



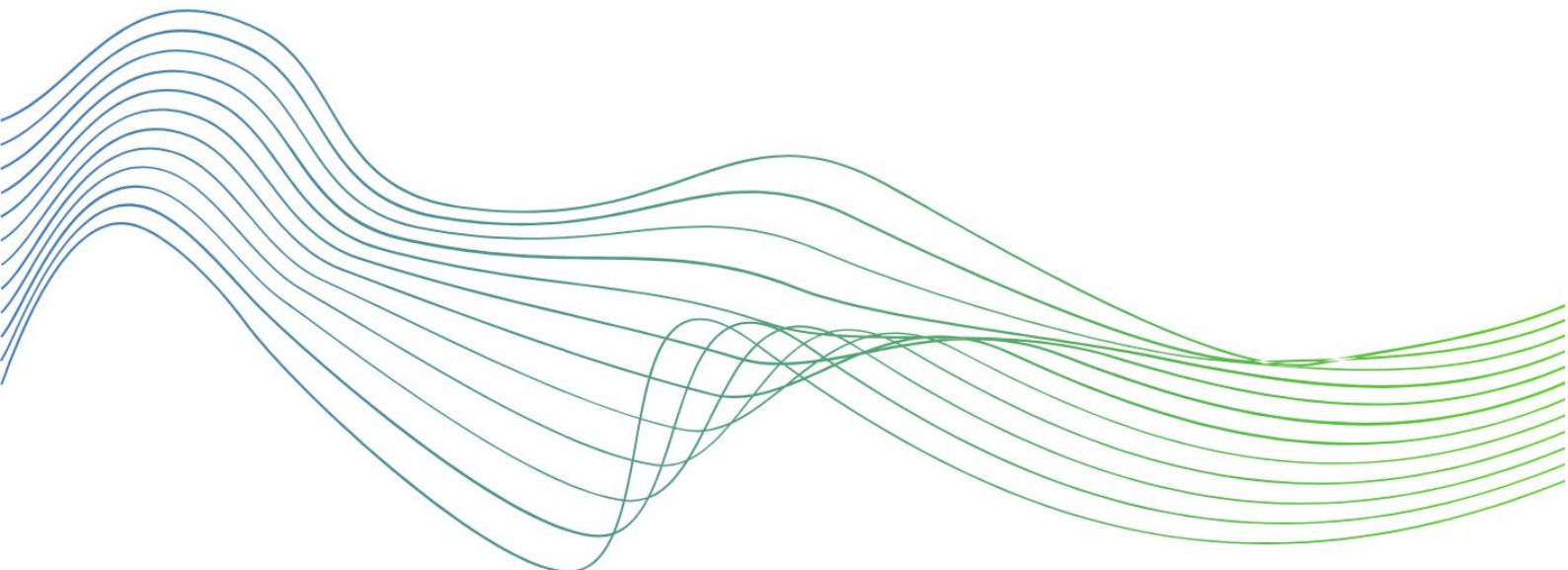
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# TRAINING MATERIALS FOR TEACHERS AND TRAINERS (LABOUR MARKET - SUSTAINABILITY - ENTREPRENEURSHIP)

PROJECT NUMBER: 101144003



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## Introduction

In the context of the global transition towards sustainability and digitalization, vocational education and training (VET) in hospitality management and tourism must adapt to meet the demands of both the labor market and environmental imperatives. This report addresses the critical need for updated and innovative training materials designed specifically for teachers and trainers, aiming to bridge the gap between classroom instruction and professional practice in the wider hospitality sector. These materials encompass a wide range of objectives, including the integration of sustainability education, the promotion of Green Entrepreneurship in tourism, and the application of self-assessment tools to enhance teaching effectiveness and learner outcomes. The following partner countries in the project participated in the preparation of the chapters: Slovenia, Greece, Italy, Portugal, Cyprus, Bulgaria and Spain. The collected materials will serve as the basis for the preparation of teaching materials.

A key innovation of the project is the incorporation of the European Commission's 2021 Recommendation on Environmental Footprint Methods into the curriculum. This integration enables educators and learners to better understand and apply sustainable principles in real-world contexts, supporting companies and organizations in offering environmentally responsible products and services. By equipping students, graduates, employees, and managers with a combination of green and digital competencies, the project fosters improved environmental performance across the industry.

The report situates sustainability not merely as a topic of study, but as a fundamental pillar of educational practice and institutional transformation in hospitality and tourism. It underscores the importance of experiential and interdisciplinary approaches—such as project-based learning, internships, and industry collaboration—that link academic theory with the practical demands of sustainable tourism. Furthermore, the inclusion of digital and multimedia tools, including gamification and virtual reality, is highlighted as a critical means of engaging learners, developing digital literacy, and simulating complex sustainability scenarios.

In parallel, the report emphasizes key thematic areas of sustainability management—carbon footprint reduction, waste management, and community engagement—as essential to effective hospitality and tourism operations. Through initiatives like ECO-Schools and partnerships with gastronomic and cultural associations, the training materials promote a deepened understanding of local heritage and environmental stewardship. Ultimately, this resource aims to inspire innovation, creativity, and critical thinking among learners, ensuring they are well-prepared to contribute to a more sustainable and resilient tourism industry.

In an era marked by accelerating environmental, technological, and socio-economic change, the field of sustainable tourism demands professionals equipped not only with theoretical knowledge but also with critical, creative, and collaborative competencies. As tourism education increasingly integrates

principles of sustainability and digital transformation, there is a growing need for pedagogical approaches that cultivate students' analytical thinking, problem-solving abilities, and applied research skills. Interactive and experiential teaching methods have emerged as effective strategies to meet these educational demands, offering students immersive learning environments that mirror real-world complexity and foster the development of practical and reflective competencies.

This academic inquiry is situated within the context of higher education in tourism, where sustainable practices are no longer optional but essential. The multifaceted nature of sustainability—encompassing environmental stewardship, economic viability, and socio-cultural responsibility—poses significant pedagogical challenges, particularly in enabling students to transfer abstract concepts into tangible actions. Empirical research increasingly supports the notion that experiential learning tools, such as project-based learning, fieldwork, and community engagement, bridge this gap by contextualizing sustainability within authentic and meaningful activities. These methods not only deepen understanding but also enhance students' engagement, motivation, and professional readiness.

Within this framework, the development of academic research projects by students serves a dual purpose: fostering methodological literacy and cultivating critical reflection. Through guided research processes—from constructing theoretical frameworks and collecting data to interpreting findings and presenting results—students engage in a cycle of inquiry that mirrors the academic and professional demands of the tourism sector. Emphasis is placed on the acquisition of key academic skills, including literature review, source evaluation, methodological design, statistical and thematic analysis, academic writing, and scholarly communication. In culminating activities such as simulated academic conferences, students must also demonstrate the ability to effectively convey complex ideas to diverse audiences, further reinforcing their readiness to contribute to sustainable tourism development.

This introduction thus sets the stage for a broader exploration of how experiential and research-based learning approaches can enhance the educational outcomes of tourism students, particularly in preparing them to be informed, responsible, and innovative professionals in a rapidly evolving global industry.

In an era marked by urgent environmental challenges and the growing need for responsible development, sustainable tourism has emerged as a key domain for education, innovation, and interdisciplinary engagement. The integration of modern digital technologies into sustainable tourism education is revolutionizing how learners engage with environmental, social, and economic issues. This educational transformation is not only enhancing accessibility and interactivity but also equipping students with relevant, market-oriented skills that address the complexities of sustainability in the tourism sector.

From virtual reality simulations to cloud-based collaboration and AI-driven personalization, digital tools offer immersive and participatory learning environments that align with contemporary pedagogical principles. These technologies enable students to explore real-world sustainability scenarios, connect with global communities, and apply data-driven approaches to problem-solving. As sustainable tourism increasingly intersects with digital innovation, educators are called to adopt holistic and experiential teaching models that bridge theory and practice.

At the core of this educational shift is the development of green entrepreneurship in tourism, which emphasizes sustainable resource management, eco-innovation, and community involvement. Embedding sustainability into curricula through project-based learning, interdisciplinary content, and active fieldwork not only strengthens environmental awareness but also fosters critical thinking and business competencies essential for future professionals. European frameworks such as the EU Tourism Agenda 2030 further guide the strategic implementation of sustainability principles, providing policy context and practical tools for learners and educators alike.

This paper explores the integration of digital tools and pedagogical strategies in sustainable tourism education, with a focus on fostering green entrepreneurship. It outlines best practices, learning outcomes, and assessment methods that support the development of environmentally responsible, socially inclusive, and economically viable tourism models. By aligning educational practices with global sustainability goals, we can prepare a new generation of learners to lead the tourism industry toward a greener and more equitable future.

## 4.1.1. How to relate the classroom to the labour market

### 4.1.1.1. Theoretical Foundations and Sustainable Tourism

The goal is to educate teachers/trainees about international sustainability standards, such as the Global Sustainable Tourism Council (GSTC) criteria, to introduce EU policies, such as the European Green Deal and the Sustainable Development Goals (SDGs), relevant to tourism, and the newly-developed curriculum of the European Commission's Recommendation on Environmental footprint methods (2021). Teachers can use interactive teaching methods, fieldwork and excursions, work on practical projects, use digital and multimedia tools, carbon footprint, waste management and community engagement. The following provides an overview of various international and European standards and policies related to sustainability in tourism.

#### A. Global Sustainable Tourism Council (GSTC) Criteria

The Global Sustainable Tourism Council (GSTC) sets internationally recognized standards for sustainable travel and tourism. The GSTC criteria focus on industry standards for hotels, tour operators, and destinations, providing best practices for sustainable management, cultural heritage preservation, community development, and environmental conservation. Additionally, they offer guidelines for governments and organizations to develop sustainable tourism at a regional level. The GSTC criteria align with the United Nations Sustainable Development Goals (SDGs) and support businesses, governments, and communities in implementing sustainability in tourism through certification programs and best practice frameworks.

#### B. EU Policies Relevant to Sustainable Tourism

Several European Union (EU) policies support sustainability in tourism (European Tourism Agenda 2030: Commission welcomes the commitment of EU countries to make tourism greener, more digital and resilient [https://single-market-economy.ec.europa.eu/news/european-tourism-agenda-2030-commission-welcomes-commitment-eu-countries-make-tourism-greener-more-2022-12-02\\_en](https://single-market-economy.ec.europa.eu/news/european-tourism-agenda-2030-commission-welcomes-commitment-eu-countries-make-tourism-greener-more-2022-12-02_en)), including the European Green Deal, introduced in 2019. This broad EU strategy aims to make Europe climate-neutral by 2050. The European Green Deal impacts tourism through:

- Circular economy action plans that reduce waste and improve resource efficiency.
- Sustainable mobility strategies to promote eco-friendly travel and transportation (European Climate Law & Fit for 55 Package).
- Biodiversity and nature protection policies that ensure the conservation of tourism destinations.
- Clean energy transition initiatives, encouraging hotels and tourism operators to adopt renewable energy sources.

