks associated with seasonality and the excessive load of the most visited destinations and attractions. By attracting a wider range of visitors, it is possible to stimulate economic growth and create new jobs. Diversification in terms of expanding the portfolio and dispersing tourists towards attractions located in other bioclimatic areas of the destination supports the long-term sustainability of tourism. Energy-efficient accommodation, for example, the installation of "smart" solutions for saving resources (energy, water) in tourist facilities and the adaptation of operations to the principles of the circular economy contribute to the reduction of greenhouse gas emissions. On the other hand, a climate-resilient offer requires a climate-resilient adaptive infrastructure. The security of the destination in relation to the increase in the potential of climate threats is an important component for positioning in emission markets.

#### **5. Establish a financial framework for climate mitigation and adaptation of tourism**

Rationale: Financing is often one of the main obstacles in the implementation of climate neutral and resilient initiatives. Securing sources of financing from the state budget, extra-budgetary funds, EU funds and public-private partnerships is important for the effective implementation of decarbonization measures and strengthening climate resilience, and ultimately for the economic stability of the HNC.



In the context of the NaTour4CChange project and the climate risk analysis (Table 2.8.), the following should be applied for each observed tourist area:

- **Tourist infrastructure** should be designed, planned, built and maintained in a way that implements solutions to reduce greenhouse gas emissions and is resilient to identified climate risks.
- **The tourist offer** should be climate neutral and adaptive, with it being important to give priority to sustainable tourism practices that ensure the safety, comfort of visitors and stable income throughout the year.
- **Natural areas** are particularly vulnerable to climate risks compared to other tourism resources. Therefore, they require special attention not only in terms of nature protection and conservation, but also in terms of considering the monetization of the services provided by the ecosystem to tourism (and other industries). The paradigm is that ecosystem resources are limited, therefore the EU is currently establishing mechanisms for evaluating the costs required to remediate the resources used.

#### **6. Ensure continuity of systematic education and cooperation of stakeholders for climate action**

*Rationale:* Continuous education on climate mitigation and adaptation measures and the preservation of natural and cultural values is essential for the socio-economic sustainability. It can be improved through continuous education and training to provide stakeholders with the necessary skills and knowledge. In addition, awareness-raising campaigns among tourism stakeholders (decision-makers, businesses, local authorities and communities) are crucial. By empowering stakeholders with such knowledge and tools, HNC can develop a climate action culture that supports the short, medium and long-term goals of tourism.

These criteria and objectives build on the measures defined in the HNC Climate Mitigation and Adaptation Action Plan (Chapter 4).



## 4. CLIMATE ACTION PLAN FOR TOURISM MITIGATION AND ADAPTATION IN HNC

### 4.1. ACTION PLAN FOR MITIGATION AND ADAPTATION ACTIVITIES

For effective decarbonisation and climate change adaptation, HNC focuses on objectives, measures and activities, and clearly defined responsibilities and indicators within a given timeframe (Table 4.1). By involving stakeholders - tourism representatives, decision-makers at all levels, local communities and civil society - social legitimacy and acceptance of **planned activities** are ensured. By encouraging participatory processes (e.g. mapping of emission sources and climate risks, stakeholder workshops, collaborative and digital platforms for information and reporting), HNC improves community involvement and accountability. To monitor progress and enable informed and adaptive management, **key indicators** have been identified (Chapter 5).

To strengthen the **long-term sustainability** of tourism, **policy frameworks** for reducing greenhouse gas emissions and adapting to climate change should be established, based on concrete strategic investments (i.e. RES, and water management to protect NP Hutovo Blato). Multiple benefits are expected - from improving the state of the environment and nature conservation, and to accelerate economic growth and strengthening social cohesion. Priorities should be designed to maximize shared benefits and efficiently direct financial and human resources according to the following principles:

- **Ensure the stability of tourism activities:** invest efforts to reduction of GHG emissions and environmental/nature pollution to achieve greater resilience of tourism and ecosystems (which are the basic tourism resource). Ensure the establishment of long-term stability and economic benefits for communities through regulatory, governance and financial frameworks.
- **Assess the effectiveness of climate action:** use assessments to determine the effectiveness of decarbonization measures (energy efficiency, RES) and identify vulnerable sectors and areas of HNC. In the context of tourism in HNC, this includes the following elements: tourism infrastructure, protected natural areas, roads, ports, health facilities.
- **Ensure cost-effectiveness and short-term feasibility:** prioritize solutions that can be implemented from financially sustainable sources in the short term, to achieve quick and effective results. Possible solutions include energy efficiency measures and the ecosystem approach (EbA).
- **Ensure social benefits:** measures are socially beneficial, adopted through a participatory approach and for the long-term socio-economic sustainability



of local communities. Community engagement not only strengthens the resilience of the destination, but also “achieves” a higher level of awareness and involvement of citizens in the concrete implementation of measures.

