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TOURISM AND FREE MOVEMENT IN THE EUROPEAN UNION: ENVIRONMENTAL CHALLENGES AND PATHWAYS TO SUSTAINABLE DEVELOPMENT

BY

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Abstract. This study examines the complex interplay between tourism, the free movement of people, and sustainable development within the European Union (EU). While tourism and mobility represent pillars of European integration, cultural exchange, and economic growth, they also generate substantial environmental and socio-economic pressures. The paper explores how increased tourist flows and cross-border travel contribute to greenhouse gas emissions, resource depletion, and ecosystem degradation, particularly in ecologically sensitive and infrastructure-limited regions. Through a critical review of academic literature, policy frameworks, and regional case examples, the analysis identifies key governance challenges, including institutional fragmentation, uneven policy implementation, and the lack of harmonized sustainability indicators. Special attention is given to regional disparities in sustainability practices and the underrepresentation of mobility impacts in EU sustainability strategies. The study concludes by emphasizing the need for integrated, participatory, and adaptive governance approaches that align long-term environmental goals with the socio-economic realities of tourism-dependent regions. The findings contribute to a

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deeper understanding of how the EU can advance its sustainability objectives in the context of increasing mobility and tourism intensity.

Keywords: environmental impact, European Union, free movement, sustainability policy, sustainable tourism.

1. Introduction

The European Union (EU) stands as one of the most dynamic and interconnected regions globally, characterized by both its socio-economic integration and commitment to environmental sustainability. Among the fundamental freedoms enshrined in EU law is the free movement of people, which, in conjunction with the growing global and intra-European tourism industry, has created complex and far-reaching effects on both the environment and sustainable development. Tourism contributes significantly to the EU economy, generating employment, fostering cultural exchange, and stimulating regional development (Giulietti *et al.*, 2018; World Travel & Tourism Council, 2025). At the same time, the intensification of tourist flows and personal mobility raises serious concerns regarding the degradation of natural resources, pressure on ecosystems, carbon emissions, and the overall resilience of local infrastructures (Erzsebet, 2024; Steiger *et al.*, 2023).

As tourism has become more accessible and affordable, and as European citizens increasingly exercise their right to free movement, the scale and scope of environmental pressures have amplified. Air travel, road transport, accommodation facilities, and recreational activities all contribute to the region's environmental footprint. From increased water consumption in tourist hotspots to the intensification of waste generation and biodiversity loss in fragile areas, the cumulative impact of human mobility and recreational practices is becoming increasingly evident. Moreover, the seasonality of tourism and the concentration of flows in already vulnerable regions exacerbate these challenges, undermining efforts toward sustainable development and ecological balance (Anderson, 2025; Chen *et al.*, 2025; EEA, 2023; Eurostat, 2025; Gössling and Hall, 2022).

This research is motivated by the urgent need to understand and evaluate the dual role that tourism and free movement play in shaping environmental outcomes and sustainability prospects in the EU. While tourism is often promoted as a vehicle for economic growth and intercultural dialogue, its environmental costs are frequently underestimated or inadequately addressed. At the same time, free movement, although vital for European integration, can contribute indirectly to unsustainable mobility patterns, particularly when not supported by adequate planning, environmental safeguards, and sustainable transport options (Bassi and Marmolejo-Martín, 2024; Gössling and Hall, 2022, Zamparini and Vergori, 2021).

The objective of this study is to explore how tourism and free movement intersect in the European context and to assess their combined impact on the environment and sustainable development. The analysis focuses on identifying the main pressures on natural resources, the variation in impacts across regions, and the effectiveness of current EU-level and national policies in mitigating negative externalities. The research aims to contribute to a better understanding of the synergies and trade-offs involved, and to propose a conceptual framework that can inform future strategies for more responsible, inclusive, and sustainable tourism and mobility policies.

While several European Union policy documents, such as the EU Transition Pathway for Tourism and the European Green Deal, provide strategic directions for sustainable tourism, they primarily focus on policy implementation and sectoral priorities. In contrast, this study offers an integrated analytical perspective that explicitly links tourism development and the principle of free movement with environmental pressures and socio-economic impacts across different regional contexts. The novelty of this paper is reflected in its interdisciplinary and systems-based approach, which brings together environmental, mobility, and governance dimensions into a unified conceptual framework. Additionally, the study identifies gaps in current policy frameworks, particularly regarding the indirect environmental impacts of free movement and the limited development of harmonized indicators for assessing sustainability across EU regions.

The present paper represents the initial stage of a broader doctoral investigation and is based primarily on a comprehensive review and critical analysis of existing literature, including academic publications, policy documents, and sustainability reports. It seeks to synthesize current knowledge, identify research gaps, and establish a foundation for further empirical research in the following stages of the PhD program. By adopting an interdisciplinary and system-based perspective, the study aspires to support the development of integrated solutions that align environmental objectives with the social and economic goals of sustainable tourism in the European Union.

2. Conceptual framework

The expansion of tourism across the European Union, closely tied to the principle of free movement, has significantly shaped patterns of human mobility and leisure activity. As citizens increasingly travel within and across borders, a growing environmental footprint is becoming evident. Transport systems, particularly air and road travel remain major contributors to greenhouse gas emissions and urban air pollution (Streimikiene and Kyriakopoulos, 2024; Sun *et al.*, 2024). Accommodation infrastructure and tourist services further strain local resources, especially in ecologically sensitive areas. These impacts manifest through excessive water use in popular destinations, heightened energy demands,

increased solid waste generation, and escalating pressures on natural habitats and biodiversity. In regions with limited infrastructure, the influx of tourists can exceed the carrying capacity of both the environment and local services, triggering environmental degradation and social tensions. Moreover, the pronounced seasonality of tourism flows concentrates these pressures into short timeframes, intensifying stress on ecosystems, disrupting community life, and complicating efforts toward long-term environmental management and sustainability (Baloch *et al.*, 2023; Bisht *et al.*, 2025; Stefanica *et al.*, 2021). Such dynamics underscore the urgent need for integrated policies that balance economic benefits with ecological protection and the resilience of host communities.

The conceptual framework presented in Fig. 1 illustrates the systemic interconnections between tourism expansion, free movement within the European Union, and the resulting environmental impacts, serving as the analytical foundation for this study. The diagram outlines the causal relationships between tourism growth, facilitated by the principle of free movement, and resulting environmental pressures. Key components include transport systems and accommodation infrastructure, which contribute to greenhouse gas emissions, resource consumption, waste generation, and ecosystem disruption. The framework also highlights the compounding role of tourism seasonality, ultimately stressing the need for integrated policies to mitigate pressures on both ecosystems and local communities.

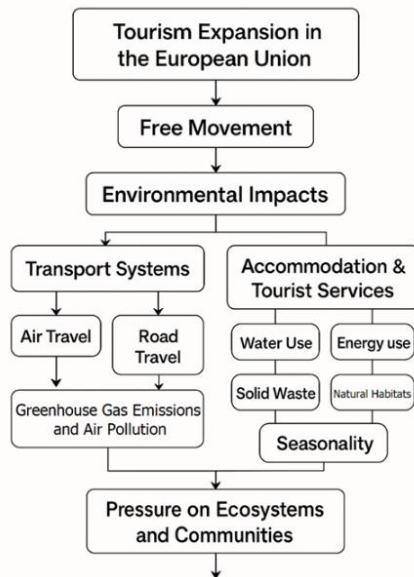


Fig. 1 – Conceptual framework illustrating the environmental impacts of tourism expansion in the European Union.