Sustainable Development Goals (SDGs) are central to EU policy. In tourism, key SDGs include:

- SDG 8 (Decent Work & Economic Growth): Promotes inclusive, sustainable tourism that benefits local economies.
- SDG 12 (Responsible Consumption & Production): Focuses on waste reduction, energy efficiency, and sustainability certifications.
- SDG 14 & 15 (Life Below Water & Life on Land): Protect natural ecosystems from the impact of tourism.

The EU integrates SDGs into tourism strategies through funding, legislation, and partnerships with sustainable tourism organizations.

### **C. European Commission’s Recommendation on Environmental Footprint Methods (2021)**

In 2021, the European Commission introduced recommendations on environmental footprint methods to improve the sustainability assessment of products and services, including those in tourism. These methods include:

- Product Environmental Footprint (PEF): Measures the environmental impact of tourism services (e.g., hotels, transport).
- Organization Environmental Footprint (OEF): Evaluates the sustainability performance of tourism businesses.

This framework helps businesses in the tourism sector measure and reduce their environmental footprint, ensuring compliance with EU Green Deal goals and sustainable development standards.

#### **4.1.1.1.1. Interactive Teaching Methods**

In the rapidly evolving field of sustainable tourism, fostering students’ analytical thinking and problem-solving skills is crucial. Interactive teaching methods provide experiential learning opportunities that engage students actively in the learning process, enabling them to understand and tackle complex challenges holistically. Such methods simulate real-world conditions, promote collaboration, and support creativity and critical evaluation. This approach ensures students not only acquire theoretical knowledge but also develop the practical competencies necessary for a responsible and innovative tourism industry.

These interactive methods foster a deeply engaging learning environment where students not only grasp the core principles of sustainable tourism but also actively develop the critical skills needed to innovate and lead with purpose in the evolving global tourism landscape. By integrating real-world challenges, collaboration, and reflective thinking, this holistic approach ensures that future professionals are not just informed, but truly prepared to champion responsible and impactful tourism practices.

- **Role-playing scenarios:** Create simulations where students take on roles within tourism-related businesses, such as front desk management, tour guiding, or event planning. This allows students to practice decision-making and problem-solving in a controlled environment.
- **Invite guest speakers:** Bring in industry professionals such as tour guides, hospitality managers, travel consultants, or event coordinators. These speakers can offer first-hand experiences and insights into the skills required in the tourism sector.
- **Problem-Based Learning (PBL) through Real-World Case Studies:** Assign students to small groups and present them with real-world sustainability challenges in tourism, such as overtourism, carbon footprint reduction, or ethical wildlife tourism. Each group analyzes the problem, researches potential solutions, and presents a well-supported action plan. This method fosters critical thinking, teamwork, and practical problem-solving skills, encouraging students to consider economic, environmental, and socio-cultural sustainability factors.
- **Gamification and Digital Simulations:** Use interactive simulations, serious games, or virtual reality (VR) tools to immerse students in tourism management and sustainability scenarios. Platforms such as SimTrek, Tourism Tycoon, or MyGreenTrip allow students to experience the consequences of their decisions in a risk-free environment.
- **Situation analysis:** Method of teaching by solving simulation scenarios and case studies from the tourism sector. This pedagogical technology is based on modelling or using a real situation for the purpose of analysis, which requires highlighting a problem, searching for alternative solutions and adopting an optimal solution to this problem. The situation analysis provides an opportunity to study complex and controversial issues in a safe environment. The learning process should be organized in a way that the learners have the opportunity for teamwork through the exchange of knowledge, ideas, and ways of acting, with each participant having an individual contribution in solving the case study. To prepare a case study, it is necessary to determine: the case study objective, define the problem, conduct preliminary work on searching for sources of information, preparation of methodological guidelines for solving the case study. In order to achieve greater cognitive activity of the learners, it is advisable to provoke the participants to search for additional information for the analysis. Sample topics for situation analysis:
  - How to create an innovative sustainable tourism product that meets the Global Sustainable Tourism Council (GSTC) criteria?
  - How can a travel agency deal with a breakdown in the booking system?
  - What are the positive and negative impacts of ski resort development on National Parks?
- **Working on a research topic or project:** Project-Based Learning (PBL) is an interactive didactic method that encourages independent learning through the active participation of students in practice-oriented tasks. This method is based on the concept of learning by doing and real-world

problem solving. The projects are based on actual topics and practical problems that the students have to solve. Students work individually or in groups, developing communication, coordination and evaluative thinking skills. The projects are developed over an extended period of time in an asynchronous environment, allowing for in-depth exploration and analysis. At the end of the project, a specific product (presentation, report, model, video, etc.) is presented. The organisation of project-based learning includes: defining the objectives and the topic of the project related to specific competences, planning the activities, setting deadlines and evaluation criteria, research and creative activity - students collect information, analyze it and plan solutions, use different methods - surveys, interviews, experiments; project development and presentation - creating a final product (report, model, video, interactive presentation), presentation in front of an audience (class, teachers, parents), evaluation and reflection - self-assessment and group reflection on the work process; feedback from the teacher and classmates. Sample topics for project development in the field of tourism:

- Sustainable practices to reduce the carbon footprint of a tourist site (hotel, spa, cruise tourism)
  - Development of an eco-friendly tourist route in a nature park.
  - Analysis of the impact of tourism on biodiversity in protected areas.
  - Creation of an ecotourism development strategy in a small municipality.
- **Peer Teaching and Knowledge Sharing:** Assign students to research specific sustainability topics and present their findings to their peers, promoting discussion and deeper understanding through active participation.
  - **Hackathon or Innovation Challenge:** host a time-bound event (e.g., 1 day) where multi-disciplinary teams create digital or service solutions for sustainable tourism (apps for crowd management, green itinerary planning, etc.) by providing mentors, data sets, and possible use cases. Teams then have to pitch their solutions to a panel for feedback and potential support. It can encourage fast-paced problem-solving and collaborative creativity.
  - **Case Study Analysis:** first select detailed case studies of sustainable or unsustainable tourism destinations (e.g., impacts of cruises in Venice), then provide data (visitor numbers, environmental footprint, economic outcomes) and ask participants to analyze challenges, constraints, and success factors. Then, in groups, they discuss how lessons from the case can be applied to new contexts
  - **Brainstorming:** generating many ideas or solutions to a specific problem or question. It emphasizes quantity over quality initially, with the goal of fostering creativity and innovation. Brainstorming is a highly effective teaching technique in hospitality and tourism education, as it encourages creativity, collaboration, and critical thinking—skills that are essential in these dynamic industries. Brainstorming can be used in problem-solving scenarios, innovative ideas, branding strategies, crisis management and team building. It is a versatile and impactful teaching tool, which not only

develops students' creative and analytical skills but also prepares them for the collaborative and fast-paced nature of the industry.

- **Problem-Based Learning**: students can build critical knowledge and skills by creating problems that address issues in the real world. Numerous educators have noted the following four major benefits associated with this methodology: (a) the improvement of creative and critical thinking abilities. (b) enhanced capacity for problem-solving, and (c) enhanced students' motivation (Lim et al, 2024).
- **Collaborative projects**: assign group projects where students must work together to develop sustainable tourism plans for a local area. This encourages teamwork, research, and practical application of theoretical knowledge.
- **Virtual reality experiences**: use VR technology to take students on virtual tours of different tourist destinations around the world. This immersive experience helps students understand diverse tourism practices and challenges without leaving the classroom.
- **Simulation-Based Learning on sustainable tourism**: Propose an interactive simulation-based learning through an interactive platform where students are engaged with real-world data base situations that need to interpret. The objectives are to understand the impact of tourism on local economies and ecosystems and analyse the policy and economic strategies on sustainable tourism. The role of the teacher is focused on guiding the activity by proposing the main issues, and students are required to manage green economy and tourism development investment decisions in the destination. Throughout the session, the teacher facilitates critical discussions, prompts students to analyse the real situations provided and redefined the decisions based on their inputs. By integrating formative assessments based on group discussion and data interpretations, the teacher can ensure the achievement of the learning goals.
- **Game: "Challenge Ecoquest"**: Use a gamification platform to create dynamic, scenario-based game with questions on sustainability principles, environmental policies, and ethical tourism practices. The game follows a competitive format to encourage critical thinking, active participation, and collaborative learning among the students. The game "Challenge Ecoquest" can be proposed as a competitive format to encourage students to participate individually or in groups. The teachers guide the game and competition and can propose post-questions to discuss specific matters on the given topics. This teaching strategy transforms traditional learning into an immersive educational experience, making complex environmental and tourism on sustainable topics more accessible and engaging for students.

- **Lego® Serious Play®**: it is a methodology to foster creativity and active participation in solving challenges, a specific topic related to sustainable tourism or digitalization. Through group dynamics, participants will work collaboratively to generate innovative strategies and solutions through simulation with Lego pieces. This methodology allows complex situations to be approached in a playful and visual way, creating an environment of joint reflection that enhances commitment and cohesion among group members.
- **Joint Modules and Interdisciplinary Workshops** (*Fostering Multidisciplinary Collaboration in Tourism Education*). To address the complex and evolving challenges in the tourism sector, we propose the development of **joint modules and interdisciplinary workshops** in collaboration with other faculties such as **Engineering, Social Sciences, Environmental Studies, and Economics**. These modules aim to equip students with diverse perspectives and problem-solving skills by integrating knowledge from multiple disciplines.

#### **Objectives:**

- Enhance students' understanding of tourism as a multifaceted system influenced by technology, society, environment, and economy.
- Foster critical thinking and innovation through exposure to different academic approaches.
- Promote teamwork and communication across disciplines, reflecting real-world scenarios.

#### **Examples of Potential Joint Modules:**

- **Sustainable Tourism Infrastructure** (with Engineering): Focus on eco-friendly design, transport systems, and smart technologies in tourism.
- **Society, Culture, and Tourism** (with Social Sciences): Explore the socio-cultural impact of tourism and community engagement.
- **Environmental Impact and Climate Resilience in Tourism** (with Environmental Studies): Assess climate adaptation strategies and green practices.
- **Tourism Economics and Policy** (with Economics): Analyze economic models, policy frameworks, and financial sustainability.