#### 4.2. TYPOLOGY AND EXAMPLES OF MEASURES TO ENHANCE TOURISM RESILIENCE

To effectively respond to the challenges of tourism mitigation and adaptation, three groups of measures could be distinguished:

- Infrastructural (grey) measures
- Non-structural (soft) measures
- Nature-based solutions (NbS).

It is advisable to **combine measures** to address different business challenges (e.g. higher costs for cooling accommodation facilities) and climate risks (e.g. increased incidence of health problems due to heat stress), as well as their cascading and multiplying effects of changing climate patterns.

**Infrastructural (grey) measures** - these measures involve physical interventions and technical solutions. They often require significant investments but can quickly bring very effective benefits.

Examples:

- Energy efficiency and renewable energy sources: installation of energy-efficient systems in hotels and tourist facilities (e.g. solar panels, heat pumps, environmentally friendly lighting) to reduce greenhouse gas emissions and operating costs.
- Permeable surfaces, water tanks, rain gardens: construction of water-permeable surfaces (along roads and paths or around buildings) to absorb large amounts of rainwater, construction of water tanks for irrigation in dry periods and rain gardens as bio-retention areas that prevent urban flooding.
- Flood protection levees and barriers: construction of levees, barriers and channel systems to drain and protect tourist infrastructure and other facilities from river floods or sea level rise.
- Fire protection solutions: application of engineered solutions and fire-resistant materials that reduce fire risk, increase the safety and durability of buildings in areas at risk of forest fires.

**Non-structural (soft) measures:** strengthen the public services capacity to respond to crisis and community involvement. The emphasis is on governance, informed stakeholder participation and adaptive, timely and effective responses.

Examples:





- **Education and preparedness to respond:** organizing workshops and training for tourism operators and local communities on climate risks and emergency procedures.
- **Stakeholder engagement:** involving tourism businesses, local authorities and residents in planning and decision-making processes to ensure that climate actions are socially acceptable and based on local needs.
- **Awareness-raising:** initiatives and campaigns aimed at informing the population and tourists about sustainable practices (reducing energy, water, waste consumption).
- **Reporting and information-sharing platforms:** establishing cooperation and systems for collecting relevant data and exchanging information on climate risks and actions to be taken.

**Nature-based solutions (NbS)** use natural processes, i.e. ecosystem services, to address climate challenges. They reduce greenhouse gas emissions and strengthen community resilience to climate risks. They promote biodiversity and ensure that ecosystems provide their services in the long term and without disruption.

Examples:

- **Wetland restoration:** the preservation and restoration of wetlands is important for climate protection (carbon sequestration) and for water retention during periods of drought and flooding (floodplains). Ensuring an acceptable water regime contributes to the preservation of habitats and species that are key to the development of ecotourism.
- **Coastal restoration and preservation:** the rehabilitation and preservation of natural coastal barriers against flooding and coastal erosion ensure the protection of coastal tourist facilities, beaches and other tourist attractions.
- **Sustainable forest management:** the implementation of measures aimed at forest health and resilience (e.g. selective logging) is key for climate protection (carbon sequestration) and ensuring forest ecosystem services important for tourism and recreation.
- **Urban green spaces:** the development of parks and green corridors in urban areas supports recreation, reduces the impacts of heat islands (heat stress on human health) and improves air quality.
- **Urban NbS solutions for urban rainwater management:** such as rain gardens, green roofs, etc.

These measures protect the resource base of tourism in destinations and ensure the long-term sustainability of the tourism sector for the benefit of local communities and the environment. **Table 4.2** presents the measures applicable to specific climate risks, as well as their advantages and limitations. Since this strategy has focused on nature-based solutions (NbS), **Table 4.3** outlines proposals for potential projects addressing the climate challenges in HNC. The projects are aimed at water resource management, agricultural adaptation, forest fire prevention, and urban adaptation to climate change, and they represent a solid basis for funding from EU funds and other international sources

**Comentado [SG1]:** Možda osim zelenih površina staviti i NBS za upravljanje oborinskim vodama? Vidim sad da je dolje u Tablici 4.2



## 5. ENABLING CONDITIONS

To successfully implement the Decarbonization and Climate Adaptation Action Plan, it is necessary to establish prerequisites that will enable the transformation of policy objectives into operational implementation.

### 5.1. INDICATORS

Indicators measure the effects of implemented measures and activities. They enable stakeholders and the interested public to assess their effectiveness and identify areas where corrections are needed. Indicators monitor compliance with national, EU and international climate targets.