2.1. Sustainable tourism

Sustainable tourism is broadly defined as tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities. According to the United Nations World Tourism Organization (UNWTO), sustainable tourism should “make optimal use of environmental resources, respect the socio-cultural authenticity of host communities, and ensure viable, long-term economic operations” (Chirieleison and Rizzi, 2023; Pan *et al.*, 2018). In the context of the European Union, sustainable tourism also aligns with broader regional strategies such as the European Green Deal and the EU Biodiversity Strategy, which emphasize responsible resource management, carbon neutrality, and inclusive local development (Ejdys and Szpilko, 2022; Liobikiene and Miceikiene, 2023). Within this research, sustainable tourism is viewed not merely as a set of practices but as a system influenced by governance structures, public behavior, infrastructure, and transnational mobility.

2.2. Free movement of people

The free movement of people is one of the four fundamental freedoms of the EU internal market, allowing citizens of member states to travel, reside, and work across borders with minimal restrictions. While primarily an economic and political construct, free movement has significantly shaped the dynamics of intra-European tourism by lowering legal and logistical barriers. This has led to a steady increase in cross-border travel for both leisure and work-related purposes, altering traditional tourism patterns (Balch, 2018; Barnard and Fraser Butlin, 2022).

In this research, free movement is not treated as an isolated phenomenon but as a driver of mobility that interacts with other systemic forces, including tourism infrastructure, consumer preferences, and regional development policies, contributing to both opportunities and sustainability risks.

2.3. Environmental and socio-economic impacts

The environmental impacts of tourism and mobility include increased greenhouse gas emissions, land degradation, water resource depletion, biodiversity loss, and waste accumulation. These effects are particularly significant in regions with high tourist density or sensitive ecosystems. Socio-economic impacts, on the other hand, are multifaceted. Positive outcomes include job creation, economic diversification, and improved cultural exchange. However, tourism and mobility can also lead to gentrification, cultural commodification, rising living costs, and economic dependency on seasonal fluctuations (Rasool *et al.*, 2021; Zvaigzne *et al.*, 2022). This duality necessitates

a balanced analytical approach that considers both benefits and trade-offs across spatial and temporal scales.

The multifaceted nature of tourism-related impacts is synthesized in Fig. 2, which distinguishes between environmental and socio-economic dimensions. It serves to clarify the dual character of tourism and mobility in the EU, highlighting both the benefits and challenges that must be considered in the pursuit of sustainability. This figure presents a structured overview of tourism-related impacts, categorized into environmental and socio-economic dimensions, and emphasizes the need to assess both benefits and trade-offs for sustainable policy planning.

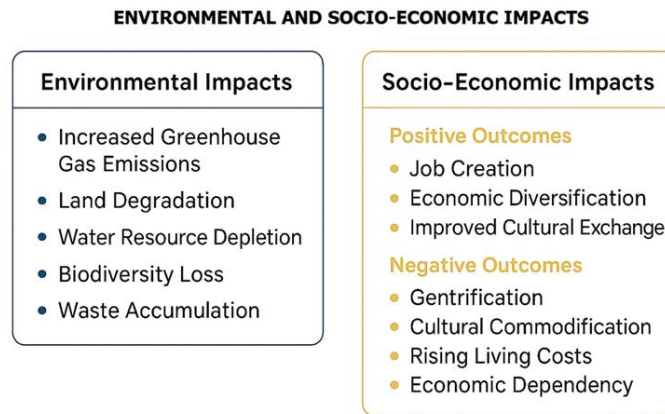


Fig. 2 – Environmental and socio-economic impacts of tourism and mobility.

2.4. Multidisciplinary foundations for the analysis of tourism and mobility

The investigation is grounded in several interrelated theoretical approaches that collectively offer a comprehensive lens through which to examine the complex interdependencies between tourism, mobility, and sustainability in the European Union. These frameworks inform the analytical structure of the study and enable a multidimensional understanding of both the drivers and consequences of tourism-related phenomena (Moscardo *et al.*, 2021; Mostafanezhad *et al.*, 2016).

- *Sustainability science* provides a holistic framework for understanding the interplay between environmental limits, economic systems, and societal needs. It emphasizes long-term resilience, equity, and adaptability, making it well-suited for evaluating tourism and mobility in a European context (Ordonez-Martinez *et al.*, 2024; Myrovali and Morfoulaki, 2025).

- *Systems thinking* is used to capture the dynamic and interconnected nature of tourism and free movement. This approach recognizes that interventions in one part of the system (e.g., transport policy) can produce cascading effects

elsewhere (e.g., emissions, tourist flow patterns, or infrastructure pressure). A systems perspective is critical for understanding feedback loops and potential unintended consequences of tourism growth (Moscardo, 2021; Postma and Yeoman, 2021).

- *Political ecology* offers insight into the governance structures and power relations that shape tourism development, particularly how environmental policies and economic incentives influence stakeholder behavior at local, national, and EU levels (Estol *et al.*, 2018; Serio *et al.*, 2025).

- *Socio-technical transitions theory*, commonly applied in sustainability studies, helps explain how innovations in policy, technology, and behavior can support a shift toward more sustainable tourism and mobility systems. This includes digitalization, green transport, and low-impact travel alternatives (Geels, 2022; Jones, 2023).

Together, these conceptual tools provide a robust foundation for the multidisciplinary analysis required by the topic. They enable the exploration of tourism and mobility not as isolated activities, but as processes embedded in broader socio-environmental systems, shaped by cultural norms, institutional frameworks, and regional disparities. Fig. 3 provides a visual synthesis of the environmental and socio-economic impacts associated with tourism and mobility, emphasizing the dual nature of these effects and the importance of a balanced approach in sustainability assessments.

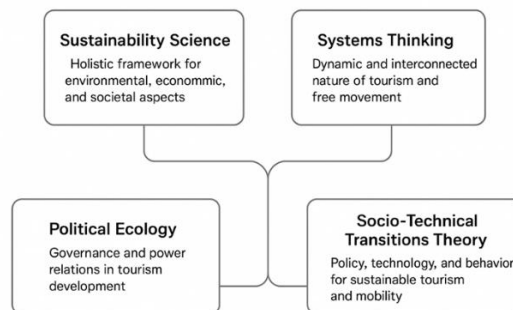


Fig. 3 – Overview of environmental and socio-economic impacts of tourism and mobility.

3. Tourism, mobility, and sustainability in the EU: A synthesis of current knowledge

The interrelationship between tourism, free movement of people, environmental protection, and sustainable development has generated substantial interest across academic, institutional, and policy-making arenas. The existing body of literature reflects a wide range of disciplinary perspectives, including environmental engineering, spatial analysis, sustainability science, economics,

and public policy. Current research provides insight into the environmental and socio-economic dimensions of tourism and mobility within the European Union (EU), while also highlighting critical gaps and outlining key strategies developed at the EU level to address emerging challenges.

3.1. Environmental impact of tourism in the EU

Tourism activities in the EU generate considerable environmental pressures, with numerous studies documenting their contribution to climate change, pollution, and resource depletion. A significant portion of the tourism-related environmental footprint is attributed to transportation, particularly air travel and private car use, which account for the majority of CO₂ emissions linked to travel. Accommodation facilities and recreational infrastructure also contribute through energy and water consumption, as well as waste generation. Research indicates that popular tourist destinations, especially in coastal, alpine, and protected natural areas, experience pronounced strain on local ecosystems, including habitat fragmentation and biodiversity loss (Gössling and Peeters, 2015; Kanwal *et al.*, 2024; Lenzen *et al.*, 2018).

Studies further highlight that water consumption in tourist-intensive regions frequently exceeds local availability, creating seasonal imbalances and competition with local needs. Waste management systems are often insufficient to cope with the additional load during peak seasons, leading to increased pollution and degradation of landscape quality. Despite increasing awareness, sustainable practices such as eco-certification and circular economy principles remain unevenly implemented across the EU tourism sector, with significant discrepancies between regions (Arbulu *et al.*, 2024; Koliotasi *et al.*, 2023).