#### **Structure:**

- Co-designed and co-taught by faculty from participating departments.
- Include case studies, group projects, and guest lectures from industry professionals.
- Delivered as electives or integrated into core curriculum depending on institutional framework.

#### **Expected Outcomes:**

- Graduates with holistic, systems-level understanding of tourism.
- Stronger academic networks and potential for interdisciplinary research and innovation.
- Better alignment with sustainable development goals (SDGs) and future labor market needs.

- **Living Labs: Collaborative Sustainability in Action:** Establish “Living Lab” partnerships with local tourism destinations to create immersive, real-world learning environments. In these labs, students actively co-design, implement, and evaluate sustainability initiatives in collaboration with destination stakeholders (e.g., local governments, tourism businesses, NGOs). Key elements include: **Co-creation** (where students work alongside local partners to identify sustainability challenges and propose innovative solutions). **Implementation:** (ideas are tested and applied in real-world settings, turning theory into practice). **Impact Measurement:** (students track and assess the environmental, social, and economic outcomes of their interventions, using tools like sustainability audits, visitor feedback, and carbon footprint analysis). **Reflection & Reporting:** (outcomes are shared with stakeholders through presentations, reports, and community events, fostering accountability and continuous improvement).

These Living Labs empower students to develop critical thinking, collaboration, and leadership skills while making a tangible contribution to local sustainability goals.

#### 4.1.1.1.2. Fieldwork and Excursions

Sustainable tourism, which seeks to balance economic growth with environmental protection and social equity, has become a central focus in tourism education. However, the complexity of sustainability concepts often challenges students’ ability to fully grasp and apply them in real-world contexts. Empirical research plays a crucial role in bridging this gap by investigating how experiential learning methods—such as fieldwork, project-based learning, and community engagement—can enhance students’ understanding and implementation of sustainable tourism practices.

Studies have shown that when students actively participate in sustainability initiatives—such as eco-certification projects, collaboration with local tourism providers, or environmental impact assessments—they are more likely to internalize theoretical principles. These hands-on experiences not only deepen their conceptual understanding but also develop their critical thinking and problem-solving skills, preparing them for responsible decision-making in their future careers. Empirical evidence thus supports the integration of sustainable practices in educational settings as a way to transform theoretical learning into practical, lasting competencies.

#### Empirical research review

Research on sustainable practices in tourism plays a crucial role in bridging the gap between theory and practice, helping policymakers, businesses, and communities implement sustainability principles effectively. Below are key areas where empirical studies contribute to understanding and implementing sustainable tourism concepts:

### *1. Consumer Behaviour and Sustainable Tourism Demand*

Empirical studies analyse tourists' preferences, willingness to pay for sustainable options, and behavioural intentions toward eco-friendly travel. Some important lessons arising from research are the following:

- Several firms' pro-environmental actions fail to significantly improve consumers' environmental protection, such as reduced electricity consumption, suggesting that interventions in tourism may require the use of more tangible benefits to change behavior (Dolnicar et al., 2017).
- Empirical research shows that environmentally friendly behaviors depend on cognitive and socio-demographic drivers such as "self-identity, social norms, a feeling of guilt, and organized environmentalism" (Juvan & Dolnicar, 2017). Certifications (e.g., eco-labels) show marginal if any environmentally friendly positive behavior (e.g., Karlsson and Dolnicar, 2016).

### *2. Business Strategies for Sustainable Tourism*

Empirical studies also assess the role of sustainable business models in tourism firms, including hotels, airlines, and tour operators. Some important findings are the following:

- On the broader spectrum of the economy and industries, there is mixed evidence relating the impact of sustainable practices on financial performance. However, the majority of work indicates a generally positive impact of sustainable practices on financial performance (Gillan et al. 2021).
- Tan et al., (2017) examines the impact of environmental performance (EP) on financial performance (FP) in the travel and tourism (TT) industry, focusing on emission reduction, resource reduction, and product innovation. The findings reveal that while aggregate EP positively affects FP in the hotel industry, its impact varies across sectors. Resource reduction enhances FP in hotels but negatively affects airlines, while product innovation benefits restaurants. The casino industry shows no significant relationship. Additionally, the study highlights that firms with greater financial slack can better leverage EP investments for improved FP, with slack resources amplifying the benefits of product innovation in casinos, resource reduction in hotels, and emission reduction in airlines and restaurants.

The above results suggest that managers should tailor environmental strategies to their specific industry, policymakers should incentivize sustainability practices, and investors should consider EP alongside financial slack when evaluating firms.

### *3. Community Involvement and Socioeconomic Impact*

Empirical research highlights how local community participation influences the success of sustainable tourism initiatives. Selective work in this area is reviewed below.

- Saayman and Giampiccoli (2016) critically examine Community-Based Tourism (CBT) and Pro-Poor Tourism (PPT), highlighting their differing impacts on poverty reduction and community development. While CBT prioritizes local control, empowerment, and redistributive justice, PPT operates within mainstream tourism frameworks, integrating the poor into existing market systems without challenging structural inequalities. The authors argue that PPT reinforces

economic dependency, benefiting corporations more than communities, whereas CBT offers a more sustainable and transformative approach. The paper advocates for tourism policies that empower disadvantaged communities through genuine local ownership and equitable resource distribution rather than relying on externally controlled PPT initiatives.

- Seraphin et al. (2018) paper examines the socioeconomic impact of over-tourism focusing on the example of Venice. The study highlights how excessive visitor numbers threaten the city's ecological, economic, and cultural sustainability. Instead of the radical tourist exit solutions proposed by some anti-tourism activists, the paper advocates collaborative public-private strategies such as restricting access, taxation, and promoting responsible tourism behaviour.

#### *4. Environmental Impact of Tourism*

Empirical studies use quantitative and qualitative methods to measure tourism's ecological footprint.

Some results in this area include the following:

Gössling & Peeters (2015) assess tourism's global resource consumption from 1900 going forward to estimates up to the year 2050, focusing on its use of energy, water, land, and food, alongside CO<sub>2</sub> emissions. The findings indicate that tourism's global energy demand, water consumption, land use, and food requirements are projected to more than double by 2050, despite efforts to improve sustainability. The study warns that current tourism growth trends are unsustainable, emphasizing the need for urgent policy interventions, technological innovations, and global cooperation to mitigate its environmental impact.

Jin and Gao (2025) review of the literature reveals that tourism has a dual impact on biodiversity—while it can lead to wildlife disturbance, habitat destruction, and illegal activities, it also provides financial incentives for conservation, promotes awareness, and encourages sustainable environmental management. Effective policy interventions, responsible tourism practices, and strong enforcement of environmental regulations are critical in minimizing tourism's negative impact on biodiversity while maximizing its conservation potential.

#### *5. Policy and Governance in Sustainable Tourism*

Research also assesses the effectiveness of different governance models in promoting sustainability. For example, the paper by Bramwell and Lane (2011) explores the governance of tourism and sustainability, emphasizing the importance of tailored, effective governance frameworks to ensure sustainable tourism development. It calls for strategies that involve multiple stakeholders, including governments, businesses, and local communities. In sum, public-private partnerships lead to more effective, sustainable tourism policies.

We present examples based on empirical research into sustainable practices that enable students to better understand and implement theoretical concepts of sustainable tourism.

- **Tourism site visits:** Take students on trips to hotels, museums, travel agencies, or tourist attractions where they can see first-hand how tourism operations work. This helps them connect the theoretical knowledge from the classroom to practical applications.
- **Attend tourism conferences and events:** Encourage teachers / students to attend tourism industry events such as travel expos, hospitality conferences, or workshops. This gives them access to industry professionals, trends, and opportunities.
- **Environmental Impact Assessments and Community-Based Tourism Research:** Students conduct **on-site sustainability assessments** of tourist destinations, accommodations, or natural parks. They analyze factors such as **waste management, water and energy consumption, biodiversity conservation efforts, and community involvement in tourism activities**. This hands-on research helps students evaluate the **real impact of tourism on the environment and local communities** while exploring sustainable solutions.
- **Participatory Action Research with Local Businesses and NGOs:** Students engage in collaborative research with **hotels, tour operators, local governments, or non-governmental organizations (NGOs)** to analyze and improve sustainable tourism practices. This method encourages **direct interaction with industry stakeholders**, fostering critical thinking and applied learning.
- **Innovation Camp:** Organizing a creative outreach event where learners study and plan innovative sustainable practices to integrate artisanal production and traditional services in tourism. Main topic: Opportunities and challenges of tourism in a rural region. Problem: How to use local handicraft and traditional services in the region for sustainable and innovative tourism? Activities: The participants will work on different aspects of tourism: from marketing to infrastructure and sustainable development. **Observation of ecological practices in farm and culinary tourism:** - Organising visits to farmers' markets. Tastings and workshops with traditional foods (e.g. cheese, wine, bread). Connecting tourist sites with local producers and **Quantitative and qualitative field studies on the effectiveness of environmental practices in tourism:** Learners use surveys, observations, research and analysis to measure the impact of sustainable practices on tourism destinations; Calculate the carbon footprint of tourists through surveys and analysis of the means of transport used by visitors; Economic evaluation of ecotourism - cost and revenue analysis of sustainable initiatives compared to traditional tourism. Provide concrete data that can be used to optimize policies.
- **Sustainability audits and assessments:** Engage students in conducting environmental impact assessments at tourism sites, evaluating carbon footprints, waste management systems, and

energy efficiency measures. This hands-on approach enables them to apply sustainability concepts in real-world settings.

- **Community-Based Tourism Success Stories:** Case studies on how local communities benefit from sustainable tourism initiatives, including employment generation, cultural preservation, and infrastructure development.
  - a) **Sustainable Accommodation Tour:** Take students on a behind-the-scenes tour of a sustainable hotel, hostel, or B&B. Focus on how accommodation providers implement eco-friendly practices (energy efficiency, waste reduction, water conservation) and enhance local experiences for guests. It can make students aware that small operational changes can have big environmental and economic benefits and encourage critical thinking about consumer choices and industry standards.
  - b) **Heritage Preservation Fieldwork:** Coordinate a trip to a cultural heritage site under stress from tourism (e.g., a medieval castle, a UNESCO-listed church, or an archaeological area). Students gather first-hand knowledge about heritage preservation challenges. Students use structured checklists and speak to site custodians or local heritage experts, then go back to classrooms and draft group proposals suggesting connections to best practices.
- **Internship and mobilities:** In the context of sustainable tourism, the internship provides a unique opportunity for students to bridge the gap between theoretical knowledge and practical application. The sustainable practices during internships can offer valuable insights into how theoretical concepts are understood, implemented, and refined in real-world settings. Internships allow students to apply theoretical frameworks (e.g., triple bottom line, circular economy, or eco-tourism principles) in real-world hospitality and tourism settings. It provides a valuable platform for empirical research on sustainable practices in tourism and hospitality, and students can generate actionable insights that enhance both their learning and the industry's understanding of sustainability.
- **Project-based learning:** Students can build critical knowledge and skills by creating projects that address issues in the real world. Students' ability to retain knowledge and their opportunity to acquire complex talents like critical thinking, communication, teamwork, or problem-solving both significantly enhance when starting with a concrete challenge as opposed to the conventional theoretical and abstract model. Due to this dynamic, innovation in the classroom rests not just on learners' problem-solving skills but also on their ability to create new unknowns that they must resolve during the learning process. It is attempted to force learners to conform to courses rather than the reverse. (Esteves et al, 2019).