**Key indicators for climate change mitigation** (decarbonisation):

**1. Share of energy-efficient solutions in accommodation:** increase in the share of accommodation facilities that apply energy-efficient systems and/or renewable energy sources (target: 10% in the first five years).

**2. Share of energy-efficient transport solutions in the tourism sector:** increase in the number of sustainable forms of transport/movement and/or infrastructure, such as the number of electric vehicles/vessels and/or the length of cycling/pedestrian infrastructure (target: 12% in the first five years).

**3. Implementation of carbon management systems:** increase in the share of tourism enterprises that have implemented and are implementing greenhouse gas emission management systems (target: 10% in the first five years).

**4. Informing and raising awareness of stakeholders and the public:** increasing the number of campaigns, initiatives, workshops, educational content on reducing energy consumption, carbon footprint and adapting tourism infrastructure (target: 20 campaigns/initiatives/workshops/educational content in the first five years).

**Key indicators of climate change adaptation:**

**1. Share of key tourism infrastructure that meets climate resilience standards:** increasing the share of public and private tourism infrastructure that incorporates some of the climate adaptation measures, such as rain gardens, water tanks, covered parking lots, gazebos (target: 10% in the first five years).

**2. Share of restored habitat areas:** increasing the share of areas (in hectares) of restored habitats through joint efforts and investments by the nature conservation and tourism sectors, including NbS and other forms of ecosystem approach (target: 5% of the total area in the first 8 years).

**3. Plans to improve water and waste management among tourism entities:**

increase the share of tourism entities operating in accordance with the principles of a circular economy to save water (e.g. recycling of "grey" water) and sustainable waste management (e.g. waste separation) to protect nature and maintain the quality of air, soil, water and sea (target: 10% in the first ten years).

**4. Establishment of a system for responding to negative climate impacts:**

establishment of an early warning system for climate hazards that threaten the destination, such as floods, extreme air temperatures, fires (target: two years from the start of implementation/adoption of this strategy).

**5. Level of satisfaction** of communities and visitors: increase the level of satisfaction with the safety of climate-resilient infrastructure (target: 75% in the first two years/survey of residents and visitors).

**6. Stakeholder engagement:** Involve tourism businesses, managers, staff and stakeholders in the planning and implementation of tourism climate change adaptation activities, through training and education (target: number of trainings held 10 in the next three years).

Indicators should be quantified, time-bound and publicly disclosed to monitor the implementation and **evaluate the effectiveness of this strategy**. This ensures **transparency and accountability** in efforts to achieve climate neutrality and resilience of tourism in HNC.

## 5.2. REPORTING

Reporting mechanisms are essential for governance. They enable stakeholders to understand progress, perceived obstacles and inform about usage of the destination's resources. Increased transparency builds **trust and credibility** in public institutions. Therefore, the establishment of public databases on the environment, nature, and climate is important for monitoring data on the impacts of tourism (and other sectors) on the natural and other resources of the canton.

**Key activities** include:

**1. Reporting and informing** the broader public about progress, challenges, and 'gaps' through public databases, including reports, summaries of policy impacts, informative notes, online publications, and platforms for communicating indicators."

**2. Organizing briefings and public consultations** with stakeholders to share knowledge, experiences and plan further steps in the climate mitigation and adaptation processes.



**3. Recording challenges** that arise during implementation, identifying necessary adjustments to policies, financing and technical solutions.

### 5.3. ENGAGEMENT

Effective climate strategies require the participation of all tourism stakeholders, as they contribute to GHG emissions (transport, accommodation, services) and they are increasingly exposed to climate risks. Their involvement increases the legitimacy of measures and encourages co-responsibility in implementation. To ensure that the destination derives the maximum benefit from the synergistic actions of various stakeholders, it is proposed to establish a **County/Cantonal Climate-Tourism Coordination Committee**. The committee would have the role of defining annual plans and the obligation to report, inform, and coordinate stakeholder.

**Key activities** are:

- 1. Establish climate coordination**, which includes state and public institutions, tourist boards, civil society associations, professional and scientific institutions in the fields of tourism, energy, water management, agriculture and nature and environmental protection, as well as representatives from the health sector, local communities and civil society associations.
- 2. Hold sectoral educational and information workshops**, for the purpose of coordinated planning of activities among key sectors (energy, agriculture, tourism, water management, environmental and nature protection, health) and the allocation of competencies/responsibilities.
- 3. Conduct public education campaigns** on the importance of low-carbon tourism and climate resilience through the media, schools, visitor centers, etc.
- 4. Establish incentives and recognition programs**, such as green credits, green bonds or awards for “climate responsible/green tourism”
- 5. Ensure an adequate level of safety for residents and visitors and health care** in cases of climate risks (e.g. through heatwave emergencies), especially for vulnerable groups (children and the elderly).

