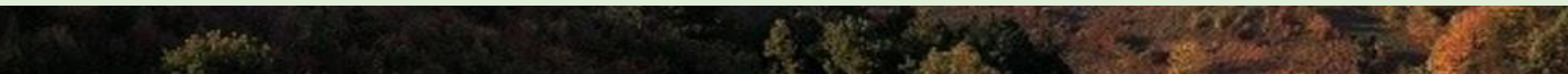


# Adaptation to Climate Change in the Tourism of Zagreb County

Visit Zagreb County  
Zagreb County Tourist Board



# Zagreb County

- Zagreb County consists of **9 cities** and **25 municipalities**
- Total area: 3,061.69 km<sup>2</sup>
- According to the 2021 Population Census, it has **299,985 inhabitants**
- Land cover (data from the Zagreb County Development Plan for the period 2021–2027):
  - Human-influenced areas: 15,649.1 ha
  - Agricultural land: 164,046.1 ha
  - Forest land: 123,182.8 ha
  - Water surfaces: 3,285.4 ha
  - Conclusion: the largest share of land use consists of **agricultural areas (54%)** and **forest land (40%)**



# Climatic characteristics of Zagreb County

- **The climate in Zagreb County is moderate continental, i.e. a moderately warm and humid climate.**
- **The average annual temperature is around 13° C**
  - The warmest months are July and August, with an average temperature of 22° C, while the coldest month is January, with an average temperature of -1° C
  - From early May to the end of September, temperatures rarely fall below 15° C, whereas during December, January, and February they are on average below 5° C
  - The climate is somewhat harsher in higher mountainous areas. Thus, in the highest parts of Medvednica Mountain, the average summer temperature does not exceed 22° C, while the average winter temperature in February is around -3° C
- **The average annual precipitation ranges between 800 and 1,000 mm.**
  - Precipitation is generally evenly distributed throughout the year, although it is highest in June and November, when monthly totals can exceed 100 mm
  - Less than 50 mm of precipitation most commonly occurs in February, March, and September.
  - Mountainous areas receive higher amounts of precipitation, especially in late autumn, when rainfall in the wettest month, November, can exceed 200 mm

**Climate change is an increasing threat in the 21st century and a challenge for all of humanity.**



**Climate change is increasingly becoming a challenge faced by the tourism industry worldwide.**

**One of the key impacts of climate change is the increase in extreme weather events such as hurricanes, floods, and droughts**

- **Extreme weather events can damage infrastructure, natural attractions, and cultural heritage.**
- **Rising temperatures alter tourism seasons, with ski destinations facing shorter winters due to less snow.**
- **Environmental changes threaten biodiversity and reduce the appeal of nature-based destinations.**
- **The tourism industry must adapt by investing in sustainable, climate-resilient infrastructure and promoting responsible travel.**

**The tourism industry faces the challenge of adapting to climate change in order to reduce its negative impacts. This includes investing in sustainable and climate-resilient infrastructure, promoting sustainable travel and tourism, and educating travellers about the importance of environmental conservation.**

**Climate change not only affects the tourism industry but also drives the need for a sustainable approach to tourism in order to protect natural resources and destinations for future generations.**



# How to build tourism resilience to climate change?

- Tourism resilience can be strengthened through:
  - **Adaptation to climate change impacts** (changes in travel patterns, services, water demand, protection of infrastructure and heritage, etc.)
  - **Data-driven decision-making**, including strategic foresight and analysis of global trends
  - Ensuring that **crisis-management tools take tourism needs into account** in the event of major disruptions
  - **Reducing seasonality**, dependence on tourism, and its impacts on local communities and ecosystems
  - **Greater focus on sustainable forms of tourism** that do not negatively affect the environment, climate, or water systems
  - Promoting capacity building and **education of key tourism stakeholders**, and encouraging **multi-level and multi-stakeholder cooperation** in tourism governance

# What is being done in Zagreb County regarding climate change?

- Zagreb County, through its activities, seeks to prevent and adapt to climate change, with its favourable geographical position providing additional support
- At the county level, the Environmental Protection Program of Zagreb County for the period 2022–2025 has been developed
  - Since direct measurements of greenhouse gas emissions are not available for Zagreb County, a provisional assessment of emission trends is based on data from the Environmental Pollution Register
- The Zagreb County Tourist Board (ZCTB) encourages destination stakeholders and businesses to measure, monitor, and reduce greenhouse gas emissions across all aspects of their operations, including those of suppliers and service providers. This is achieved through education, training, fieldwork, and EU-funded projects
- One such initiative is the **Horizon Europe project “KNOWING – A Framework for Defining Climate Change Mitigation Pathways Based on Understanding and Integrated Assessment of Climate Impacts, Adaptation Strategies, and Societal Transformation,”** within which educational training sessions were organized.