3.2. Effects of free movement on tourism flows and regional disparities

The principle of free movement has reshaped intra-European travel patterns, enabling spontaneous and frequent travel across borders. This has led to increased tourist flows, particularly within Schengen countries, and a diversification of destinations beyond traditional hotspots. However, research suggests that the benefits of this mobility are not evenly distributed. While some regions have experienced economic revitalization, others have been exposed to over-tourism, infrastructure congestion, and environmental degradation (Dodds and Butler, 2019; Koens *et al.*, 2018; Seraphin *et al.*, 2018). This phenomenon is particularly evident in well-documented cases of overtourism across the European Union. For example, cities such as Barcelona (Spain) and Amsterdam (Netherlands) have experienced excessive tourist densities, leading to housing shortages, increased waste generation, and pressure on urban infrastructure (Benito and Zerva, 2025; Koens *et al.*, 2018; Żemła and Szromek, 2021), with local authorities increasingly introducing regulatory measures such as visitor caps

and short-term rental restrictions to mitigate these impacts. Similarly, Venice (Italy) faces severe environmental and socio-economic challenges due to the high volume of short-term visitors, including ecosystem degradation and strain on local services (Bertocchi and Camatti, 2022; Seraphin *et al.*, 2018), highlighting the limitations of existing governance mechanisms in balancing tourism demand with environmental protection. In natural and coastal regions, such as the Balearic Islands (Spain) and parts of Greece, seasonal tourism peaks significantly exceed local carrying capacity, intensifying water scarcity, waste production, and habitat disturbance (Baloch *et al.*, 2023; Mihalic, 2020; Kanwal *et al.*, 2024), often exacerbated by insufficient infrastructure capacity and limited implementation of sustainable resource management practices.

Moreover, the ease of access provided by free movement has intensified pressure on heritage cities, cultural sites, and ecologically sensitive areas, often without corresponding investments in environmental protection or visitor management. Literature also notes the uneven capacity of local authorities to regulate and adapt to increased tourism flows, leading to divergent regional experiences in managing tourism-induced change. These dynamics have contributed to a growing body of research examining tourism governance and the need for multilevel coordination between EU institutions, national governments, and local actors (Seraphin *et al.*, 2018; Serio *et al.*, 2025; Stoffelen and Ioannides, 2025).

3.3. Socio-economic benefits and trade-offs

Tourism is frequently celebrated as a driver of socio-economic development, particularly in peripheral or rural areas. It contributes to job creation, entrepreneurship, infrastructure development, and the preservation of cultural heritage. According to several studies, tourism can foster regional resilience by diversifying local economies and creating cross-sectoral synergies, especially when aligned with sustainability goals (Gocer and Yildiz, 2024; Signes-Pont *et al.*, 2022; Wang *et al.*, 2024).

However, these benefits often come with trade-offs. Seasonal employment, wage disparities, and the rise in real estate prices are commonly reported downsides. In some regions, the over-reliance on tourism has increased vulnerability to economic shocks, such as those experienced during the COVID-19 pandemic. Furthermore, the commodification of culture and the displacement of local populations are recurring themes in the literature, raising concerns about the long-term inclusiveness and fairness of tourism-driven development (Gössling *et al.*, 2021; Milano *et al.*, 2021).

3.4. Gaps and inconsistencies in the literature

Despite extensive documentation of tourism's environmental and socio-economic effects, several gaps persist. First, there is a lack of integrated

assessments that simultaneously evaluate environmental and social dimensions across multiple spatial scales. Second, empirical data on the indirect impacts of free movement, such as shifts in long-term mobility behavior, lifestyle changes, and cumulative emissions remain limited. Third, comparative analyses between EU member states are often hindered by inconsistent indicators, data availability, and differences in governance structures (Alfaro Navarro *et al.*, 2020; Font *et al.*, 2021; OECD, 2025).

Additionally, many studies focus on high-profile destinations, while under-researched areas, such as smaller towns or border regions, receive less attention. There is also a need for more participatory and bottom-up research approaches that include the voices of local communities, stakeholders, and tourists themselves in the evaluation of tourism policies and impacts. Methodologically, the integration of qualitative insights with geospatial and statistical data is still emerging and requires further development to support holistic policy-making (Alfaro Navarro *et al.*, 2020; Hernández-Martín *et al.*, 2025; Tang *et al.*, 2024).

3.5. Overview of relevant EU policies and strategies

The EU has developed several frameworks and initiatives to promote sustainability in tourism and mobility. The European Green Deal represents a cornerstone, aiming for climate neutrality by 2050 and influencing tourism through its emphasis on sustainable transport, energy efficiency, and biodiversity protection. The EU Strategy for Sustainable Tourism and the EU Biodiversity Strategy for 2030 both highlight the need to reduce tourism's ecological footprint while enhancing its role in sustainable development (EU, 2021; European Commission, 2019).

The Cohesion Policy and the NextGenerationEU recovery plan also offer funding for green and digital transitions in the tourism sector, supporting infrastructure modernization and capacity building. Additionally, the EU Transport White Paper and the Trans-European Transport Network (TEN-T) aim to reduce emissions from travel, encouraging a shift toward rail and low-carbon transport (European Commission, 2021a; European Commission, 2021b; European Commission, 2023).

Despite these efforts, critiques point to fragmented implementation, limited stakeholder engagement, and insufficient monitoring of environmental outcomes. Harmonizing national policies with EU-wide objectives remains a challenge, particularly given the diversity of tourism models and governance practices across member states. Fig. 4 outlines the conceptual structure underlying the thematic analysis of tourism, mobility, and sustainability in the European Union. It integrates core dimensions including environmental pressures, socio-economic outcomes, mobility patterns influenced by free movement, research gaps, and EU-level policy responses. The framework

emphasizes the systemic interconnections between these elements and supports a comprehensive understanding of the challenges and opportunities associated with sustainable tourism development.

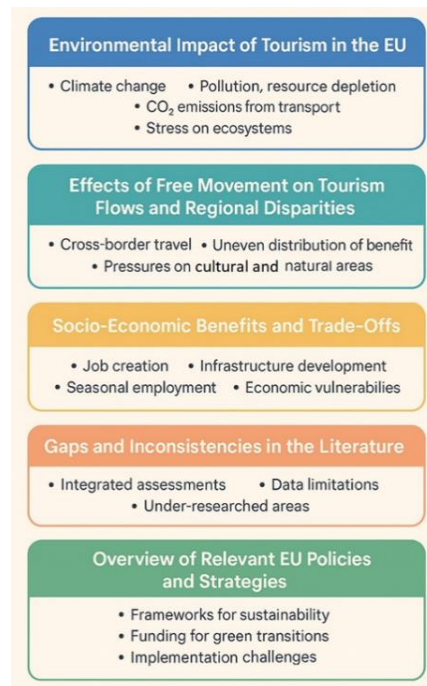


Fig. 4 – Conceptual synthesis of tourism, mobility, and sustainability dynamics in the European Union.

4. Proposed methodology

At the current stage, the research is based on a structured, integrative literature review aimed at synthesizing existing knowledge on the interconnections between tourism, free movement, and sustainability in the European Union. This preliminary phase supports the development of the proposed methodological framework for subsequent empirical investigation.

Unlike a formal Systematic Literature Review (SLR), the present analysis follows a narrative and critical synthesis approach, allowing for the integration of multidisciplinary perspectives and the identification of key research gaps. The literature selection process was guided by relevance, temporal coverage (with emphasis on studies published between 2015–2025), and alignment with the core research themes, including tourism impacts, mobility, environmental pressures, and sustainability governance. Sources include peer-reviewed journal articles, institutional reports (e.g., European Environment Agency, Eurostat, OECD), and

EU policy documents. The literature corpus was compiled through targeted searches in major scientific databases, including Scopus, Web of Science, and Google Scholar, complemented by institutional repositories. The initial search yielded over 250 records, which were subsequently screened based on relevance, resulting in a final dataset of approximately 120–150 sources. Of these, around 70–80% consist of peer-reviewed journal articles, while the remaining sources include policy reports, technical documents, and grey literature produced by international organizations. The selected studies span multiple disciplines, with dominant contributions from environmental sciences, tourism studies, sustainability science, and regional development, reflecting the inherently interdisciplinary nature of the research topic.