### 5.4. REVIEW

Given the dynamic nature of climate change, strategies should be adaptable. A review mechanism ensures that implementation remains effective, that gaps are addressed, and that successful initiatives are shared among stakeholders.

Key review activities include:



- **Conducting a formal review every five years** to assess the alignment of climate action with the strategic objectives and indicators.
- **Establishing evaluation mechanisms** ("feedback loops") of the effectiveness of measures, activities, management and financial mechanisms, including human resources.
- **Developing climate assessment tools** (calculate GHG emissions and evaluate climate vulnerability with climate risk assessment) **with "scenario" planning** to manage uncertainties and assess the effectiveness of different climate action trajectories.
- **Engaging external auditors** to independently assess progress and institutional impacts.



## 6. CONCLUSION

### Strategic direction and development of tourism in HNC

Considering growing climate challenges, the strategic direction of tourism development in HNC prioritizes decarbonization and increasing the level of resilience of tourism to climate change. Namely, tourism contributes about 8-10% to global emissions, and climate change threatens the tourism sector through damage to infrastructure, increased incidence of heat stress among visitors and residents, degradation of ecosystem services, etc. To mitigate such challenges, **HNC is striving to integrate climate action into tourism and related policies** through a political commitment to decarbonization (encouraging energy efficiency and implementation of RES) and adaptation of tourism to climate change.

Diversifying the tourism offer is key to attracting a wider range of visitors and reducing dependence on summer seasonal tourism. Promoting eco-tourism, cultural tourism, outdoor activities and adrenaline tourism encourages community engagement and supports responsible practices. It is crucial to emphasize that the application of nature-based solutions (NbS) can encourage the reduction of greenhouse gas emissions and improve their resilience to climate hazards, thus attracting visitors seeking sustainable destinations. The future of tourism in HNC will depend on **cross-sectoral and multi-level cooperation, financial resources, innovative technical and technological solutions, as well as consistent commitment from stakeholders**. It is crucial to emphasize that HNC is committed to preserving its ecosystems, on whose services tourism and the economic and social prosperity of its local communities are based. By integrating the comprehensive objectives, measures and activities of this climate-tourism strategy into related policies (e.g. energy, nature and environmental protection, agriculture), HNC is offered a tool for climate-responsible management of the county. This holistic management approach is aligned with global and EU policies, as well as best practices. The goal is to ensure the positioning of HNC as a leading climate and environmentally sustainable destination in the HNC, capable of thriving despite climate challenges.

### Conclusion on the implementation of the NaTour4CChange project in HNC

The NaTour4CChange project strengthens the knowledge base on climate change in the tourism sector in HNC. By promoting climate-sustainable tourism practices, the project helps HNC **to respond more effectively to climate and environmental impacts**. A key component of the project is the establishment of a robust framework for assessing, monitoring, planning, evaluating and responding to the impacts of tourism on the climate (mitigation) and to the challenges arising from climate impacts on tourism (adaptation).



**NaTour4CChange**

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Data-driven approaches and timely reporting enable stakeholders to assess progress and design effective societal responses. The emphasis is on Nature-based Solutions (NbS). The project encourages the involvement of decision-makers, tourism operators, academia and residents in climate action, mitigation and adaptation, ensuring an inclusive decision-making process.



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<sup>48</sup> [https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030\\_enhttps://www.vladazh.com/Dokumenti/ZPP/strategija\\_razvitka\\_turizma\\_upanije\\_zapadnohercegovake\\_-\\_finalna\\_verzija.pdf](https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_enhttps://www.vladazh.com/Dokumenti/ZPP/strategija_razvitka_turizma_upanije_zapadnohercegovake_-_finalna_verzija.pdf)

<sup>49</sup> [https://mpsv-hnz-k.ba/wp-content/uploads/2021/06/Nacrt-Strategije-ruralnog-razvitka-HN%C5%BD-K\\_280621.pdf](https://mpsv-hnz-k.ba/wp-content/uploads/2021/06/Nacrt-Strategije-ruralnog-razvitka-HN%C5%BD-K_280621.pdf)

<sup>50</sup> [chrome-extension://efaidnbmninnibpcjpcglclefindmkaj/https://skupstina-hnz-k.ba/wp-content/uploads/2022/07/Prostorni-plan-HNZ\\_HR.pdf](chrome-extension://efaidnbmninnibpcjpcglclefindmkaj/https://skupstina-hnz-k.ba/wp-content/uploads/2022/07/Prostorni-plan-HNZ_HR.pdf)