# Investments in Renewable Energy

- Despite having **very few “polluting” industries within its territory**, Zagreb County plans significant investments to create the conditions for the full decarbonization of the public and private sectors through the development of renewable energy sources
- The Zagreb County Development Plan for the period 2021–2027 (includes) the **implementation of measures aimed at the use of renewable energy sources and energy efficiency, as well as measures for adaptation to the impacts of climate change**
- Zagreb County has significant potential for the development of renewable energy sources (RES), particularly in the areas of:
  - **Solar power plants**
  - **Biomass and biogas**
  - **Geothermal energy**



# Green Destinations Certificate

- Zagreb County is the largest county in Croatia to hold the Green Destinations certification
- The Green Destinations program highlights **excellence** in sustainable destination management and evaluates various aspects of sustainability, including nature and heritage protection, waste management, energy efficiency, and **efforts to reduce the impacts of climate change**



# EU Strategic Framework – Climate Change Adaptation

The EU Strategy on Climate Change Adaptation is built around four main objectives:

1. **Making adaptation smarter** – proposing measures that advance knowledge on adaptation in order to collect more and higher-quality data on climate-related risks
2. **Making adaptation faster** – proposing solutions to reduce climate-related risks, strengthen climate protection, and safeguard the availability of freshwater resources
3. **Making adaptation more systematic** – across all levels of governance, with three cross-sectoral priorities: integrating adaptation into macro-fiscal policy, promoting nature-based solutions, and supporting local-level adaptation measures
4. **Strengthening international action** to support climate resilience by ensuring resources, increasing effectiveness, expanding international climate finance, and promoting strong global engagement and knowledge exchange on adaptation

# Green Transition – European Green Deal

The goal of the green transition is to achieve sustainability and address climate change and environmental degradation.

The tourism sector will benefit from a cleaner and healthier environment, while also playing an important role in achieving the shared goal of a climate-neutral Europe.

The European Green Deal promotes new growth models and sets the objective of climate neutrality by 2050.

- Through the “Fit for 55” package, the ambitions of the Green Deal are translated into legislation, with revised and new initiatives in the fields of climate, energy, and transport.

The green transition of tourism is not possible without micro, small, and medium-sized enterprises (SMEs), which form the backbone of the tourism offer and are key actors in the transformation towards sustainability.

- However, SMEs face challenges in implementing green practices due to limited resources, knowledge, skills, and the complexity of complying with green initiatives.
- The EU provides financial support through various funds, such as the **Just Transition Fund**, and encourages SMEs to adopt green practices through EU Ecolabels for tourist accommodation, environmental management systems, and independent EU assessment schemes (e.g. Eco-Management and Audit Scheme – EMAS).
- The EU Ecolabel helps consumers, businesses, and retailers make evidence-based sustainable choices.

The Green Deal and the Sustainable Tourism Agenda call for **reducing the environmental footprint of travel, adapting to climate change, and preserving natural and cultural heritage.**

# One Planet Programmes

- **The One Planet Sustainable Tourism Programme** is one of the six programmes of the One Planet Network. Its aim is to accelerate sustainable consumption and production in tourism in order to address the challenges of climate change, pollution, and biodiversity loss.
  - The programme **supports the integration of circular economy principles and practices** as a way to decouple tourism activities from environmental degradation and to build resilience.
- Activities within the One Planet Network are currently guided by the **Global Strategy on Sustainable Consumption and Production 2023–2030**, which identifies tourism as a sector with significant negative impacts and calls for its transformation towards climate-neutral, nature-positive, and non-polluting activities.
- The strategy is based on four pillars:
  1. Further positioning of sustainable consumption and production
  2. Enabling transformative change through multi-stakeholder partnerships
  3. Empowering countries and stakeholders to integrate and implement sustainable consumption and production
  4. Stimulating a global movement and commitments for action