#### 4.1.1.1.3. Practical Projects

As part of academic research projects, students work in groups to develop an academic article on a specific topic related to sustainability or digitalization. The learning objective is to design and implement a research project focused on sustainable tourism or digitalization in tourism, culminating in an academic article and a conference presentation. The students will develop different skills when developing this project. First, they need to develop a theoretical framework, so they will work topics such as: searching appropriate academic sources of information, identifying different types of scientific documents, using different search strategies using Boolean operators, being critic at the time of reading academic articles regarding sustainability, digitalization and tourism and selecting the information that is appropriate for the approach of their research. After having designed the theoretical framework, they will need to design the methodology for data collection. This will imply defining quantitative and/or qualitative methods, selecting data collection techniques and specific research variables, determining the population and the sample, and applying the data analysis procedures. In this sense, the students need to have fundamentals of statistics to analyse quantitative data and thematic analysis to analyse qualitative data. Students will also need to be able to interpret results, and write the conclusions, indicating the answer to the research objectives, the limitations of the study, the future lines of research and practical implications for the industry. They are also required to write the discussion, contrasting their own results with other previous academic studies. As the research need to be written in an academic paper format, students will need to identify one real academic journal aligned with their research topic and adapt their work to meet its requirements. Finally, at the end of the project, a simulated final conference will be organized, in which each group of students will present their research through a poster format. This will imply that students assure that both the content and communication style follow the standards of an academic conference. However, they will be able to be creative in the visual presentation of the information. The rest of the students will be asked to come up with one question for each presentation to work the ability to solve academic doubts in front of an audience.

- **Research projects:** Have students conduct research on tourism trends, such as eco-tourism, digital marketing strategies, or the impact of tourism on local communities, and then present their findings to local tourism operators.
- **Data-Driven Solutions:** Students learn to collect, analyse, and interpret data to identify root causes of sustainability challenges and measure the impact of potential solutions.
- **Sustainable Tourism Business Model Development:** Students work in teams to design and propose a sustainable tourism business, such as an eco-friendly hotel, a responsible travel agency, or a sustainable tour package. They must consider environmental impact, social responsibility, financial viability, and innovative practices.

- **Community Engagement and Sustainable Tourism Initiatives:** Students collaborate with local communities, policymakers, or tourism businesses to design and implement a small-scale sustainable tourism initiative that benefits both the environment and the local population.
- **Projects using digital tools in the marketing and advertising of eco-tourism sites:** Development of a website to better inform customers about spa hotels and hot springs in southern Bulgaria.
- **Innovation projects as an alternative to mass tourism. Authentic experiences in Plovdiv:** Involve learners in projects that aim to create and promote the concept of slow tourism in Plovdiv by offering authentic and personalized experiences that immerse tourists in local culture, craft traditions and gastronomy. The project aims to offer alternative solutions for building sustainable tourism in Plovdiv that focuses on the preservation of cultural and historical heritage and natural resources while offering tourists unique and genuine experiences. Learners can work on different aspects of the topic - organizing craft workshops, wine and gourmet tours, farm agritourism experiences, creating walking and cycling routes, creating information materials for the project - a guidebook/digital app for all slow experiences. Projects can be presented to partner organizations - Regional Ethnographic Museum - for organizing craft workshops; local wineries such as Villa Yustina and Zlaten Rozhen; organic farms around Plovdiv, and tour operators specializing in alternative and wine tourism.
- **Sustainable Tourism Business Plans:** Students develop detailed business plans for sustainable tourism ventures, incorporating eco-friendly practices, community engagement strategies, and financial viability assessments.
- **Eco-certification and Policy Recommendations:** Assign students to evaluate existing eco-certification programs or tourism policies and propose improvements to align with best practices in sustainability.
- **Social Media Sentiment Analysis:** Make students explore how public perception of a destination's tourism experience can inform sustainable practices and policies. It can be done through these activity steps: Platform Selection, Data Collection, Analysis & Insight. This activity connects digital literacy with tourism research and reveals how online feedback can shape perceptions and drive sustainable solutions.
- **Local Business Sustainability Survey:** Foster student research skills by investigating how local tourism businesses (hotels, restaurants, tour operators) adopt (or don't adopt) sustainable practices following these steps: Questionnaire Design, Data Collection, Analysis & Solutions. It can encourage direct engagement with stakeholders<sup>7</sup> and enhance communication skills.

- **Interdisciplinary projects:** The interdisciplinary work aims to involve several curricular units of a course, and its main objective is to encourage student entrepreneurship, as well as obtaining theoretical/practical skills related to the area of the course. The project integrates contributions from various curricular units so that the student can apply all the knowledge acquired in the classroom, creating an innovative and feasible project. Concerning sustainable tourism challenges, interdisciplinary projects are a powerful tool for developing concrete strategies and solutions by leveraging the strengths of multiple disciplines, and addressing environmental, social, economic, and cultural dimensions of sustainability in a holistic and innovative way. Examples like eco-friendly resort development, sustainable transportation systems, waste management in coastal areas, and cultural heritage preservation demonstrate the transformative potential of interdisciplinary collaboration in creating a more sustainable tourism industry.
- **Entrepreneurial projects:** In the context of sustainable tourism and hospitality, students are proposed to develop a proposal of a project to create a new concept of business in tourism field (hospitality, restaurant or touristic activities) where sustainability is a premise. This proposal is developed in a real context, with a real forecast of investment, operational costs, incomes and profits. To guarantee the premise of sustainability, some fundamental guidelines have been defined, namely the percentage of investment in information technologies and systems and in green practices. In addition, an innovative and differentiating proposal is required. The proposal is presented and defended in front of a jury of entrepreneurs and investors, in a shark tank format, who assess the relevance and implementation capacity of the project, simulating the investment they would be willing to make in it.
- **Community-Based or firm Projects:** Engage students in developing initiatives that involve working with local communities or firms to promote sustainable tourism practices. This can include creating community-based tourism strategies to highlight local culture, traditions, and sustainable practices. The same approach can be used by students within the tourism industry (e.g., hotels) to promote and implement their consumer and social responsibility (CSR) policies.
- **Policy Development Workshops:** Have students participate in workshops where they draft policy recommendations for sustainable tourism. These recommendations can be based on best practices, case studies, and collaborations with government agencies, NGOs, and industry stakeholders. Students can then present their proposed policies to relevant authorities and advocate for their adoption.

#### 4.1.1.1.4. Digital and Multimedia Tools

Modern digital technologies and multimedia platforms revolutionize how we teach and learn about sustainable tourism. Interactive simulations and virtual reality can immerse students in real-world scenarios. Online platforms enable global collaboration, connecting learners with communities

practicing sustainable tourism. Multimedia storytelling—videos, podcasts, and infographics—makes complex environmental issues more relatable and engaging. Mobile apps and gamified learning tools boost motivation and deepen understanding through interactive experiences. Cloud-based tools allow for real-time data sharing and analysis, fostering evidence-based learning. Social media encourages dialogue and the exchange of sustainable practices across cultures and regions. E-learning systems broaden access to education, allowing learners from remote areas to participate in sustainability-focused programs. Artificial intelligence can personalize content and track learning progress, enhancing effectiveness. Altogether, these innovations support a more inclusive, engaging, and future-forward model of sustainable tourism education.

- **Social media tools:** Tourism businesses heavily rely on social media for marketing, reviews, and customer engagement. Offer students training in using platforms like Instagram, Facebook, and Tik-Tok for tourism marketing, content creation, and community engagement.
- **Online presence:** Have students create tourism-related blogs, websites, or social media pages to practice their skills in digital marketing, content creation, and branding, which are key to the modern tourism industry.
- **Big Data and AI for Sustainable Tourism Analysis:** Introduce students to data analytics tools and AI-driven platforms that help assess tourism trends, environmental impact, and customer preferences. By analyzing real-world datasets, students can develop data-driven sustainable tourism strategies, optimize tourism flows, and predict future trends in responsible tourism.
- **Virtual Reality (VR) and Augmented Reality (AR) for Immersive Learning:** VR and AR technologies provide experiential learning opportunities that allow students to explore destinations, heritage sites, and conservation areas without physical travel. These tools enhance engagement, deepen understanding of sustainability challenges, and support remote tourism education.
- **Gamification and Interactive E-Learning Platforms:** Gamification techniques, such as serious games, quizzes, and simulations, make sustainable tourism education more engaging and effective. Platforms like Kahoot!, EdApp, or Minecraft: Education Edition allow students to apply their knowledge in a simulated, risk-free environment. Develop and incorporate tourism-related simulation games or interactive e-learning platforms where students can engage in real-world decision-making scenarios. These tools can help students analyze case studies on sustainable tourism, manage virtual eco-resorts, or tackle challenges related to over-tourism and conservation efforts. Gamification as several studies depict, is a very interesting tool to create new experiences and improve visits, making the destination more attractive and interactive for visitors, appearing as a differentiating element of the destination and being able to reduce seasonality. Moreover, using gamification tools in the teaching processes can benefit both, the process itself, motivating

students for the teaching-learning process and showing them how to use games and gamification to develop touristic products and services (Feifei et al, 2017).

- **Simulation of real tourist routes:** Through VR, learners can "tour" eco-trails, nature reserves or cultural sites without leaving the learning environment. They can practice presenting information about biodiversity, sustainable practices and cultural heritage.
- **Virtual and augmented reality:** Virtual and augmented reality can be used in an educational context to make the learning process more attractive and closer to reality contexts. Virtual reality tools can be used to provide students the ability to emerge in a context of implementation of sustainable practices, in a real context without leaving the classroom, for example, seeing real examples in hotels or museums that have their facilities and projects available virtually or using simulating tools where they can take their own decisions and see virtually the impact and results of it (Pestek & Sarvan, 2021).