<sup>51</sup> <https://privredahnk.gov.ba/wp-content/uploads/2024/02/DEVELOPMENT-STRATEGY-FOR-SME-IN-THE-HNC-2012-2020.pdf>

<sup>52</sup> <https://privredahnk.gov.ba/wp-content/uploads/2024/02/Nacrt-Strateske-platforme-Strategije-razvoja-malog-i-srednjeg-poduzetnistva-HNK-Z.pdf>

<sup>53</sup> <https://capljina.ba/2023/10/27/prostorni-plan-gradacapljina/>



- Integrated Development Strategy for Čapljina 2017-2027<sup>54</sup>
- Spatial Planning Document for the Area of Special Features for the Area Significant for the Herzegovina-Neretva Canton 'Hutovo Blato Nature Park' for the period from 2013 to 2023<sup>55</sup>
- Development Strategy of Mostar for the period 2022-2027<sup>56</sup>
- Development Strategy of the Municipality of Stolac 2015-2024
- Spatial plan of the municipality of Stolac for the period from 2013 to 2023

#### International and EU documents:

- Paris Agreement<sup>57</sup>
- Long-term low greenhouse gas emission development strategy of the European Union and its Member States<sup>58</sup>
- EU Strategy on Adaptation to Climate Change<sup>59</sup>
- EU Biodiversity Strategy for 2030<sup>60</sup>
- Copernicus EU<sup>61</sup>
- Guidelines for the Implementation of the Green Agenda for the Western Balkans<sup>62</sup>
- Green Agenda for the Western Balkans<sup>63</sup>
- Policy Report on the Green Transition in the Western Balkans (Edition 2024)<sup>64</sup>
- Missed Targets: Insights into the draft NECPs of the Western Balkans<sup>65</sup>
- Financing Framework for the Sustainable Development Goals in Bosnia and Herzegovina<sup>66</sup>
- 3rd Environmental Performance Review of Bosnia and Herzegovina, 2018<sup>67</sup>
- Development of master curricula for natural disasters risk management in Western Balkan countries<sup>68</sup>

<sup>54</sup> <https://capljina.ba/wp-content/uploads/2018/01/Strategija-razvoja-opcine-Capljina-2017-2027.pdf>

<sup>55</sup> [https://hutovo-blato.ba/wp-content/uploads/2018/08/plan\\_upravljanja.pdf](https://hutovo-blato.ba/wp-content/uploads/2018/08/plan_upravljanja.pdf)

<sup>56</sup> <https://www.mostar.ba/storage/2022/11/Strategija-razvoja-Grada-Mostara-2022.-2027.-B.pdf>

<sup>57</sup> <https://unfccc.int/process-and-meetings/the-paris-agreement>

<sup>58</sup> <https://unfccc.int/documents/210328>

<sup>59</sup> [https://climate.ec.europa.eu/eu-action/adaptation-and-resilience-climate-change/eu-adaptation-strategy\\_en](https://climate.ec.europa.eu/eu-action/adaptation-and-resilience-climate-change/eu-adaptation-strategy_en)

<sup>60</sup> [https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030\\_en](https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en)

<sup>61</sup> <https://insitu.copernicus.eu/state-of-play/data-providers>; <https://cis2.eea.europa.eu/data/list/>

<sup>62</sup> [https://enlargement.ec.europa.eu/system/files/2020-10/green\\_agenda\\_for\\_the\\_western\\_balkans\\_en.pdf](https://enlargement.ec.europa.eu/system/files/2020-10/green_agenda_for_the_western_balkans_en.pdf)

<sup>63</sup> [https://enlargement.ec.europa.eu/document/download/75bf7bef-0ecc-40ba-893a-4d45d4ea6ddb\\_en?filename=factsheet\\_wb\\_green\\_agenda\\_en.pdf](https://enlargement.ec.europa.eu/document/download/75bf7bef-0ecc-40ba-893a-4d45d4ea6ddb_en?filename=factsheet_wb_green_agenda_en.pdf)

<sup>64</sup> [https://www.westernbalkans-infohub.eu/wp-content/uploads/2024/08/Report\\_Green-Transition\\_final.pdf](https://www.westernbalkans-infohub.eu/wp-content/uploads/2024/08/Report_Green-Transition_final.pdf)

<sup>65</sup> <https://caneurope.org/content/uploads/2023/11/NECPWBReport2023-.pdf>

<sup>66</sup> [https://zamisli2030.ba/wp-content/uploads/2019/12/BiH\\_SDG\\_Financing-Framework-for-gov.-adoption-2023.pdf](https://zamisli2030.ba/wp-content/uploads/2019/12/BiH_SDG_Financing-Framework-for-gov.-adoption-2023.pdf)