# Tourism Transition Pathway

- The Tourism Transition Pathway identifies areas in which stakeholders—often working in partnership—should take action to accelerate the twin (green and digital) transition and promote greater resilience within the tourism ecosystem
  - It is based on a building-block approach, where each component addresses a key aspect of the twin transition and the desired shift towards increased resilience
  - **There are seven building blocks:**
    1. Sustainable competitiveness
    2. Regulation and public governance
    3. Research and innovation, techniques, and technological solutions
    4. Infrastructure
    5. Skills
    6. Social dimension
    7. Investment and financing

Within the transition pathways, each element should be considered from the perspective of the green transition (environmental sustainability and climate neutrality), the digital transition, and the shift towards greater resilience

# Strategic Framework in Croatia

- The National Development Strategy of the Republic of Croatia until 2030 is the overarching strategy envisioning Croatia in 2030 as a competitive, innovative, and secure country with a distinct identity and culture, preserved resources, high quality of life, and equal opportunities for all.
  - Development Direction 1: Sustainable economy and society
  - Strategic Goal 1: Competitive and innovative economy
  - Priority public policy area: Development of sustainable, innovative, and resilient tourism
- Strategy for Adaptation to Climate Change in the Republic of Croatia until 2040, with a view to 2070
- Energy Development Strategy of the Republic of Croatia until 2030, with a view to 2050
- Low-Carbon Development Strategy of the Republic of Croatia until 2030, with a view to 2050

# Development of Sustainable Tourism

- **Sustainable Tourism Development Strategy until 2030**
  - A strategic planning document used to shape and implement tourism development policies, aligned with national and EU tourism policies as well as broader economic and social development goals.
  - Strategic objectives:
    1. Year-round and more regionally balanced tourism
    2. Tourism that preserves the environment, space, and climate
    3. Competitive and innovative tourism
    4. Resilient tourism
- **National Plan for the Development of Sustainable Tourism until 2027**
  1. Development of more evenly distributed tourism flows over time and space
  2. Repositioning Croatia as a year-round, authentic sustainable tourism destination
  3. Reduction of the negative impacts of tourism on the environment, nature, and space
  4. Reduction of negative interactions between tourism and climate
  5. Strengthening human resources in tourism
  6. Improvement of the structure and quality of accommodation capacities
  7. Ensuring a supportive business environment
  8. Development of innovation and digital transformation in tourism
  9. Establishment of an effective governance framework for sustainable tourism development
  10. Responding to current trends in tourism destination development

# Destination Management Plan for Zagreb County until 2028

- Objective 2: **Strengthening Sustainable Tourism Governance**
- Measures:
  - C2.1 Effective management of sustainable tourism in Zagreb County
  - C2.2 Strategic planning aimed at strengthening tourism governance and resilience
  - C2.3 Stakeholder cooperation, education, and awareness-raising on the importance of sustainable tourism
  - C2.4 Establishment of a data and indicator collection system for integrated quality management

# Sustainability in Tourism Matters!

- **Environmental protection**
  - Tourism often has negative environmental impacts, such as pollution, overuse of resources, and damage to habitats and biodiversity.
  - Sustainable tourism promotes renewable energy use, reduces waste and plastic, and protects natural areas and parks.
- **Preservation of cultural heritage**
  - Mass tourism can lead to the commercialization or degradation of cultural heritage, local culture, and traditions.
  - Sustainable tourism respects local customs, language, and traditions, involves local communities in cultural offerings, and helps preserve historical sites.
- **Economic sustainability and benefits for local communities**
  - In many destinations, tourism does not sufficiently benefit local communities, as profits often go to large international chains.
  - Sustainable tourism supports local employment and entrepreneurship, uses local products and services, and ensures a fairer distribution of income.
- **Quality of tourist experience**
  - Mass tourism often results in overcrowding and a lower quality of experience.
  - Sustainable tourism offers authentic, local, and personalized experiences, reduces congestion and stress, and promotes responsible tourist behavior.
- **Contribution to climate resilience**
  - Tourism is responsible for significant CO<sub>2</sub> emissions, especially from air travel.
  - Sustainable tourism promotes low-carbon travel and accommodation options, encourages slow tourism and ecotourism, adapts to climate change, and protects natural resources.