Augmented reality apps can be used to show the introduction, for instance, of green practices, of a specific tool or object, or the transformation of all room/space, and how it could benefit the environment, in a hotel or a restaurant, for example.

Moreover, virtual tools also enable students to use them in their profession to carry out their tasks and support decision-making.

- **Immersive AR/VR Tools for Ecotourism and Education:** Using AR apps on mobile devices or smart glasses, learners can get interactive information. For example: **Flora & Fauna AR Guides** (mobile AR apps provide real-time, interactive info on plants and animals by scanning them in natural settings), **AR Learning Simulations** (Learners engage with realistic scenarios to build decision-making skills in authentic environments), **Tourism-Specific Applications** (*Google Expeditions*: Explore ecosystems and parks virtually. *Seek by iNaturalist*: Identify species via AR to enhance tour guide knowledge. *Wild Immersion*: VR-based virtual nature tours for ecotourism awareness. *Augment*: Visualize historical and conservation sites on location. *Ecotourism VR Training*: Simulates eco-friendly practices and route planning).
- **Geographic Information Systems (GIS):** Mapping and analyzing environmental impacts of tourism. GIS enables students to identify suitable locations for eco-tourism initiatives by analyzing land use, protected areas, and infrastructure. Students can track and measure carbon emissions from different tourism activities using spatial data. GIS helps students assess tourism risks related to climate change, such as rising sea levels, wildfires, or extreme weather events.
- **Blockchain for Transparency:** Ensuring ethical practices in tourism supply chains. Through blockchain technology, students in education can study real-world applications and understand how businesses in the tourism sector can adopt responsible practices. For example, blockchain can

be used to ensure that suppliers of goods and services in tourism (such as food suppliers, transport providers, and accommodation owners) adhere to fair labor practices and environmental sustainability.

- **Virtual interactive maps:** Activities in which students learn how to create interactive maps online. These can be used to create tourist itineraries on topics related to environmental protection. Intended for tourists or other students, these maps can focus, for example, on climate change and indicate key points in a city for understanding and tackling climate change (climate refuges, green zones, etc.). These maps could also indicate social and solidarity economy initiatives or other environmental protection projects. By learning how to use this interactive map tool, students can mobilise concepts and think about the most appropriate format for their audience. These maps are interactive, because the aim is that once the map has been created, any member of the public can add information and complete the map. It can then become a tool open to all. These interactive maps have been used, for example, as part of the “climate journey” project in Spain. They have been used to identify key points in the fight against climate change in cities such as Barcelona, Malaga and Madrid.

Concrete example of how teachers could organize an activity using interactive maps: Students are divided into teams, each focusing on a specific aspect of sustainable tourism (e.g., waste reduction, renewable energy, local food systems, cultural preservation). Using platforms like Google My Maps, ArcGIS Online, or similar tools, they learn to plot points of interest, add multimedia content (photos, videos, audio recordings), and write detailed descriptions. The emphasis is on data accuracy and engaging storytelling. For instance, a point on a map representing a local organic farm might include a video interview with the farmer, photos of their sustainable practices, and links to their website.

#### **4.1.1.1.5. Carbon footprint, waste management and community engagement**

The learning objectives focus on developing in-demand job market skills such as carbon footprint analysis, waste management, and community engagement, aiming to provide students with both a comprehensive understanding and practical competencies in key areas of sustainable development. By integrating technical, analytical, and social skills, the program prepares learners to meet the challenges of environmental responsibility and sustainability in various professional contexts. Below we present the most common notations and examples.

- **Engage students in carbon reduction:** on tourism, green programs, green transportation programmes on tourism, and urban initiatives.

- **Organize innovation competitions:** in tourism industry focused on developing low-carbon solutions, designing waste-to-energy technologies, community-driven sustainability projects.
- **Develop Data-Driven Sustainability Strategies for Tourism Businesses:** equip students with data analysis and sustainability assessment skills to help tourism businesses measure and reduce their carbon footprint, waste generation, and environmental impact.
- **Community-Based Sustainable Tourism Planning:** enables students to collaborate with local communities to develop tourism initiatives that support cultural heritage, protect the environment, and create socio-economic benefits.
- **Case study on sustainable tourism strategies:** provide a case study analysis that enables students to actively engage with real-world sustainability challenges and solutions. The session begins with an introduction to the case study methodology that provides a contextual analysis of a specific case within a real-world setting. The students are divided in groups, each assigned a real-world case study, and each group examines the decision-making processes along with their inputs and identifies key and critical aspects. Through small or group discussions, students debate alternative solutions that could improve the tourism destination and propose sustainability strategies.
- **Hosting a creative workshop, "Food for Change: Reducing Waste for the Community!"**

Goal: Develop sustainable practices to reduce food waste with a focus on community support. Explore opportunities to share and donate food to benefit those in need. Encourage collaboration between businesses, citizens and non-governmental organizations.

Important on this topic:

- a) Introduction-Discussion: The problem of food waste and its social dimension. Presentation of data on food waste and its social impact. Discussion of local and global initiatives to reduce waste through giving and sharing.
- b) Presenting good practices: 'Food banks' - how do they work?  
Restaurants and supermarkets that donate surplus food. Examples of community fridges.
- c) Short interactive task: each participant should answer the question: How could I contribute to reducing food waste?
- d) Practical exercise

**Task 1: The food journey** - from production to waste - dividing participants into groups of 3-4. Each group is given a scenario (e.g. supermarket, restaurant, household, farm). The task is to identify where waste is generated in their scenario and how to reduce it.

Expected solutions:

- Donating food with a short shelf life.
- Using fruits and vegetables with poor appearance.
- Training clients and staff to reduce waste.

Presentation of results - each group presents their ideas.

**Task 2: From surplus to aid** - designing a social initiative. Groups develop a plan for an initiative that connects excess food with people in need. Key questions to answer:

- Who is the target group? (e.g. socially disadvantaged families, homeless people, students)
- How will the food be collected and distributed??
- What partners are needed? (e.g. restaurants, farmers, shops)
- How to engage the community?

Expected outcomes:

- Creating a concrete project that can be implemented locally.
- Developing collaboration and social entrepreneurship skills.

Presentation of ideas - each group presents their project.

e) Final part - final challenge

Each participant chooses one small change to implement in their daily life - for example: start sharing food with people in need; propose an idea to reduce food waste in their community, use food scraps in a creative way.

- **Environmental Data Science:** Students will learn how to use data science tools and technologies (e.g., IoT, big data analytics) to monitor and manage environmental challenges such as pollution, climate change, and resource depletion.
- **Communication and Advocacy:** Students will learn and gain skills in communicating sustainability goals and outcomes to different audiences, fostering public support for green initiatives and ethical business practices.
- **Carbon Footprint Calculator for Class Trips:** Encourage students to quantify the environmental impact of tourism-related travel, building awareness of carbon emissions and mitigation strategies. By using a carbon footprint calculator (online tools or teacher-provided formulas) to estimate emissions for a hypothetical (or real) class trip, including transport, accommodation, and activities. This activity provides a tangible understanding of environmental costs and reinforces the concept that informed travel choices can significantly lower impacts.
- **Community Engagement:** Understand ethical principles of community-based tourism (respect for local traditions, fair economic returns, shared decision-making) by designing cultural

exchange programs or homestay initiatives that balance visitor interest with community well-being.

- **Waste Management:** Start conducting a waste audit, quantifying different waste streams and identifying primary contributors (e.g., restaurant kitchens, guest rooms) and then implement waste reduction techniques such as composting, reusable containers, or bulk purchasing in a simulated or real-world setting.
- **ECO-Schools** - This programme prepares students for roles in sustainability consulting, environmental auditing, and corporate social responsibility (CSR), where carbon footprint analysis and reduction are critical competencies. Eco-Schools (<https://www.ecoschools.global/>) is an expanding initiative that empowers young people to actively engage with and protect their environment. It can start in the classroom and be extended to the broader community. Participants gain a sense of accomplishment by influencing their school's environmental management policies, working towards earning the prestigious Green Flag certification. Eco-Schools provides a meaningful pathway for schools to enhance their local environment while fostering lifelong positive impacts on students, families, staff, and local authorities. Eco-schools can integrate practical, job-relevant skills into their curriculum, preparing students for the growing demand for sustainability-focused roles in the workforce.
- **Gastronomic associations:** Community engagement in the context of meals and events developed in a hospitality school and gastronomic associations can be a powerful way to foster collaboration, cultural exchange, and innovation in the culinary world. As part of this approach, there is a practical activity designed to boost students' skills in managing gastronomic events. From conception to closure, the students take an active role in all phases of the event, acquiring concrete experience in the organisation and execution of important initiatives. Collaboration with leading companies reinforces the practical component of the training. Tourism and hospitality schools focus on teaching students the art and science of cooking, food presentation, and restaurant management. By engaging with gastronomic associations, students can gain real-world insights into industry trends, traditional cuisines, and sustainable practices. The associations can provide expertise, resources, and networking opportunities that enrich the educational experience and can also help shape the curriculum to ensure it aligns with industry standards and emerging trends. On the other hand, experiences can be designed to reflect the cultural heritage of the local community or other cultures. This can be done in collaboration with gastronomic associations that specialize in preserving and promoting traditional cuisines. The relationship between tourism and hospitality schools and gastronomic associations is symbiotic, as the first can provide the talent and innovation, while gastronomic associations offer the expertise, resources and industry connections. Together, they can create a dynamic ecosystem that benefits students, the community, and the

gastronomy industry as a whole. By working together, they can promote cultural preservation, sustainability, and economic growth, all while fostering a deeper appreciation for the art and science of food.

- **Teach students how to conduct environmental impact assessments (EIAs):** For tourism projects, enabling them to analyze and mitigate negative effects on local ecosystems and communities.

#### 4.1.1.2. Industry collaboration and practical experience

Through guest lectures, experts encourage and guide students on current trends and practices. Students are asked to prepare a plan for sustainable tourism development from the local environment or tourist destination, following a structured approach that includes analyzing the current situation, defining goals, and planning actions. Below we present examples that were highlighted by individual partners and are tied to individual countries.

##### a) Sustainable Tourism Development Plan: Local Environment Example

**Destination:** Pohorje, Slovenia

**Objective:** develop a sustainable tourism model that preserves natural resources, supports local communities, and provides an enriching visitor experience.