<sup>67</sup> [https://unece.org/sites/default/files/2021-08/ECE.CEP\\_.184.Eng\\_.pdf](https://unece.org/sites/default/files/2021-08/ECE.CEP_.184.Eng_.pdf)

<sup>68</sup> [https://ec.europa.eu/programmes/erasmus-plus/project-result-content/3f2e79f0-053a-4f91-bff4-44c34fa240cb/Report\\_on\\_natural\\_disasters\\_in\\_WB.pdf](https://ec.europa.eu/programmes/erasmus-plus/project-result-content/3f2e79f0-053a-4f91-bff4-44c34fa240cb/Report_on_natural_disasters_in_WB.pdf)



Other sources of data and information:

- MoWaCLIM project: Monitoring interactions between groundwater and surface water to improve the resilience of sustainable agriculture to climate change impacts in coastal systems); co-financed by the INTERREG VI-A IPA Programme Croatia – Bosnia and Herzegovina – Montenegro 2021–2027
- Project: Current status and spatial distribution of endangered wetland flora species in FBiH; financed from the budget of the Federal Ministry of Environment and Tourism (FMOIT)
- Project "Save Hutovo Blato Nature Park as a breeding ground for endemic fish", in cooperation with the Dinarica Mostar Association; is supported by the European Open Rivers Program
- Project MERLIN: Incorporating ecological restoration of freshwater ecosystems into landscape contexts: innovation, scale-up and transformation; supported by World Wide Fund Adria
- Project Pathways2Resilience: Strengthening resistance to climate change in the Hutovo Blato Nature Park, - financed by the European Union and the German Climate Fund.

Please note that some of the literature is also listed in the footnotes.



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## **ANEX 1– CLIMATE ACTION PLAN FOR MITIGATION AND ADAPTATION OF TOURISM IN HNC**

**Table 4.1.** Climate Action Plan for HNC - goals, measures, activities, responsible parties, and timeline for climate actions (mitigation, and adaptation)

Goal	Measures	Related activities	Responsible body	Indicative financial framework <sup>69</sup>	Timeline
<b>1. Ensure a clear political commitment to climate action and define concrete measures</b>	Develop comprehensive climate action policies and multi-level governance structure that integrate tourism and sustainability	Establish cooperation at all levels to provide coordinated activities and monitor progress according to Climate Change Adaptation and Low Emission Development Strategy (focus on vulnerable sectors: tourism, agriculture, forestry, nature, health)	Local, County-Canton, and National decision makers, Specialized Agencies, Hydro-meteorological Service, Statistical Office	0	Short-term (1-2 years)
		Establish a multi-level governance and cooperation in align with the EU acquis		0	Short-term (1-2 years)
		Establish a data monitoring framework to assess the effectiveness of climate actions (real-time data collection, climate analysis, early warning system to inform residents and visitors)		500.000 – 800.000	Medium-term (3-5 years)
<b>2. Support decarbonization and make climate</b>	Promote energy efficient accommodation options	Provide grants and encourage tourism stakeholders to improve energy efficiency	Ministries responsible for the environment	1.000.000 – 3.000.000 (depending on	Short- to Medium-term (1-5 years)

<sup>69</sup> Costs pertain to the project and operational level, including studies, education, software tools, small infrastructure interventions, and communication. Major infrastructure projects (transport, renewable energy sources, NbS) require detailed project documentation. The financial framework is indicative and serves for planning and applications to potential EU and international funds."

resilience an imperative			and nature, transportation, and tourism, Local government, Expert /specialized agencies, Tourism Board, Private sector, Agencies and organizations, Hydro-meteorological service, Nature protection and climate experts	the number of facilities)	
	Support implementation of renewable energy sources in tourism infrastructure	Provide grants and subsidies for renewable energy installations in tourism facilities		2.000.000 – 5.000.000 (depending on the number of facilities)	
	Modernize transportation infrastructure, include environmentally friendly public transport options	Promote and incentivise sustainable mobility options (i.e. e-vehicles/vessels, bike paths) for tourists and staff and develop multimodal transport connections		3.000.000 – 10.000.000 (options for sustainable transportation); 10.000.000 – 25.000.000 (multi-modal transport)	Medium-term (3-5 years) for sustainable mobility options; Long-term (5-10 years) for multimodal connections
	Incorporate carbon neutral and climate resilience obligations, principles and solutions into tourism policies and practice	Introduce the obligation to calculate GHG and assess climate risks when applying for state budget and EU funds for public and private tourism infrastructure in order to identify potential savings and climate vulnerability		0	Short- to Medium-term (1-5 years)
		Integrate findings from GHG calculation and vulnerability and climate risk assessments into policy and planning and construction of tourism infrastructure		150.000 – 300.000	Medium-term (3-5 years)
		Implement infrastructural, non-structural measures, and Nature-		1.000.000 – 4.000.000	Medium-term (3-5 years)