# Climate change directly affects the quality, safety, and sustainability of tourism

- **Rising temperatures and heatwaves**
  - Negative impact on summer tourism – excessively high temperatures reduce destination attractiveness
  - Increased health risks for tourists
  - Higher costs for cooling and infrastructure maintenance
- **Extreme weather events**
  - Storms, floods, wildfires, and droughts are occurring more frequently, damaging tourism infrastructure, disrupting transport and access to destinations, and reducing tourist safety
- **Environmental changes and biodiversity loss**
- **Water and energy challenges**
- **Changes in tourism flows and seasonality**
- **Threatened natural attractions**
- **Risk of reduced tourist satisfaction and repeat visits**
- **Impact of climate policies and regulations**
  - Tourists increasingly choosing “greener” options – growing interest in sustainable tourism
  - Air transport under pressure to reduce CO<sub>2</sub> emissions

**Adaptation to climate change  
in the tourism of Zagreb  
County is supported by**

**ALL STAKEHOLDERS**

Local tourist boards, tourism businesses, local communities, tourists, ...

**Local tourist boards (LTBs) play a key role in the development of sustainable tourism because they best understand local needs, resources, and challenges, and they connect all stakeholders—tourists, businesses, local authorities, and the community.**

**Local tourist boards can act as catalysts for change if they actively engage in planning, education, promotion, and coordination of all actors around a shared goal: tourism that respects nature, people, and the future.**

# How can **Local tourist boards (LTBs)** contribute?

- **Strategic planning for sustainable development**
  - Integrate sustainability into local tourism strategies and action plans
  - Set clear goals for visitor management, environmental protection, and reducing seasonality
- **Education and information for tourists**
  - Prepare informational materials on responsible behavior and provide eco-tips on websites, in visitor centers, and at accommodation facilities
  - Promote the “Leave No Trace” approach
- **Promoting sustainable practices among businesses**
  - Organize training sessions and workshops on sustainable business practices, energy efficiency, waste management, and climate adaptation
  - Encourage the use of eco-certifications and “green” labels
- **Development of green and local tourism offer**
  - Encourage the development of cycling and walking routes, eco-tours, agritourism, interpretive trails, and cultural heritage programs involving the local community
  - Diversify tourism offerings beyond the main season and core areas, with a focus on rural areas and continental tourism
- **Protection of natural and cultural resources**
  - Participate in environmental protection projects and actively manage visits to sensitive areas
  - Cooperate with nature parks, associations, and scientific institutions
- **Involvement of the local community**
  - Encourage local employment and entrepreneurship
  - Organize meetings and consultations with residents on tourism development, and support local initiatives, associations, and cultural events
- **Communication and promotion of sustainability**
  - Promote the destination as a “green” and responsible choice
  - Highlight sustainable businesses and tours on official channels
- **Use of EU funds and partnerships**
  - Actively participate in EU projects and network with other destinations and partners
  - Use EU funds to finance education, infrastructure, analysis, and digitalization
- **Monitoring and evaluation**
  - Collect and analyze data on visitor numbers, environmental impacts, and local community satisfaction
  - Adjust strategies based on the results
- **Positioning local tourist boards as sustainability leaders**
  - Lead by example within the local community by organizing “green” events, using renewable energy, and reducing their own CO<sub>2</sub> footprint
  - Shift tourism focus from quantity to quality

# Lessons from Best Practices of LTBs

- **Involving diverse stakeholders** (local communities, tourism businesses, policymakers, and experts) is essential
- Examples show that **cooperation with research institutions** leads to better risk assessments and practical recommendations
- Adaptation often takes place through **planning processes** (strategic documents, workshops, research), not only through infrastructure measures
- It is important to design **locally relevant adaptation measures**, as climate impacts vary—coastal, mountain, and continental areas face different risks and challenges
- **Education and awareness-raising** among all stakeholders, including tourists, is crucial
- **Establishing institutional structures** (e.g. coordination bodies, joint tourism–environment teams) helps ensure that measures are consistent and monitored