The review process involved a structured screening of titles, abstracts, and full texts, followed by thematic categorization of the selected studies. This enabled the identification of key research clusters, including environmental impacts of tourism (approximately 40% of sources), mobility and transport-related emissions (around 25%), socio-economic implications (20%), and governance and policy frameworks (15%). Priority was given to empirical and comparative studies at the EU level, as well as research employing quantitative indicators or spatial analysis, ensuring consistency with the objectives of the subsequent methodological stages.

Given the interdisciplinary nature of this research, positioned at the intersection of environmental engineering, policy analysis, and regional development, the methodological approach combines qualitative and quantitative strategies. The research design aims to generate an integrated understanding of how tourism and the free movement of people affect environmental and socio-economic sustainability in the European Union. As the project is currently in its early stage, this section presents a forward-looking plan for data collection, analysis, and validation.

The analytical approach employed at this stage is based on thematic synthesis, through which the reviewed literature was systematically examined to identify recurring patterns, key impact categories (e.g., emissions, waste generation), governance challenges, and regional disparities. This process enabled the development of a conceptual framework that structures the relationships between tourism expansion, free movement, and environmental and socio-economic outcomes. To strengthen the analytical foundation, selected quantitative indicators from Eurostat and the European Environment Agency (EEA) are incorporated where available to support key arguments regarding environmental pressures associated with tourism and mobility (Table 1). However, a comprehensive statistical analysis is not yet undertaken at this stage and is included as part of the proposed future research design.

Table 1
Selected indicators illustrating tourism-related environmental pressures in the European Union

Indicator	Source	Description	Environmental relevance
Tourism intensity (nights per inhabitant)	Eurostat	Ratio of tourist overnight stays to resident population	Indicates pressure on local infrastructure, water resources, and waste systems
Nights spent in tourist accommodation	Eurostat	Total number of overnight stays	Proxy for tourism volume and associated resource consumption
Seasonality of tourism (monthly distribution)	Eurostat	Concentration of tourism flows over time	Reflects temporal peaks that intensify environmental pressures
Municipal waste generation (kg per capita)	Eurostat	Waste produced per inhabitant	Indicates additional pressure from tourism activity in high-flow regions
Transport modal split (air, road, rail)	Eurostat / EEA	Distribution of transport modes used by tourists	Strongly linked to greenhouse gas emissions and air pollution
Greenhouse gas emissions from transport	EEA	Emissions associated with passenger transport activities	Highlights climate impact of tourism-related mobility
Air pollutant emissions (NO _x , PM)	EEA	Emissions from transport and urban activities	Reflects air quality degradation linked to tourism flows

Building on this foundation, the proposed methodology for the subsequent stages of the research includes statistical and econometric analysis of secondary datasets (e.g., Eurostat), GIS-based spatial analysis to identify regional patterns and pressure hotspots, and comparative case studies across EU regions. These methods will enable empirical validation of the conceptual framework and support the development of evidence-based policy recommendations, while also allowing for the integration of environmental indicators to assess the relationship between tourism dynamics and environmental pressures across different territorial contexts.

4.1. Research design and questions

The study is structured around a mixed-methods design, incorporating both desk-based and field research components to capture the complexity of interactions between tourism, mobility, and sustainability. The overarching research questions guiding this work include:

- What are the main environmental impacts associated with tourism and free movement across different regions of the EU?
- How do socio-economic benefits and trade-offs vary between high-density and low-density tourist areas?
- To what extent do existing EU and national policies support sustainable tourism and mobility practices?
- What are the potential leverage points for improving sustainability outcomes in tourism governance?

These questions aim to facilitate both explanatory and exploratory analysis, with a view toward identifying actionable solutions and informing policy recommendations.

4.2. Methods for future investigation

A range of research methods can be employed to investigate the proposed questions in a systematic and comparative manner, presented in Table 2, which outlines a multidisciplinary methodological framework designed to investigate the complex interactions between tourism, mobility, and sustainability within the European Union (Amadu *et al.*, 2025; Bertocchi *et al.*, 2020; Mai and Smith, 2018; Nezha *et al.*, 2021; OECD, 2024; Stoiljkovic *et al.*, 2025).

Table 2

Methodological approaches for assessing the environmental and socio-economic dimensions of tourism and mobility in the EU

Method	Description
Geographic Information Systems (GIS)	Spatial analysis will be used to map tourism flows, ecological vulnerabilities, and infrastructure capacity. GIS will support the identification of regional patterns and hotspots of environmental pressure.
Surveys and interviews	Structured surveys targeting tourists, local residents, and public authorities will provide insights into behavior, perceptions, and governance practices. In-depth interviews with stakeholders will enrich the qualitative understanding of policy implementation and community engagement.
Statistical and econometric analysis	Secondary datasets will be analyzed to explore correlations between tourism intensity, environmental indicators (e.g., CO ₂ emissions, water consumption), and socio-economic outcomes (e.g., employment, income, inequality).
SWOT Analysis	A structured SWOT (Strengths, Weaknesses, Opportunities, Threats) framework will be applied to selected case studies, helping assess the contextual dynamics of tourism development in specific EU regions.
Scenario modeling and policy simulation	In the later stages of the research, mathematical models may be used to simulate policy interventions, assess trade-offs, and forecast long-term sustainability impacts.

The selected methods reflect both quantitative and qualitative approaches, allowing for a comprehensive and comparative assessment across regions and scales. Geographic Information Systems (GIS) enable spatially explicit analyses, essential for identifying ecological stress points and infrastructure vulnerabilities. Surveys and interviews capture diverse stakeholder perspectives, facilitating a nuanced understanding of governance practices and community responses. Statistical and econometric techniques provide empirical grounding to explore correlations between tourism activity, environmental indicators, and socio-economic variables. SWOT analysis offers a contextualized assessment of regional strengths and vulnerabilities, particularly valuable for case study comparisons. Scenario modeling and policy simulation contribute a forward-looking dimension, supporting the evaluation of potential policy pathways and sustainability outcomes. Collectively, these methods support evidence-based decision-making and contribute to the development of integrated, adaptive tourism policies within the EU.

4.3. Data sources

A robust and multi-layered analysis of tourism, mobility, and sustainability in the European Union requires the integration of diverse data sources. This study will draw upon a broad range of primary and secondary data to ensure both analytical depth and methodological triangulation. The following categories outline the core sources to be utilized.

4.3.1. Statistical databases

Quantitative data can be obtained from international and national statistical sources including Eurostat, the Organization for Economic Co-operation and Development (OECD), the United Nations World Tourism Organization (UNWTO), and national statistical institutes of EU member states. These databases provide standardized and comparable indicators on tourism flows, transport use, greenhouse gas emissions, land use, employment patterns, water and energy consumption, and other key socio-economic and environmental variables.

Fig. 5 highlights major data providers: Eurostat, OECD, UNWTO, and national statistical institutes and the core indicators they offer, including tourism flows, transport activity, emissions, land use, and resource consumption. These sources form the empirical foundation for comparative and multi-scalar assessment. Moreover, Fig. 5 emphasizes the role of institutional datasets in enabling temporal and cross-national assessments, and their utility in harmonizing disparate metrics across environmental and socio-economic domains. By aligning indicators such as emissions, tourism intensity, and resource demand, the structure depicted facilitates both vertical (national–EU

level) and horizontal (regional–sectoral) analysis. It also reinforces the importance of institutional coherence and data interoperability in shaping evidence-based policy evaluation.