		based Solutions (NbS) to enhance resilience of tourism industry, and natural values. Inform residents and visitors about implementation and maintenance of measure applied.			
<b>3. Strengthen the protection of natural resources and ecosystem services</b>	Strengthen already established mechanisms to ensure preservation of natural and cultural values and limit tourism impacts on sensitive ecosystems and heritage, especially in protected nature areas.	Implement Nature-based Solutions (NbS) like wetland rehabilitation and sustainable forest management practices to enhance resilience.	Ministry responsible for the environment, forestry, water management, and nature, and culture Local government, public institutions for nature protection, NGOs, Scientific and expert community	500.000 – 1.500.000	Medium-term (3-5 years)
		Implement projects of reforestation, forest clearing, construction of observation posts and restoration of wetlands to reduce the frequency of forest fires and improve water retention and reduce flood risks.		1.500.000 – 3.500.000	Long-term (5-10 years)
		Restore and stabilize fluvial dunes, natural barriers, vegetation, etc. to protect against river floods and sea erosion.		2.000.000 – 5.000.000	Long-term (5-10 years)
		Foster collaboration among government, private sector, NGOs, and communities to manage natural areas effectively.		50.000 – 150.000	Short-term (1-3 years)
<b>4. Direct the diversification of tourism offer and infrastructure</b>	Expand the offer that is available year-round and resilient to climate change.	Encourage tourism stakeholders to diversify the destination offer (e.g. birdwatching, photo safaris, wellness tourism activities,	Ministries responsible for the environment and nature,	300.000 – 700.000	Short- to Medium-term (1-5 years)

<b>towards climate and environmentally sustainable solutions</b>		congress tourism, digital nomads) and promote off-season tourism.	infrastructure, and tourism,		
	Support local tourism operators in promoting and improving those forms of tourism that are more environmentally and climate friendly.	Provide funds for the further development of 'outdoor' and eco-tourism (e.g. through an ecological contribution paid in a symbolic amount by visitors).	Local decision-makers, Tourism Board, Private sector, Local tourism agencies,	0	Medium-term (3-5 years)
		Educate tourism stakeholders on the adaptability of the tourism offer to climate change throughout the year.	Scientific and expert community	100.000 – 250.000	Short- to Medium-term (1-5 years)
<b>5. Establish a financial framework for climate mitigation and adaptation of tourism</b>	Establish a financing framework and pursue EU funding that incentivizes climate-neutral projects and climate adaptation	Ensure a long-term sustainable financing framework and create awareness campaigns to inform stakeholders about possible sources of financing for climate neutrality and resilience of projects and business in tourism.	Federal, County-Canton, and local decision makers, Ministry responsible for energy, economy and finance,	200.000 – 400.000 (awareness campaigns)	Short to Medium term (1-5 years)
	Establish public-private partnerships for financing sustainable tourism development	Provide other sources of financing - extra-budgetary funds, public-private partnership and create campaigns to raise awareness to inform stakeholders about the possibilities of financing sustainable tourism projects.	Development agencies, Private sector	150.000 – 300.000 (campaigns)	Short to Medium term (1-5 years)
<b>6. Ensure continuity of</b>	Implement educational	Train educators and create resources for training a wider range	Ministry responsible for	150.000 – 300.000	



<b>systematic education and cooperation of stakeholders for climate action</b>	programs and monitoring mechanisms (audits) focused on reducing greenhouse gas emissions and adaptation measures in tourism.	of tourism stakeholders on climate change mitigation and adaptation, with a channel for public announcement of workshops and information campaigns.	tourism, Tourism Bord, Tourism associations, educational institutions, NGOs, local community		Short- to Medium-term (1-5 years)
		Create mechanisms / platforms for stakeholder collaboration, information exchange and joint decision-making (workshops and monitoring of implementation, audits and reporting).		100.000 – 200.000	