**Objectives:** *Environmental Conservation:* protect biodiversity, reduce waste, and promote eco-friendly practices. *Community Engagement:* involve local residents in tourism activities and ensure economic benefits are shared. *Visitor Education:* raise awareness about sustainability through guided tours and interactive programs. *Economic Viability:* create long-term revenue streams while minimizing environmental impact.

**Strengths:** rich biodiversity and natural beauty, existing infrastructure (trails, visitor centres), strong community support for conservation efforts, proximity to urban areas, making it accessible for tourists.

**Weaknesses:** limited funding for large-scale initiatives, seasonal tourism, leading to fluctuating income, lack of awareness among tourists about sustainable practices, potential resistance from businesses reliant on non-sustainable practices.

**Opportunities:** growing demand for eco-tourism and sustainable travel, partnerships with NGOs and government grants for conservation projects, development of eco-friendly accommodations and local artisan markets, use of digital platforms to promote sustainable tourism.

**Threats:** over-tourism leading to environmental degradation, climate change impacting natural attractions, competition from less sustainable but cheaper destinations, lack of enforcement of sustainability regulations.

**b) Sustainable Tourism Development Plan: Local Environment Example**

**Destination:** Samaria Gorge, Crete, Greece

**Objective:** Develop a sustainable tourism model that protects the unique natural environment of Samaria Gorge, enhances visitor experiences, and supports the local economy and cultural heritage.

**Objectives:** *Environmental Conservation:* Preserve the biodiversity of the National Park, implement waste reduction programs, and promote responsible visitor behavior, *Sustainable Visitor Management:* Implement visitor limits, guided tours, and digital monitoring to prevent overcrowding and minimize environmental impact, *Local Community Involvement:* Encourage local businesses (guesthouses, guides, traditional tavernas) to adopt sustainable practices and benefit from tourism, *Eco-friendly Infrastructure Development:* Improve hiking trails with sustainable materials, install solar-powered facilities, and provide water refill stations, *Educational Initiatives:* Offer interpretative programs and digital tools (AR/VR apps, interactive signage) to educate tourists on the gorge's ecosystem and sustainable tourism principles.

**Strengths:** Rich biodiversity and protected status as part of Samaria National Park (UNESCO Biosphere Reserve), Cultural significance due to historical and mythological heritage, Existing visitor interest with thousands of hikers annually, Potential for eco-tourism development, including responsible trekking and wildlife observation.

**Weaknesses:** Overcrowding during peak season, leading to trail erosion and excessive waste, limited waste management facilities, causing littering issues, Dependence on seasonal tourism, affecting local businesses, need for better sustainable transport options, as most visitors arrive by personal vehicles or tour buses.

**Opportunities:** Growing demand for sustainable and adventure tourism from eco-conscious travelers, Funding from EU sustainability programs for conservation and infrastructure, Collaboration with local communities to create eco-friendly businesses and traditional guesthouses, use of digital tools for visitor education and guided experiences, reducing the need for printed materials.

**Threats:** Climate change impacting biodiversity (increased risk of wildfires, extreme weather), Uncontrolled tourism growth, leading to degradation of natural resources, Lack of regulation enforcement, making sustainability measures ineffective, Economic pressure to prioritize mass tourism, undermining sustainable efforts.

This plan ensures that Samaria Gorge remains a prime eco-tourism destination, balancing environmental protection, local economic growth, and responsible visitor experiences.

### **c) Sustainable Tourism Development Plan: Local Environment Example**

#### **Destination: Plovdiv - Hisarya region, Bulgaria**

The Plovdiv - Hisarya region is among the most attractive tourist destinations in Bulgaria, thanks to its rich cultural and historical heritage, natural resources and thermal springs. The development of a sustainable tourism model will enable the long-term preservation of these resources, stimulate the local economy and create new opportunities for the development of the community.

**Objectives:** Conservation of natural and cultural resources, reducing the ecological footprint of tourism activities. Developing the local economy and supporting small and medium-sized businesses through sustainable tourism initiatives. Promoting the region as an ecotourism destination, developing green routes and eco-attractions. Sustainable management of tourist flow - Distribution of visitors during different seasons. Promoting environmentally responsible behaviour among tourists and locals.

Ecotourism development focuses on creating green routes in Sredna Gora and eco-trails around Hisarya, offering nature-based activities like bike paths and farm or winery tours. It promotes sustainability in the tourism sector through eco-certification, reducing plastic use, and shifting to renewable energy. Education plays a key role—through training for local businesses, tourist workshops, and an environmental education center—to raise awareness and improve resource management. The strategy also includes diversifying tourism with eco, wine, cultural, and spa experiences, encouraging home-stays, and hosting off-season festivals to spread visitor flow more evenly throughout the year.

**Strengths:** Rich cultural and historical heritage (the Roman Baths in Hisarya, historical monuments and the Old Town in Plovdiv). Diverse natural resources - mineral springs, mountain trails in Sredna Gora. Developed tourist infrastructure - hotels, spa centres, restaurants. Good transport accessibility (highways, railways, Plovdiv airport). Traditions in the production of wine and local food - wine tourism in the Thracian Plain

**Weaknesses:** Insufficient promotion of sustainable tourism practices. Excessive seasonality - summer and spring are active, winter sees a drop in visits. Lack of sufficient green technologies in tourist sites. Outdated infrastructure in some areas. Insufficient integration of the local community in the sustainable tourism sector tasks.

**Opportunities:** Developing ecological routes for cycling and hiking. Introducing green technologies in hotels and spas (solar energy, water purification). Development of agrotourism - working with local farms and wineries to create sustainable tourism products. Holding eco-festivals and educational

campaigns on sustainable tourism. Promoting digitisation - mobile apps for navigation, online booking of eco-tours.

**Threats:** Overcrowding and excessive pressure on natural resources in peak seasons. Pollution and environmental damage from mass tourism. Insufficient funding for sustainable initiatives. Possible negative impacts of climate change on natural resources (e.g. reduction of water supplies for spa tourism).

#### **d) Sustainable Tourism Development Plan: Local Environment Example**

**Destination:** Sofia, Bulgaria

**Objective:** A Sustainable Tourism Development Plan for Sofia focuses on balancing the city's rich cultural heritage and natural beauty with the principles of sustainability. This plan aims to improve environmental practices, support local communities, and protect Sofia's heritage while fostering a sustainable and responsible tourism industry.

**Objectives: Cultural and Environmental Conservation:** Protect and preserve Sofia's **historical sites** (e.g., Alexander Nevsky Cathedral, Boyana Church) and **natural areas** (e.g., Vitosha Mountain) from the negative impacts of mass tourism.

Promote **eco-friendly tourism practices** that conserve natural resources, reduce waste, and minimize pollution.

**Promote Low-Impact Tourism:** Encourage sustainable **transportation options** like electric buses, cycling, and walking tours. Reduce the carbon footprint of tourism by encouraging tourists to use **public transport** and avoid private car use.

**Community Engagement and Empowerment:** Involve **local communities** in tourism development, ensuring that they benefit economically and culturally from tourism. Support **local businesses** and encourage tourists to purchase locally made goods and services, contributing to the local economy.

**Sustainability Education for Tourists:** Promote **eco-friendly tourism** through educational campaigns that inform visitors about Sofia's environmental challenges, sustainable behaviors, and conservation efforts. Offer **sustainable tourism experiences** such as guided eco-tours, nature hikes, or cultural workshops that promote environmental awareness.

**Economic Sustainability and Long-term Growth:** Focus on **sustainable economic development** that supports long-term growth in the tourism sector, ensuring that it does not harm the local environment or social fabric. Promote **responsible tourism** that prioritizes quality over quantity and seeks to attract tourists who value sustainability.

**Strengths:** Sofia offers strong potential for sustainable tourism through its rich cultural and historical heritage, including Roman ruins and diverse architectural influences, which attract international visitors and promote responsible travel. Its proximity to Vitosha Mountain allows for eco-friendly

outdoor activities like hiking and skiing. The city's growing commitment to sustainability, seen in green transport and waste management, supports eco-tourism development. Additionally, EU membership enables access to funding for green infrastructure and community-based tourism projects.

**Weaknesses:** Sofia faces several challenges to sustainable tourism, including overcrowding at key sites like Alexander Nevsky Cathedral, which risks damaging heritage and diminishing visitor experiences. Traffic congestion and air pollution also affect tourist satisfaction and environmental goals. While some green spaces exist, many areas still lack sustainable infrastructure like eco-friendly hotels and transport. Additionally, the strong seasonality of tourism creates overcrowding during peak times and economic instability in off-seasons.

**Opportunities:** Sofia has strong potential for sustainable tourism growth by leveraging its natural assets for eco-tourism, such as hiking and wildlife tours near Vitosha Mountain, and promoting community-based tourism through local partnerships. Combining cultural heritage with green experiences in tailored tourism packages, supported by EU sustainability funding, can enhance its appeal. With rising global demand for eco-friendly travel, Sofia can attract conscious travelers by highlighting its sustainable practices and offering green-certified services.

**Threats:** Sofia faces challenges to sustainable tourism, including the risk of over-tourism in popular areas like the city center and Vitosha Mountain, leading to environmental degradation. Climate change may disrupt nature-based tourism with warmer winters and extreme heat. Economic instability or global crises can reduce tourist flow and hinder long-term planning, while limited green infrastructure, such as poor waste management and transport, makes it harder to meet sustainable tourism goals.

#### e) Sustainable Tourism Development Plan: Local Environment Example

**Destination:** Pietra di Bismantova, a unique rock formation and popular destination in the Apennines of Reggio Emilia (Italy)

**Objective:** develop a sustainable tourism model that preserves natural resources, supports local communities, and provides an enriching visitor experience.

**Objectives:** *Preserve Ecological Integrity, Conserve sensitive habitats, flora, and fauna around Pietra di Bismantova. Implement low-impact tourism infrastructure (e.g., eco-friendly trails, signage). Enhance Community Involvement:* Encourage local residents, businesses, and associations to participate in planning and decision-making. *Support small-scale economic activities (e.g., artisan products, local agritourism) that benefit the local community. Foster Responsible Visitor Engagement., Develop educational programs (guided hikes, interpretive displays) to educate visitors about the site's geology, history, and culture. Promote sustainable mobility options (shuttle buses, carpooling incentives) to reduce traffic congestion and pollution. Long-Term Economic Sustainability:* Diversify tourism offerings

(nature-based activities, cultural events, spiritual retreats) to attract year-round visitation and minimize seasonality. *Reinforce partnerships with regional stakeholders* (e.g., nearby towns, tourism boards) for broader market reach and shared marketing.