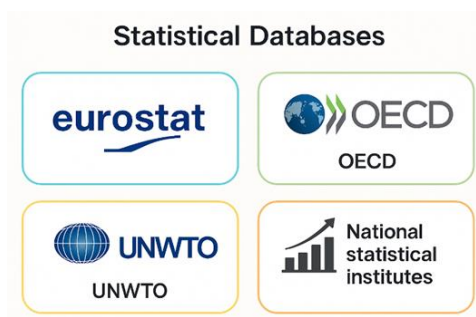


Fig. 5 – Key statistical databases supporting the quantitative analysis of tourism, mobility, and environmental sustainability in the EU.

4.3.2. Policy and planning documents

A comprehensive review of legislative and strategic sources will support the assessment of institutional priorities, regulatory frameworks, and governance structures influencing tourism and mobility in the European Union. The analysis will include EU-level regulations and directives such as the Habitats Directive, the Birds Directive, and the European Climate Law, along with broader frameworks like the European Green Deal, the EU Strategy for Sustainable Tourism, and the EU Biodiversity Strategy for 2030 (European Commission, 2020a; European Commission, 2020b; European Commission, 2020c; European Commission, 2023).

At the national level, attention will focus on tourism development strategies, climate action frameworks, and environmental governance instruments that interpret and implement EU objectives. Regional and local plans, including spatial development strategies, integrated mobility programs, and destination management frameworks will also be examined to understand context-specific applications of sustainability principles. The goal is to identify how policy coherence, implementation capacity, and multi-level alignment vary across EU member states and regions. Emphasis will be placed on the integration of cross-sectoral goals, use of sustainability indicators, and support for participatory, adaptive approaches to managing tourism-driven change. This analysis will contribute to a deeper understanding of the institutional mechanisms shaping sustainable development pathways in the tourism and mobility sectors.

To support the institutional analysis of tourism and mobility governance, Fig. 6 presents a structured overview of relevant policy and planning frameworks operating at multiple levels within the European Union. The diagram

distinguishes between EU-level directives and strategic agendas, national policy instruments, and regionally implemented plans. It emphasizes the interdependent nature of these governance layers and the alignment needed to support coherent sustainability outcomes. Fig. 6 highlights how supranational frameworks such as the European Green Deal, the EU Biodiversity Strategy for 2030, and the European Climate Law establish overarching objectives, while national strategies interpret and adapt these to domestic contexts. At the regional and local level, spatial planning documents, integrated transport programs, and destination management frameworks operationalize these goals with varying degrees of specificity and effectiveness.

This visual synthesis underscores the complexity of governance in tourism and mobility and the importance of multi-level coordination, cross-sectoral integration, and measurable sustainability indicators. It also reinforces the need for adaptive policy approaches that can respond to local conditions while remaining consistent with EU-wide commitments.



Fig. 6 – Overview of policy and planning frameworks influencing sustainable tourism and mobility governance in the European Union.

4.3.3. Scientific and technical literature

A robust foundation for the study will be established through a comprehensive review of scientific and technical literature. This includes peer-reviewed journal articles, institutional publications, policy briefs, and grey literature produced by authoritative bodies such as the European Environment Agency (EEA), the Joint Research Centre (JRC), the OECD, and the United Nations Environment Programme (UNEP). The literature base will encompass diverse disciplinary contributions from environmental sciences, geography, public policy, urban and regional planning, economics, and tourism studies (EEA, 2024; European Commission, 2020a; Serio *et al.*, 2025).

Emphasis will be placed on selecting sources that critically examine the interdependencies between tourism, mobility, environmental sustainability, and governance. These include empirical case studies, comparative assessments, methodological innovations, and conceptual developments that inform the integration of qualitative and quantitative research methods. Special attention will be given to recent contributions exploring adaptive governance, policy evaluation, spatial planning, and indicators for sustainable development.

This literature will serve multiple roles in the research process. It will inform the design of research instruments, such as survey protocols and analytical frameworks; provide benchmarks for interpreting statistical and spatial data; and offer theoretical grounding for contextualizing regional case studies. Furthermore, it will enable the identification of research gaps, contested perspectives, and emerging trends relevant to the evolving landscape of sustainable tourism and mobility policy in the European Union.

To support the development of a rigorous theoretical and empirical foundation, Fig. 7 presents a structured overview of the main sources of scientific and technical literature used in the study. The figure distinguishes between key categories such as peer-reviewed publications, institutional reports, grey literature, and thematic studies, each contributing specific types of evidence and analytical perspectives. This classification highlights the complementary role of academic research and policy-relevant documentation in addressing complex questions related to tourism, mobility, and sustainability. Peer-reviewed literature provides theoretical grounding and methodological guidance, while institutional sources such as those from the European Environment Agency (EEA) or Joint Research Centre (JRC) offer data-rich insights and policy analyses. Grey literature and working papers contribute to identifying emerging trends and region-specific challenges that may not yet be captured in mainstream publications. Fig. 7 emphasizes the importance of multidisciplinary input and triangulation in ensuring both the validity and relevance of the research findings.

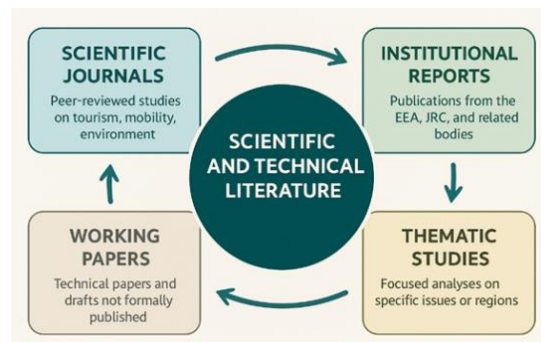


Fig. 7 – Key sources of scientific and technical literature supporting the analysis of tourism, mobility, and sustainability in the EU.

4.3.4. Geospatial and environmental data

Geospatial and environmental datasets will play a central role in the spatial analysis of tourism-related pressures and sustainability outcomes across the European Union. These datasets allow for a spatially explicit understanding of the interactions between land use dynamics, ecological vulnerability, and tourism infrastructure distribution. Key data sources include the CORINE Land Cover inventory, which provides detailed land use classifications across Europe; the Natura 2000 network, which identifies legally protected biodiversity areas; and Copernicus satellite imagery, which offers high-resolution, multi-temporal environmental monitoring capabilities. Additional layers will be sourced from regional Geographic Information System (GIS) repositories and local spatial plans where available (Aune-Lundberg and Strand, 2021; Copernicus Land Monitoring Service, 2018; Eijgelaar and Peeters, 2018).

These spatial datasets will be integrated and processed using GIS tools to identify land cover changes over time, map tourism infrastructure (such as accommodation density, transport access, and recreational zones), and assess overlaps with protected and ecologically sensitive areas. Spatial analysis techniques will be applied to detect patterns of environmental degradation, hotspots of human pressure, and landscape fragmentation. Buffer analysis, overlay operations, and spatial clustering will support the interpretation of spatial interactions between tourism activities and ecological assets. Scenario modeling will also be conducted using geospatial layers to assess the potential impact of future policy interventions or development trajectories. For example, hypothetical expansions of tourism zones or transport networks can be analyzed in relation to biodiversity conservation priorities or carbon footprint projections. These simulations will help evaluate trade-offs between economic development and ecological protection under different planning assumptions.

The integration of geospatial data with socio-economic and governance information will enhance the capacity to conduct multi-scalar and cross-sectoral analyses. It will also enable comparative assessments across regions, identify discrepancies in spatial planning coherence, and support targeted policy recommendations. Ultimately, the use of high-quality geospatial and environmental data contributes to methodological robustness, spatial transparency, and the production of policy-relevant knowledge.