**Table 4.2.** Infrastructural (grey), non-structural (soft) measures and NBS - examples

Measures	Heat Waves	Droughts	Wildfires	River Floods	Sea Flooding	Strong Winds and Storms	Advantages/ Limitations
<b>Infrastructural Measures</b>	Energy efficiency and renewable energy sources	Permeable surfaces and water reservoirs	Fire-resistant materials and advanced warning systems	Hydrological measures (dams, drainage canals)	Coastal barriers (e.g., breakwaters, sea walls)	Elevated construction and flood-proofing	<b>Advantages:</b> Effective for immediate impact <b>Limitations:</b> High costs, potential ecological disruption.
	Blue-green solutions	Water conservation measures (smart irrigation)	Fire prevention infrastructure (e.g., fire breaks)	Flood risk reduction measures (e.g. cleaning of river channels)	Building protective walls/dams and moving infrastructure away from the coastline	Investments in infrastructure (e.g. strengthening the stability of buildings, architectural solutions)	<b>Advantages:</b> Effective for immediate impact <b>Limitations:</b> Potential ecological disruption.
<b>Non-structural (soft) measures</b>	Strengthening public awareness and training of professional services (medical) on the effects of heat waves	Inclusion of vulnerable communities in drought protection planning (e.g. construction of water reservoirs)	Training on wildfire preparedness	Forecasting and emergency response planning (EWS)	Forecasting, reporting and information platforms	Forecasting, and systematic response planning (institutional procedure for protection and rescue)	<b>Advantages:</b> Increased community involvement and flexibility <b>Limitations:</b> Dependent on ongoing engagement/resources.
	Training stakeholders about threats and impacts of climate risks	Establishing a reporting platform	Inclusion of local communities in planning	Regular stakeholder briefings and wider public	Public consultations	Training sessions for emergency responses	<b>Advantages:</b> Increased knowledge base, rapid information and action. <b>Limitations:</b> Dependent on ongoing engagement/resources.

Measures	Heat Waves	Droughts	Wildfires	River Floods	Sea Flooding	Strong Winds and Storms	Advantages/ Limitations
Nature-based Solutions (NBS)	Green roofs and urban parks; blue infrastructure (waterways and water bodies)	Rainwater harvesting, wetland restoration	Sustainable forest management	Riverbank restoration and natural flood defences	Shoreline restoration (dunes, beaches)	Green belts: in rural and urban areas to reduce wind speed	<b>Advantages:</b> Enhances biodiversity and ecosystem services <b>Limitations:</b> Long-term implementation and maintenance resource could be intensive.
	Green/blue corridors, rain gardens	Habitat restoration for groundwater infiltration	Creation of firebreaks in forested areas	Clearing natural river channels	Beach nourishment and dune stabilization	Construction of elevations/natural barriers to reduce wind impact	<b>Advantages:</b> Enhances biodiversity and health <b>Limitations:</b> Maintenance could be intensive.
	Construction and filling of water reservoirs during rainy periods	Water reservoirs and sustainable (circular) water management (e.g., greywater recycling)	Clearing forest access paths, traditional agroforestry practices	Preservation of floodplains	Preservation of natural coastal structures and sustainable land management	Preservation of native landscapes to reduce wind impact	<b>Advantages:</b> Enhances biodiversity and health <b>Limitations:</b> Maintenance could be intensive, expensive and in long-term.

**Table 4.3.** Proposals for Possible Projects with NbS Measures to Enhance Climate Resilience in Tourism in HNC

Project	Description of NbS Components	Climate Risk Addressed	Pilot Area	Implementation Phases	Estimated Cost (EUR) <sup>70</sup>	EU Funding Sources
<b>1. Water Resource Management and Drought and Flood Resilience System</b>	Rainwater retention, restoration of natural riverbeds, utilization of floodplains and wetland areas	Droughts, floods	Neretva Valley, Hutovo Blato	Phase I – pilot; Phase II – broader application	I: 1-5 million	EU Western Balkans Investment Framework (WBIF), LIFE Climate Adaptation, pre-accession assistance instruments (IPA, Interreg IPA ADRION), EU Program EU 4 Health 2021-2027, HORIZON 2021-2027, EU thematic projects (e.g., Interreg), UNDP Green Climate Fund, UNDP Climate Change Adaptation, Environmental Protection Fund of the Federation of BiH, international, EU and national financial institutions
<b>2. Agricultural Adaptation to Climate Change Program (partially NbS)</b>	Agroforestry, cover crops, soil conservation + more resilient varieties and irrigation	Droughts, heat stress, yield reduction	Čapljina, Stolac	Phase I – pilot; Phase II – expanding to the entire canton	I: 1.5 – 3 million	
<b>3. Forest Fire Prevention and Early Warning System</b>	Sustainable forest management, protection and restoration of forest ecosystems	Forest fires, drought, forest degradation	Karst area (Čitluk–Stolac), Hutovo Blato	Phase I – pilot; Phase II – covering the entire HNC	I: 1–1.5 million II: 3–5 million	
<b>4. Green Urban Infrastructure for Heat Wave Mitigation</b>	Tree planting, rain gardens, parks, green roofs, and urban green and blue areas	Heat waves, urban heat stress	Mostar, Neum	Phase I – pilot; Phase II – expanding to other cities	I: 0.5–3 million	

<sup>70</sup> These are indicative amounts. Depending on the scope and type of measure, adjustments are certain.