**Strengths:** Geological Uniqueness & Scenic Beauty (Iconic rock formation with panoramic views, recognized for natural and cultural significance), Rich Cultural & Religious Heritage (Benedictine hermitage, historical traditions, and local legends tied to the rock), Existing Hiking & Climbing Appeal (Known among nature enthusiasts and climbers, offering potential for ecotourism development), Local Gastronomy & Products (Access to high-quality, locally produced foods (e.g., Parmigiano Reggiano, mountain honey, artisanal bread).

**Weaknesses:** limited funding for large-scale initiatives, seasonal tourism, leading to fluctuating income, lack of awareness among tourists about sustainable practices, potential resistance from businesses reliant on non-sustainable practices.

**Opportunities:** Growing Demand for Nature & Wellness Tourism (post-pandemic interest in outdoor recreation and slower, more authentic travel experiences), Cultural & Educational Programs (Potential to partner with schools, universities, and travel organizations for geology, history, and spirituality tours), Regional Cooperation (Partnerships with nearby towns (e.g., Castelnovo ne' Monti) and Apennine communities for shared itineraries (culinary routes, historical tours), Sustainability Certification & Funding (Access to EU or regional funding for rural development and eco-tourism projects. Possible recognition from eco-label or heritage bodies).

**Threats:** Environmental Degradation from Unmanaged Tourism (Overcrowding or irresponsible climbing/hiking can damage habitats and undermine the destination's natural appeal), Climate Change Impacts (Extreme weather events, changing microclimates, and potential droughts could affect local flora/fauna and visitor safety), Economic & Market Uncertainties Global economic fluctuations or future crises (pandemics, recessions) may drastically reduce tourist numbers.

#### **f) Sustainable Tourism Development Plan: Local Environment Example**

**Destination:** Partnership with DocaPesca and Associação Nacional dos Industriais de Conservas de Peixe (ANICP) (fish conservation organisations), Portuguese Coastline, especially North of Portugal

**Objective:** Develop a sustainable gastronomy preserving the sea resources, local culture and communities. In partnership with DocaPesca and ANICP the goal is to organise a series of training activities aimed at its main customers, helping to raise the profile of Portuguese fish and best practices in its handling. The main goal of working with fishing conservation organizations is to promote sustainable fishing practices and ensure the long-term health of aquatic ecosystems, fish populations,

and the communities that depend on them. Collaboration with these organizations typically focuses on balancing ecological, economic, and social needs.

**Objectives:** Promote sustainable fishing practices; Empower local communities; Promote community engagement; Encourage the use of fish in the meals; Create innovated meals with tinned fish; Economic Viability: create and develop the habit of eating tinned fish Raise Awareness and Educate the Public; Foster Collaboration and Innovation.

**Strengths:** access to specialized knowledge, research, and tools for sustainable fishing and conservation, demonstrates a commitment to sustainability and environmental stewardship, reinforces the collaboration with local fishing communities, governments, and stakeholders, educates the public and shows the advantages of eating fish, allows innovation in the use of different fish preserves.

**Weaknesses:** significant time and effort to organize the activities, financial investment, limited staff or expertise to manage and coordinate the collaborative projects, differences in priorities or approaches between the organizations, the students and the school, complexity in managing partnerships across different organizations.

**Opportunities:** Reach another community, including policymakers, researchers, and the general public, influence broader industry practices and policies, collaborate on research and development of new technologies or practices for sustainable industry, learn from the conservation organization's experiences and best practices, strengthen relationships with local communities by supporting their livelihoods and protecting their natural resources.

**Threats:** Resistance to changes in the traditional practices or regulations, economic pressures, consumers' lack of economic power considering the prices of most tinned foods, public scepticism about the quality of the meals developed and presented, competition from less sustainable but cheaper tinned foods from other countries.

#### **g) Sustainable Tourism Development Plan: Local Environment Example**

**Destination:** Troodos Mountains, Cyprus (e.g., Casale Panayiotis luxury hotel)

**Objective:** develop a sustainable tourism model that balances ecological preservation, community involvement, and visitor engagement.

**Objectives:** *Environmental Conservation:* protect the indigenous flora and fauna, reduce pollution and waste, and encourage eco-friendly travel practices. *Community Engagement:* provide local communities with opportunities to participate in and benefit from tourism activities. *Visitor Education:*

create educational programs and tours to inform visitors about the area's natural and cultural heritage.  
*Economic Viability:* ensure long-term financial sustainability while minimizing environmental impacts.

**Strengths:** unique biodiversity and scenic landscapes, strong cultural heritage with traditional villages and monasteries, existing eco-tourism infrastructure, and strategic location attracting both local and international tourists.

**Weaknesses:** limited financial resources for large-scale sustainability projects, potential seasonal variations in tourist numbers, lack of awareness among tourists about sustainable practices, and possible resistance from businesses relying on conventional tourism.

**Opportunities:** increasing global interest in sustainable and eco-tourism, potential partnerships with conservation organizations and governmental bodies for funding and support, development of eco-friendly accommodation and local craft markets, and utilization of digital platforms to promote sustainability.

**Threats:** environmental degradation due to over-tourism, climate change affecting natural ecosystems, competition from more mainstream tourism destinations, and insufficient enforcement of sustainability measures.

#### **h) Sustainable Tourism Development Plan: Local Environment Example**

**Destination:** Catalonia, Spain

**Objective: Aethnic's network ("Xarxa"):** The aim is to transform the current tourism model in Catalonia (Spain) into a responsible and sustainable one, emphasizing social and environmental responsibility, community engagement, and the promotion of authentic local experiences. **The specific objectives are:** *Social and Solidarity Economy (SSE) Integration:* promote tourism experiences rooted in SSE principles, prioritizing equity, inclusion, and community benefit. *Territorial diversification:* shift tourism flows away from crowded places to lesser-known ones, showcasing the diverse cultural and natural heritage of Catalonia. *Local community empowerment:* enable local actors (artisans, cultural associations, small businesses) to co-create and benefit from tourism activities. *Cultural heritage preservation:* protect and promote the tangible and intangible cultural heritage of Catalonia, ensuring its authenticity and accessibility.

**Strengths:**

- Strong network of local actors: existing network of cultural and social entities, businesses, and artisans committed to sustainable tourism
- Emphasis on local identity: focus on authentic experiences that highlight the unique character of different regions
- Commitment to ODS: alignment with the UN 2030 Sustainable Development Goals

- Focus on proximity tourism: the network is designed to engage local tourists first

**Weaknesses:**

- Coordination challenges: managing a diverse network across multiple regions requires effective communication and collaboration
- Funding and resource limitations: securing adequate funding for network activities and marketing initiatives
- Changing tourist preferences: ensuring the network's offerings remain appealing to evolving tourist preferences
- Potential for greenwashing: maintaining transparency and preventing unsustainable practices from being falsely labelled as sustainable
- Dependency on local actors: the network health depends on the health of the local actors

**Opportunities:**

- Opportunity for tourism model redefinition: the post-pandemic context provides a window to reshape tourism practices
- Growing demand for sustainable tourism: increasing consumer awareness and preference for responsible travel experiences
- Digital platforms for promotion: utilizing online platforms to connect with tourists and showcase sustainable tourism offerings
- Partnerships with public and private sectors: collaborating with government agencies and tourism businesses to advance sustainable tourism goals
- Development of creative tourism experiences: leveraging the "creative tourism" concept to engage visitors in meaningful cultural exchanges
- Education and awareness campaigns: raising awareness among tourists and local residents about sustainable tourism practices

**Threats:**

- Current explosion of mass tourism: Mass tourism is still present in Barcelona, with figures even higher than before the covid
- Economic instability: Fluctuations in the tourism market and economic downturns
- Climate change impacts: Rising temperatures and extreme weather events affecting tourism destinations
- Competition from unsustainable destinations: Facing competition from destinations offering cheaper, less responsible tourism options
- Lack of regulatory enforcement: Inadequate enforcement of sustainable tourism regulations

### 4.1.1.3. Use of technology and experiential learning in the field

Train teachers to use digital tools such as geographic information systems (GIS) for sustainable tourism planning or software for monitoring environmental impacts. Leverage virtual reality to simulate sustainable practices, such as managing eco-friendly hotels.

#### **Example 1: Designing Ecological Trails and Creating Digital Marketing Campaigns for Responsible Tourism**

Teachers and students create virtual ecological trails and incorporate features such as: interpretive signage (using Canva or Adobe Spark for design), sustainable transportation options (e.g., bike paths, electric shuttles). Students later present their trails to the class, explaining how they balance tourism with environmental preservation. Students develop a social media campaign or video project promoting responsible tourism practices in a selected region. Using tools like Canva, Adobe Premiere Pro, or TikTok, they create engaging content advocating for eco-conscious travel choices, wildlife protection, and support for local communities. They then analyze audience engagement and the effectiveness of their messaging, helping them develop real-world digital marketing skills for sustainable tourism initiatives.

#### **Example 2: Collaboration and Reflection**

Teachers and students collaborate using platforms like Google Workspace or Microsoft Teams to share ideas and feedback. They reflect on their learning through a digital journal or blog, discussing challenges and insights gained from the project. The teacher assesses students based on their creativity, understanding of sustainability, and ability to apply digital tools effectively.

#### **Example 3: Virtual Reality (VR) Simulation for Eco-Friendly Hotel Management**

Teachers integrate virtual reality (VR) technology to provide students with an immersive experience in managing a sustainable hotel. Using VR platforms such as Google Expeditions, Oculus VR, or Unity-based simulations, students explore the operational aspects of eco-friendly hospitality, focusing on energy efficiency, water conservation, waste reduction, and sustainable sourcing. Through the simulation, students assume the role of hotel managers, making decisions on renewable versus non-renewable energy sources, waste management systems, and ethical supply chains. They analyze real-time sustainability metrics, such as carbon footprint reduction and financial sustainability, and later present their findings, discussing how their decisions align with sustainability goals. This method enhances critical thinking, problem-solving, and digital skills while giving students practical insights into environmental responsibility in the tourism and hospitality industry.

#### **Example 4: Smart Tourism Planning with Geographic Information Systems (GIS)**

Teachers guide students in using Geographic Information Systems (GIS) tools such as ArcGIS, Google Earth, and QGIS to map and analyze sustainable tourism development strategies. Students collect and interpret geospatial data to identify environmental hotspots, tourist foot traffic, and infrastructure challenges. They use GIS mapping to propose solutions such as visitor limits in overpopulated areas, the development of green tourism zones, and the implementation of sustainable transport options like electric shuttles or cycling routes. By visualizing real-world tourism challenges, students design data-driven sustainable tourism plans, ensuring a balance between economic viability, environmental preservation, and cultural heritage conservation. This activity enhances data analysis, urban and rural tourism planning, and digital literacy, equipping students with essential skills for careers in sustainable tourism development.