Fig. 8 provides an overview of the principal geospatial and environmental data sources used to analyze the spatial dimensions of tourism and sustainability in the European Union. The figure categorizes data inputs by origin and function, emphasizing their relevance for mapping land cover dynamics, monitoring ecological sensitivity, and supporting spatial modeling. These sources, including CORINE Land Cover, Natura 2000, Copernicus satellite imagery, and regional GIS repositories, offer high-resolution, standardized data that are essential for conducting multi-scalar analyses. The integration of such datasets enables the

detection of landscape fragmentation, the identification of tourism–ecosystem interactions, and the visualization of land-use changes over time. In addition to descriptive mapping, the data illustrated in Figure 8 will support scenario modeling to assess potential spatial impacts of tourism growth or policy interventions. This geospatial approach enhances the capacity for place-based decision-making and contributes to a deeper understanding of regional disparities in environmental vulnerability and governance capacity across the EU.

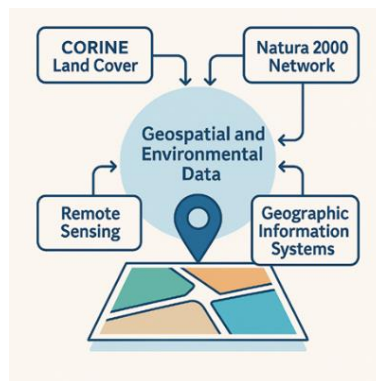


Fig. 8 – Geospatial and environmental data sources supporting spatial analysis of tourism and sustainability in the EU.

4.4. Limitations at the current stage

At this preliminary phase, the research remains conceptual and literature-based, with no empirical data yet collected. This study is therefore not intended to provide statistical generalizations, but rather to develop a structured analytical framework and define a proposed methodology for subsequent empirical investigation. While selected quantitative evidence from sources such as Eurostat and the European Environment Agency (EEA) is used to support general trends, a comprehensive empirical analysis will be conducted in the next stages of the doctoral research. This limits the immediate ability to validate assumptions, test hypotheses, or generalize findings. The availability and comparability of regional data across EU countries may also present challenges, particularly in harmonizing indicators and ensuring consistent data quality. Language barriers, access to localized case study data, and variability in policy transparency across member states represent additional constraints.

Furthermore, the dynamic nature of tourism and mobility trends, affected by global crises, geopolitical shifts, or sudden policy changes, may introduce volatility into long-term projections. These limitations are acknowledged as temporary and will be addressed through the phased and adaptive implementation of the research methodology in the following stages of the doctoral program.

5. Preliminary findings and insights

Although the research is still in its early phase and empirical data collection has not yet begun, the comprehensive literature synthesis conducted thus far has yielded several key insights. These preliminary findings provide a foundational understanding of how tourism and free movement impact environmental sustainability and socio-economic development across the European Union. They also reveal substantial heterogeneity in policy implementation and governance structures, highlighting the importance of regionally tailored strategies.

5.1. Key findings from the literature synthesis

The literature confirms that tourism exerts considerable environmental pressure in the EU, with transportation, especially air travel, being the largest contributor to tourism-related greenhouse gas emissions. Accommodation services and recreational activities also significantly affect local ecosystems through excessive energy and water consumption, as well as waste production. The environmental costs of tourism are particularly high in coastal, mountain, and protected areas, where fragile ecosystems are often underregulated or underfunded.

Another major finding is the increasingly central role of free movement in shaping tourism patterns. The reduction of administrative and logistical barriers within the EU has not only facilitated higher volumes of travel but has also diversified the tourist profile, introducing new dynamics to local economies and infrastructure systems. However, while free movement supports economic integration and cultural exchange, it also contributes to the overconcentration of visitors in certain regions, with potentially negative consequences for both local environments and communities. From a socio-economic perspective, tourism is widely acknowledged for its contribution to employment generation and regional development. Nonetheless, the literature also reveals that these benefits are often unevenly distributed. The seasonal nature of tourism limits long-term economic stability in many areas, and overdependence on tourism can expose regions to external shocks, such as pandemics or climate-related disruptions.

Fig. 9 presents a synthesized overview of the environmental and socio-economic impacts of tourism and free movement within the European Union, based on findings from recent literature. The diagram categorizes key pressure points and benefits while illustrating the interconnections among transport-related emissions, resource-intensive tourism infrastructure, and the effects of mobility on regional dynamics. On the environmental side, the Figure highlights how transportation, particularly air travel, remains the dominant source of tourism-related greenhouse gas emissions. Additional pressures stem from accommodation and recreational services, which contribute to energy and water

overconsumption, waste generation, and degradation of sensitive ecosystems, especially in coastal, alpine, and protected areas. From a socio-economic perspective, the diagram emphasizes tourism's role in employment creation and regional development, while also acknowledging its limitations. These include economic overdependence, spatial inequality in benefit distribution, and the sector's vulnerability to seasonal fluctuations and external shocks. The role of free movement is also central, as it facilitates intra-EU mobility and tourism growth, but can lead to overconcentration in popular destinations and increased stress on local infrastructure and communities.

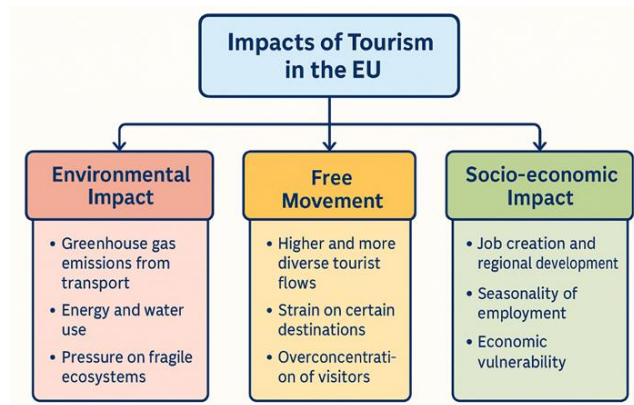


Fig. 9 – Key environmental and socio-economic impacts of tourism and free movement in the European Union.

5.2. Emerging patterns and regional differences in sustainability practices

A critical pattern that emerges from the literature is the marked heterogeneity in the adoption and implementation of sustainability practices and tourism governance mechanisms across EU member states and regions. This variation reflects not only differing stages of tourism development but also deep-rooted structural disparities in administrative capacity, institutional frameworks, and socio-political contexts.

Northern and Western European countries, such as Germany, the Netherlands, and the Nordic states, generally demonstrate more advanced integration of sustainability principles into tourism planning. These regions benefit from stronger regulatory environments, higher environmental awareness, and more consistent enforcement mechanisms. Common practices include the use of integrated spatial planning tools, eco-certification programs for tourism operators, emission-reduction targets, and participatory decision-making processes involving local stakeholders and civil society (Font *et al.*, 2021; Giambona and Magrini, 2024; Ladu *et al.*, 2023).

In contrast, many Southern and Eastern European regions, while experiencing rapid increases in tourism arrivals and investment, continue to face persistent challenges. These include outdated infrastructure, limited environmental monitoring systems, institutional fragmentation, and inadequate funding for sustainability-oriented interventions (Fig. 10). In such contexts, tourism development often remains driven by short-term economic gains, with less attention paid to long-term ecological or social impacts. Furthermore, public awareness and engagement in sustainability issues vary significantly, often limiting grassroots support for policy reforms or conservation initiatives (Havadi Nagy and Espinosa Segui, 2020; Wagenseil *et al.*, 2024).

Despite these challenges, the literature also documents several localized examples of promising sustainability practices. Destination management organizations (DMOs) in Austria and Slovenia have piloted region-specific strategies that combine visitor management, environmental education, and community participation. In parts of Spain and Italy, green infrastructure initiatives, such as eco-trails, water reuse systems, and low-emission transport corridors, have been implemented to mitigate tourism pressures (Giambona and Magrini, 2024; Ladu *et al.*, 2023). Additionally, community-based tourism models in areas of rural Romania and Portugal have shown potential in linking cultural preservation with sustainable livelihoods (Agapito *et al.*, 2012).



Fig. 10 – Regional variations in the implementation of sustainable tourism practices across the European Union.