# Tourism businesses play a key role in addressing climate change and developing sustainable tourism

- **Reducing emissions and improving energy efficiency**
  - Introduce renewable energy sources (solar panels, heat pumps)
  - Use energy-efficient lighting (LED), insulation, and smart heating/cooling systems
  - Promote climate-neutral transport options (bicycles, electric vehicles for transfers)
- **Sustainable water management**
  - Use recycled water (e.g. for irrigation) and install water-saving showers, taps, and toilets
  - Inform guests about responsible water use
  - Avoid unnecessary daily towel and linen changes
- **Smanjenje otpada i plastike**
  - Eliminate plastic bottles, straws, and packaging, and promote composting of bio-waste and material recycling
  - Provide water refill stations and cooperate with suppliers that use sustainable packaging
- **Sustainable food and beverage**
  - Source locally produced food and drinks and introduce plant-based and low-carbon menus
  - Reduce food waste (e.g. made-to-order buffets, donation of surplus food)
  - Highlight traditional and seasonal dishes
- **Plant local and climate-resilient species**
- **Diversify tourism offerings beyond weather-dependent activities**
- **Cooperation with the local community**
  - Employ local residents
  - Purchase from local producers, artisans, and family farms
  - Involve the community in cultural and educational programs
- **Education and guest engagement**
  - Inform guests about environmental practices
  - Offer eco-tours and responsible activities
  - Encourage guests to reduce their own environmental impact (e.g. limiting air-conditioning use)
- **Green certifications and standards**
- **Circular economy**
  - Use furniture and equipment made from recycled materials
  - Repair and reuse instead of discarding
  - Design facilities for long-term sustainability, not just aesthetics
- **Monitoring and reporting**
  - Track resource consumption and greenhouse gas emissions
  - Set targets to reduce the carbon footprint
  - Regularly report on sustainability in marketing and see business operations
- **Investment in resilience and adaptation**

Through their practices, tourism businesses can shape an offer that is attractive, responsible, and sustainable in the long term

# Lessons from best practices of tourism businesses

- **Technical measures** (insulation, energy-efficient windows, air conditioning, lighting) deliver quick savings but require initial investment
- **The use of renewable energy sources** reduces dependence on fossil fuels and vulnerability to energy price fluctuations
- **Smart systems** (e.g. automatic switching off lights and air conditioning when rooms are unoccupied) can significantly reduce consumption
- **Offering carbon offset programs** allows guests to participate in reducing environmental impacts, but these programs must be transparent and credible
- Adaptation is not only technical — **organizational culture, staff awareness, guest communication,** and **continuous monitoring** are equally important

# Support, participation, and cooperation of the **local community** are key to successful and sustainable tourism

- **Positive Attitude Toward Tourists**

- Caring for cultural and natural values in the local community
- Participating in the restoration and preservation of local sites and traditions
- *Visitors are attracted by authenticity — and it lives through people, stories, and heritage*

## Sudjelovanje u turizmu

- Starting small tourism services and offering authentic experiences
- Participating in local events or volunteer projects
- *Tourism brings direct benefits to the community, while visitors enjoy an authentic experience*

- **Ekološko ponašanje u vlastitom mjestu**

- Saving water and energy, recycling, and proper waste disposal
- *A clean and protected environment is essential for both quality of life and tourism*

- **Buying Local and Supporting the Community**

- Buy from local producers and artisans
- Recommend local products, restaurants, and tours to visitors
- *This strengthens the local economy and keeps money within the community*

- **Sudjelovanje u odlučivanju o turizmu**

- Take part in public consultations, surveys, and meetings on tourism
- Share opinions, propose solutions, and highlight issues
- *Tourism becomes by the people, for the people, not something that happens without them*

- **Preservation and Protection of Heritage**

- Care for cultural and natural values in your local area
- Participate in the restoration and preservation of local sites and traditions
- *Visitors come for authenticity — and it lives through people, stories, and heritage*

- **Promoting Responsible Tourism**

- Lead by example: responsible behaviour in nature, tolerance, and solidarity
- Encourage guests to save resources and respect local culture
- *Residents set the tone of the destination — when they act responsibly, it is easier to expect the same from visitors*