However, the replication and scaling of such initiatives across the EU remain limited. Institutional inertia, funding constraints, and lack of policy

coherence often hinder the diffusion of successful models. As a result, sustainability practices remain unevenly distributed, with significant gaps in implementation and monitoring. Addressing these regional imbalances requires not only increased investment and capacity building, but also stronger multi-level coordination, knowledge transfer mechanisms, and alignment with EU-wide sustainability objectives.

5.3. Identified policy and governance challenges

A consistent theme in the literature is the complexity and fragmentation of tourism governance across multiple institutional layers within the European Union. While the EU sets strategic priorities and offers financial mechanisms, such as the European Green Deal, Cohesion Policy, and NextGenerationEU funds, the responsibility for policy implementation rests largely with national, regional, and local authorities. These actors often operate with differing mandates, administrative capacities, and political agendas, resulting in inconsistent approaches to sustainability and a lack of coherent long-term planning (Estol *et al.*, 2018; OECD, 2024; UNWTO, 2023).

One major governance gap lies in the absence of harmonized sustainability indicators and standardized monitoring frameworks. The diversity of methodologies, voluntary reporting tools, and disparate data collection practices across member states hampers the ability to assess progress systematically or to conduct meaningful cross-regional comparisons. Although eco-certification schemes and performance-based indicators exist, they are often applied unevenly and lack enforcement, diminishing their effectiveness and uptake, particularly in regions with limited administrative capacity or political will. The integration of tourism planning with broader environmental, spatial, and climate-related policy domains remains limited. In many instances, tourism is treated as a stand-alone economic sector, rather than as a driver of cross-sectoral impacts. This siloed approach leads to critical deficiencies in areas such as land-use regulation, water and waste management, and carbon mitigation strategies (Dias *et al.*, 2024; Kalogiannidis *et al.*, 2024). The failure to embed tourism in national climate adaptation frameworks or biodiversity conservation policies undermines efforts to promote systemic sustainability transitions. Another recurring issue is the insufficient coordination among key stakeholders, including public authorities at various levels, private sector actors (e.g., accommodation providers, transport operators), civil society organizations, and local communities. In the absence of institutionalized platforms for dialogue and participatory planning, many sustainability initiatives suffer from weak legitimacy, low levels of local ownership, and reduced implementation effectiveness (Kuscer *et al.*, 2024; Stoffelen and Ioannides, 2025).

Finally, a structural challenge concerns the disconnect between long-term environmental goals and short-term economic priorities, particularly in tourism-

dependent regions. The pressure to maintain or increase tourist arrivals to sustain livelihoods and public revenues often outweighs concerns about ecological degradation, resource depletion, and social disruption. This imbalance tends to foster reactive, incremental policy responses rather than anticipatory or transformative strategies. As a result, sustainability remains a secondary objective, vulnerable to economic or political fluctuations and deprioritized in times of crisis (Dias *et al.*, 2024; Kuscer *et al.*, 2024; Mihalic *et al.*, 2020).

Fig. 11 illustrates the main governance and policy challenges hindering the effective implementation of sustainable tourism across the European Union. It identifies five interrelated obstacles that recur in the academic and institutional literature: fragmented governance across institutional levels, the absence of harmonized indicators and monitoring systems, weak integration of tourism with environmental and spatial planning, insufficient coordination among stakeholders, and the structural imbalance between economic imperatives and environmental objectives. These issues reflect systemic misalignments between EU-level strategies and national or regional implementation frameworks. While funding mechanisms and strategic plans exist at the supranational level, their impact is often diluted due to inconsistent application, administrative disparities, and political divergence among member states. Additionally, the lack of common indicators limits cross-country comparisons and obscures policy evaluation, while siloed planning processes prevent tourism from being fully integrated into broader sustainability agendas.

Fig. 11 also emphasizes how these governance gaps are compounded by reactive policymaking, especially in regions where tourism revenues are economically vital. Without inclusive stakeholder engagement and forward-looking planning, sustainability goals risk being sidelined in favor of immediate economic recovery or growth. As the figure suggests, overcoming these challenges requires greater institutional coherence, participatory governance, and the embedding of sustainability criteria into core tourism policies.



Fig. 11 – Governance and policy challenges in advancing sustainable tourism across the European Union.

Addressing these challenges requires a stronger alignment of EU policy instruments with regional governance frameworks, the development of binding sustainability criteria, and enhanced mechanisms for cross-sectoral coordination and accountability. It also calls for a shift toward more inclusive and adaptive governance models that can reconcile ecological constraints with socio-economic aspirations in diverse territorial contexts.

6. Discussions

The preliminary findings from the literature review reveal a multidimensional landscape in which tourism and the free movement of people interact with environmental sustainability and socio-economic development across the European Union. While the benefits of increased mobility and economic stimulation are evident, the associated environmental costs and governance gaps raise serious concerns regarding the long-term sustainability of current practices. This section interprets these findings in the broader framework of EU sustainability objectives and reflects on their implications for both future research and policy-making. It also emphasizes the critical need for integrated, cross-sector approaches to manage tourism and mobility sustainably.

The findings underscore significant tensions between tourism and mobility patterns and the European Union's commitment to sustainability, as articulated in the European Green Deal, the EU Biodiversity Strategy for 2030, and the Agenda 2030 for Sustainable Development. Tourism-related impacts, particularly in terms of greenhouse gas emissions, resource consumption, and land-use changes, directly undermine progress toward climate neutrality, circular economy goals, and biodiversity protection.

Several researchers have drawn attention to the environmental externalities of tourism growth in the EU. Gössling and Hall (2022), for instance, highlight the structural incompatibility between mass tourism and carbon reduction targets, particularly when tourism relies heavily on air transport and energy-intensive accommodation models. In parallel, Lenzen *et al.* (2018) have shown that tourism is a significant driver of global emissions, disproportionately affecting vulnerable coastal and insular ecosystems that are central to Europe's tourism offer. These concerns are echoed by Ladu *et al.* (2023), who argue that many popular Southern European destinations, such as parts of Spain, Greece, and Italy, face an unsustainable environmental burden due to seasonal overconcentration and limited adaptive infrastructure, placing them at odds with the EU's ambition to ensure regional equity and resilience.

Biodiversity loss and habitat degradation present further contradictions. While the EU Biodiversity Strategy for 2030 calls for the restoration and protection of natural habitats, multiple case studies reveal a persistent lack of coordination between tourism development and conservation objectives. As noted by Kalogiannidis *et al.* (2024), tourism planning is often carried out in

isolation from environmental assessments, resulting in fragmented governance and limited enforcement of ecological safeguards. Moreover, the principle of free movement, central to EU identity and economic cohesion, emerges as a critical but underexamined factor in sustainability debates. While it has facilitated cultural exchange and intra-European solidarity, scholars such as Mihalic (2020) and Kuscer *et al.* (2024) contend that it has also amplified mobility inequalities and accelerated the concentration of tourism flows in already saturated areas. Its indirect contribution to transport-related emissions and urban congestion challenges the EU's objectives for sustainable mobility and just territorial development.

The findings therefore call for a broader interpretation of sustainability, one that transcends conventional environmental metrics to embrace systemic, intersectoral integration. As Font *et al.* (2021) argue, achieving sustainability in tourism requires adaptive governance, capable institutions, and the inclusion of diverse stakeholder perspectives. This includes not only aligning tourism with climate and biodiversity policies but also embedding principles of social equity, territorial cohesion, and mobility justice. While EU policy instruments such as the Cohesion Policy and the Recovery and Resilience Facility provide opportunities to fund sustainable transitions, their fragmented implementation, as pointed out by Stoffelen and Ioannides (2025), and the lack of region-specific capacity continue to undermine their transformative potential. Addressing these limitations will require not only stronger institutional coordination but also the political will to reconcile long-term environmental goals with short-term economic dependencies, particularly in tourism-reliant regions.

6.1. Implications for future research and policy-making

The findings highlight several critical areas for further inquiry and strategic development. One of the key research gaps lies in the limited integration of environmental, socio-economic, and mobility dimensions into a single analytical framework. Scholars such as Mihalic (2020) and Camilleri (2017) argue that sustainability assessments often remain fragmented, focusing either on environmental indicators or economic performance, thereby missing crucial interactions and trade-offs. To overcome this, future research should develop integrated assessment models supported by longitudinal datasets and real-time monitoring systems to trace cumulative effects and dynamic feedback mechanisms. Another area for exploration is the spatial unevenness of tourism development within the EU. While some regions grapple with overtourism (e.g., Barcelona, Amsterdam), where excessive visitor concentrations generate environmental degradation, infrastructure pressure, and social tensions, others suffer from under-tourism and missed development opportunities (e.g., parts of Eastern Europe or rural Portugal). Researchers such as Giampiccoli *et al.* (2020) call for comparative case studies that examine both extremes to identify how

governance structures, institutional capacity, and community engagement influence resilience and sustainability outcomes.

Policy-wise, the results suggest a growing need for regionally differentiated approaches. While EU-level instruments such as the Green Deal and Cohesion Policy offer broad frameworks, their on-the-ground effectiveness depends on alignment with local needs and capacities. As noted by Stoffelen and Ioannides (2025), a major shortfall of EU tourism governance is the lack of tailored policy instruments that consider regional disparities in infrastructure, human capital, and political commitment. For instance, Austria and Slovenia have demonstrated effective governance through Destination Management Organizations (DMOs) that facilitate multi-stakeholder coordination, performance monitoring, and place-based innovation. In contrast, studies of regions like the Balearic Islands (Bausch and Gartner, 2020) highlight challenges in curbing unsustainable growth due to institutional inertia and dependence on mass tourism revenues.

To move forward, policy-making must reinforce participatory governance models that empower local communities and increase the legitimacy of sustainability interventions. Kuscer *et al.* (2024) emphasize that institutionalized platforms for dialogue between authorities, businesses, and citizens can foster co-responsibility and social acceptance. Harmonizing sustainability indicators across member states and investing in data transparency would further strengthen EU-wide monitoring and policy coherence.

Finally, fostering behavioral change among tourists and residents remains crucial. Education campaigns, nudging strategies, and incentives for low-impact choices, such as off-season travel, public transport use, or eco-certified services can shift consumption patterns. However, behavioral interventions must be supported by enabling infrastructures and policy environments, otherwise individual action remains symbolic rather than transformative.

6.2. The need for integrated approaches and cross-sector cooperation

Perhaps the most important conclusion emerging from this stage of research is the necessity for integrated, systems-based approaches to address the sustainability challenges posed by tourism and free movement. Environmental degradation, economic inequality, and social tension cannot be addressed in isolation, and solutions must therefore cut across policy domains and disciplinary boundaries.

An integrated approach implies coordination between environmental engineers, urban planners, economists, sociologists, and policy-makers to design interventions that are technically sound, socially acceptable, and economically viable. Cross-sector cooperation is particularly important for aligning transport infrastructure planning with environmental conservation goals, promoting low-impact mobility solutions, and distributing tourism flows more equitably across

regions. Moreover, vertical integration, between EU institutions, national governments, and local authorities is essential to ensure that strategic sustainability objectives are translated into actionable and context-sensitive policies. Without such integration, the EU risks reproducing uneven development patterns and undermining the very foundations of its sustainability agenda.

The study affirms that addressing the environmental and socio-economic impacts of tourism and free movement in the EU requires more than isolated policies or reactive measures. It demands a fundamental shift toward systemic, collaborative, and long-term thinking, capable of reconciling mobility, economic vitality, and environmental stewardship in an increasingly interconnected Europe.

7. Conclusions

This study has explored the intricate interconnections between tourism, the free movement of people, and sustainable development within the European Union. It has demonstrated that while tourism serves as a vital driver of economic growth, employment, and cultural exchange, it also imposes significant environmental and socio-economic pressures, particularly in regions experiencing intense tourist flows and infrastructural vulnerabilities. The principle of free movement, though fundamental to EU integration, contributes indirectly to these pressures by enabling high volumes of travel, often without parallel investment in environmental safeguards or sustainable mobility systems.

The findings confirm that the environmental footprint of tourism is most evident in transportation emissions, resource overconsumption, and ecosystem degradation, especially in fragile coastal, alpine, and protected areas. Socio-economically, although tourism generates benefits such as diversification and resilience in peripheral regions, these gains are frequently offset by seasonal volatility, social displacement, and unequal regional outcomes.

Moreover, the literature reveals considerable disparities in sustainability practices and governance capacity across EU member states. Northern and Western countries tend to lead in terms of policy integration and environmental monitoring, while many Southern and Eastern regions face institutional fragmentation and funding deficits. These imbalances highlight the urgent need for enhanced policy coherence, adaptive governance, and multi-level coordination.

A major contribution of this research is the identification of systemic governance challenges, including fragmented institutional responsibilities, weak indicator harmonization, and insufficient stakeholder involvement. These obstacles hinder the effective implementation of EU sustainability objectives and call for stronger alignment between strategic frameworks like the European Green Deal and the realities of local policy contexts.

This study contributes to the existing literature by moving beyond the descriptive scope of EU strategic documents and providing a structured analytical

framework that integrates tourism, mobility, and environmental sustainability. Unlike policy-oriented reports, which focus primarily on implementation pathways, this research highlights systemic interconnections, regional disparities, and governance gaps that are not fully addressed in current EU strategies. By identifying these gaps and proposing a conceptual basis for future empirical analysis, the study supports the development of more integrated and evidence-based approaches to sustainable tourism and mobility in the European Union.

Finally, the study emphasizes that a transition toward sustainable tourism and mobility in the EU will require integrated, interdisciplinary, and participatory approaches. This involves not only improving data and monitoring systems but also fostering behavioral change, promoting regional equity, and embedding tourism more firmly within broader environmental and climate strategies.

The conclusions laid out here establish the groundwork for the next phases of the doctoral research, which will apply the conceptual and methodological insights gained to empirical case studies. These future efforts aim to support the development of context-specific, evidence-based policies that balance economic vitality with ecological integrity and social inclusiveness across Europe's diverse regions

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TURISMUL ȘI LIBERA CIRCULAȚIE ÎN UNIUNEA EUROPEANĂ: PROVOCĂRI DE MEDIU ȘI PERSPECTIVE DE DEZVOLTARE DURABILĂ

(Rezumat)

Această lucrare analizează interacțiunea complexă dintre turism, libera circulație a persoanelor și dezvoltarea durabilă în cadrul Uniunii Europene (UE). Deși turismul și mobilitatea reprezintă piloni ai integrării europene, ai schimburilor culturale și ai creșterii economice, ele generează, totodată, presiuni semnificative asupra mediului și societății. Studiul explorează modul în care intensificarea fluxurilor turistice și a călătoriilor transfrontaliere contribuie la creșterea emisiilor de gaze cu efect de seră, la epuizarea resurselor naturale și la degradarea ecosistemelor, în special în regiunile ecologic sensibile sau cu infrastructură deficitară. Printr-o analiză critică a literaturii de specialitate, a cadrului politic european și a unor exemple regionale, sunt identificate principalele provocări de guvernare, inclusiv fragmentarea instituțională, aplicarea inegală a politicilor și lipsa unor indicatori armonizați pentru durabilitate. O atenție deosebită este acordată disparităților regionale în practicile de sustenabilitate și subreprezentării impactului mobilității în strategiile europene de mediu. Studiul subliniază necesitatea unor abordări de guvernare integrate, participative și adaptive, care să alinieze obiectivele de mediu pe termen lung cu realitățile socio-economice ale regiunilor dependente de turism. Rezultatele contribuie la o înțelegere aprofundată a modului în care UE își poate consolida obiectivele de durabilitate în contextul intensificării mobilității și a presiunii turistice.