- **Cooperation with Tourist Boards and Businesses**

- Share ideas, needs, and concerns
- Work together on projects, events, and promotion
- *When everyone is involved, a balance between tourism and quality of life is created*

- **Education and Knowledge Sharing**

- Take part in workshops, seminars, and sustainability projects
- Teach children and young people about tourism and environmental protection
- Share knowledge about local history, language, and traditions
- *Local knowledge is one of the most valuable resources tourism can offer*

Local communities are the heart of every destination — **without people, there is no culture, no experience, and no authenticity!**

**When residents are included, satisfied, and respected, tourism can be long-term sustainable, high-quality, and beneficial for everyone.**

# Lessons from best practices of local community involvement in tourism

- **Early participation**
  - When residents are involved in identifying problems and decision-making from the start, adaptation measures are more relevant, practical, and widely supported
- **Local relevance**
  - Adaptation measures suitable for coastal areas may not be appropriate for continental or mountainous regions
- **Diversification of tourism offer**
  - Developing tourism beyond the main season and in less-visited areas helps reduce seasonality and environmental pressure
- **Education and awareness**
  - When people understand risks and challenges (e.g. rising temperatures, droughts, erosion), they are more motivated to support or act
- **Use of available incentives and funds**
  - EU projects, national measures, and local initiatives can provide funding, technical support, and knowledge

# Tourists (visitors), through their choices, directly affect nature, local communities, resources, and the climate

- **Choose sustainable destinations and accommodation**
  - Choose destinations that are not affected by mass tourism
  - Select eco-certified accommodation
  - Support local initiatives and small service providers
- **Travel sustainably**
  - Walk, cycle, or use public transport whenever possible
  - Share transport
  - Reduce the number of short-haul flights
- **Save resources**
  - Avoid wasting water — take short showers and turn off taps
  - Don't request daily towel or linen changes
  - Switch off lights, air conditioning, and electronics when not in the room
- **Eat local and responsibly**
  - Try local and seasonal food
  - Avoid restaurants offering endangered species
  - Support local family farms, markets, and small producers
- **Reduce waste and plastic**
  - Bring a reusable bottle, bag, and cutlery
  - Refuse plastic straws, bottles, and packaging when possible
  - Separate waste wherever facilities are available
- **Shop ethically**
  - Buy locally made souvenirs
  - Do not buy products made from endangered animals or plants
  - Support artisans, artists, and small local shops
- **Respect nature and animals**
  - Do not disturb wild or captive animals
  - Leave no waste in nature
  - Take part in eco-volunteering activities
- **Respect local culture and customs**
  - Learn about local rules, culture, and traditions
  - Dress appropriately and behave respectfully
  - Learn a few words of the local language
- **Spend responsibly – support local**
  - Spend money at local restaurants, cafés, and tours
  - Choose tours led by local guides
  - Avoid platforms that exclude the local economy
- **Be a thoughtful tourist**
  - Do not photograph people without their consent
  - Inspire others by sharing sustainable habits and tips

# Lessons from best practices of tourist behaviour

- Tourists can **choose destinations, accommodation, and tours** that actively work on climate change adaptation
- **Participation in adaptation activities** (e.g. tree planting, environmental clean-ups, volunteering in restoration projects) can be part of the travel experience
- **Buying local products and services** reduces transport needs and helps build a more resilient local economy
- **Learning about climate risks** before traveling and adjusting personal behaviour (choice of travel dates, transport, accommodation, etc.)
- **Sharing experiences and raising awareness** (on social media or among friends) helps spread sustainable practices

# Climate change is not a challenge of the future – it is a reality of today

- Tourism, as one of the most vulnerable sectors, must adapt and take responsibility.
- Only through joint action by all stakeholders can a more resilient, fairer, and sustainable tourism be built.
  - Businesses can reduce harmful emissions and integrate sustainable practices
  - Local communities can preserve authenticity and manage resources responsibly
  - Tourists can travel responsibly and make better choices
  - Tourist boards and policymakers can lead, educate, and connect stakeholders

Every decision matters — from the choice of accommodation and transport, to food offerings and spatial planning.

# Together for a more resilient and sustainable tourism in Zagreb County

Sustainable tourism is not a choice – it is the only way forward!

Together, we are building tourism that respects nature, people, and the future!