#### **Example 5: "Guardians of Biodiversity" expedition in a nature park**

Learners take part in a **real research experience** where they act as ecologists exploring biodiversity in a natural park or protected area. The expedition includes the following activities: Flora and fauna observation: learners use notebooks, mobile plant identification apps (e.g. iNaturalist) and binoculars to document native species. Keeping an eco-log: each group collects data on pollution, erosion or human impact on nature. Role-play simulation: Students divide into groups (scientists, conservationists, local authorities, tourism operators) and discuss how to combine tourism development with conservation. Final project: They draw up a plan for sustainable tourism in the area and present to the class.

#### **Example 6: "Living on an Eco-Farm" - practical training for sustainable living**

Students spend several days on an eco-farm where they experience sustainable living and understand the principles of ecological agriculture and sustainable consumption. Working in the garden: students are involved in planting, composting and caring for the animals. Learning about sustainable agriculture: They learn the difference between organic and industrial production by seeing the actual processes. Energy independence: Demonstrations of renewable energy sources (solar panels, rainwater harvesting systems). Cooking with local produce: Students prepare food with organic ingredients, learning about reducing food waste. Discussion and conclusion: At the end of the stay, students analyse how their experience can be applied in the urban environment and prepare digital presentations.

#### **Example 7: Designing Community-Based Tourism Plans**

In a VR platform, students and teachers could explore a town or village that has potential for tourism development. They could virtually interact with stakeholders—such as local residents, business owners, and conservationists—who explain their needs and concerns. After the VR experience,

students are tasked with designing a tourism plan that includes considerations like supporting local businesses (restaurants, artisans, etc.); promoting cultural heritage and traditions; implementing eco-friendly infrastructure (e.g., green hotels, waste management);

### **Example 8: Collaborative Project: Creating a Sustainable Tourism Video Game**

In groups, students and teachers use VR design tools to create their own sustainable tourism sites. They design the environment, the infrastructure (hotels, parks, trails), and interactive experiences (such as guiding tourists on eco-tours). Each group’s VR destination is presented to the class, with a focus on the sustainable practices integrated into their designs. Students could even create virtual scenarios for tourists to follow, such as eco-friendly activities or challenges.

### **Example 9: Sustainably Managing a Virtual National Park**

Students receive details on key park features (e.g., a lake with endangered fish species, hiking trails prone to erosion, a visitor center). The park is near a local community that depends on tourism revenue but also values preserving its natural heritage. Teachers assign roles such as Park Manager, Community Liaison, Wildlife Biologist, and Tourism Officer. Students “walk” or teleport through virtual trails and facilities, noticing areas of concern (trash near picnic sites, off-trail hiking) and resources worth protecting (rare plant species, nesting grounds), so that the simulation presents management challenges, as trail overcrowding (should the park introduce a visitor quota or invest in new trails to spread out foot traffic?), wildlife disturbances (restrict certain trails during breeding seasons, or install educational signage and wildlife corridors)

### **Example 10: Balancing Tourism and Heritage in a Virtual Historic City Center**

Teachers provide students with a backstory: the city is famous for its medieval architecture, UNESCO-listed sites, and vibrant local culture—but faces over tourism and pressure on infrastructure. Students are grouped into Urban Planners, Heritage Conservators, Local Business Owners, or Resident Representatives. They collaborate to propose and implement sustainable tourism policies in the VR city. Students explore major landmarks, noting crowding hotspots (popular squares, cathedral entrances), and potential visitor “dead zones.” They observe physical constraints (narrow alleys, limited public transport) and signs of strain (litter, wear on historic buildings).

### **Example 11: Carbon Footprint**

“Hospitality Carbon Footprint Calculator” (<https://hosp-eco.eu/>), a tool created within the scope of the HOSP-ECO Erasmus+ Funded project. The tool aims at helping teachers and students to understand what the carbon footprint of hotels is, through an interactive but also easy-to-use interface.

### **Example 12: Systemic Food Design**

“Systemic Food Design” (<http://www.systemicfooddesign.it/>) is a tool developed by a Consorcio between Università de Scienze Gastronomiche di Pollenzo, Comieco, RICREA and Rilegno. Systemic Food Design is an educational tool that, through the narration of the main phases of the production system of 20 food and beverage supply chains of daily use, allows the user to enter the multidisciplinary world of Gastronomic Sciences. This tool promotes sustainable practices and circular economy by demonstrating what can be the consequences of the choices made by producers when they are cultivating products, with the choices made in the technics and products used in the production process. Each of the choices is assessed based on the positive or negative effects it has in 4 areas: environmental sustainability, economic sustainability, social sustainability and sensory quality.

#### **4.1.1.4. Entrepreneurship in sustainable tourism and strengthening connections with the local community**

These examples illustrate how teachers can effectively promote sustainable tourism education by integrating it into various curricula and fostering interdisciplinary collaboration. Through field visits, community partnerships, and hands-on projects, students engage with local culture, heritage, agriculture, and environmental conservation, gaining practical experience in ethical and eco-friendly tourism practices. Activities such as entrepreneurship workshops, festivals, innovation challenges, and research projects encourage creativity, real-world problem-solving, and business skills rooted in sustainability. By connecting students with local artisans, businesses, and environmental organizations, these initiatives not only deepen cultural understanding and environmental awareness but also support the local economy and promote responsible tourism development.

##### **a) Example 1: Build Awareness and Interest Among Teachers**

**Curriculum Integration:** Show teachers how tourism projects can align with existing curriculum goals (e.g., history, geography, environmental science, art, and language).

**Field Visits:** Arrange visits to local heritage sites, cultural centres, or eco-tourism projects to inspire teachers and help them see the potential for student engagement.

##### **b) Example 2: Develop Collaborative Tourism Projects**

**Interdisciplinary Approach:** Encourage teachers from different subjects to collaborate. For example: History teachers can focus on local historical sites, Science teachers can explore sustainable practices in tourism, Art teachers can work on cultural expressions like traditional crafts or performances.

**c) Example 3: Community-Led Sustainable Tourism Initiatives**

Teachers can engage in community-based tourism projects by collaborating with local businesses, artisans, and environmental organizations to develop sustainable tourism experiences that benefit the local economy while preserving cultural heritage and natural resources. By forming partnerships with eco-friendly accommodations, traditional guesthouses, and local farms, students can gain hands-on experience in sustainable hospitality, organic farming, and traditional crafts, fostering a deeper understanding of ethical tourism practices. Additionally, schools can work with museums, historical societies, and indigenous communities to design educational tourism programs that showcase local traditions, folklore, and historical landmarks, ensuring the preservation of cultural identity. Teachers can further promote experiential learning by guiding students in interviewing local stakeholders, conducting market research on responsible tourism, and developing promotional materials that highlight community-led tourism initiatives. This approach fosters entrepreneurial thinking, collaboration, and real-world problem-solving, while reinforcing the significance of ethical and responsible tourism in sustainable development.

**d) Example 4: Sustainable Tourism Entrepreneurship Workshops**

Teachers can organize entrepreneurship training programs where students and local community members co-create tourism businesses that align with sustainability principles. By hosting eco-tourism startup competitions in collaboration with local incubators, universities, or government agencies, students can develop innovative business ideas, such as zero-waste travel experiences, fair-trade souvenir shops, or sustainable adventure tours, promoting environmentally responsible tourism. Additionally, hands-on workshops with local entrepreneurs provide students with valuable insights into business planning, digital marketing, and sustainable product development, guided by experienced professionals in the field. Another effective approach is crowdsourcing sustainability solutions, where students work alongside local communities to identify environmental and socio-economic challenges in tourism and develop practical action plans, such as reducing plastic waste, creating nature-based experiences, or supporting local artisans. These initiatives bridge classroom learning with real-world applications, equipping students with practical entrepreneurial skills while fostering economic and cultural sustainability within the local community.

**e) Example 5: Creating festivals and events promoting local culture and sustainable tourism**

Teachers can organize a "Festival of Traditions" by engaging students in demonstrations of local crafts, folklore performances and the preparation and tasting of traditional foods. They can involve students in researching local traditions, hosting workshops to prepare displays and demonstrations, and promoting eco-friendly practices during the event (plastic-free, recycling, sustainable products). School collaboration with local organizations and the tourism sector to promote sustainable tourism can be done by collaborating with craft associations to hold demonstrations and workshops, cultural

institutions to provide traditional music and dance, restaurants and local food producers for tastings and presentations on sustainable production.

**f) Example 6: Organising tourism projects focusing on local culture and heritage**

Teachers involve students to work on a project to create a cultural and historical tourist itinerary that includes important local landmarks. They guide students' research activities (collecting information about historical and cultural sites, conducting interviews with old locals). They collaborate with museums and cultural centres to conduct lectures, consultations and practical activities. Assist students in developing digital tourist guides (using VR/AR technologies) or audio tours. The project is implemented through collaboration with local organisations: Regional History Museums - to provide materials and organise meetings with historians, tourist associations - to support the promotion of the route, local artists and craftsmen - to run workshops on traditional crafts.

**g) Example 7: Sustainable Agricultural Tourism Project**

Teachers can work with local agricultural experts to create lesson plans and projects that align with the school curriculum, allowing students to visit local farms and engage in sustainable agricultural practices, such as organic farming or permaculture. Agricultural cooperatives, organic farms, or eco-tourism organizations can facilitate these educational trips. They can provide hands-on experiences for students, such as helping with planting, harvesting, or learning about soil conservation. By promoting sustainable farming methods, this would not only educate students on eco-friendly practices but also help farmers who adopt sustainable approaches increase their visibility to eco-conscious tourists. Teachers can include topics such as food security, local food systems, and the environmental benefits of sustainable agriculture. This project would connect students with the food production process and highlight the importance of sustainability in agriculture, benefiting local farmers and promoting responsible tourism.

**h) Example 8: Environmental Education and Ecotourism Project with National Parks**

Teachers can take students on educational trips to national parks like Rila, Pirin, or Central Balkan. During these trips, students can participate in hands-on environmental education, such as monitoring local wildlife, learning about plant species, or studying the effects of climate change on the local environment. Local organizations, such as national park authorities or eco-tourism groups, could partner with schools to offer guided tours, workshops, and activities that focus on sustainable tourism practices. These organizations could also help in developing student-friendly materials on conservation and biodiversity. Teachers and students can learn about and promote eco-friendly tourism practices, such as responsible hiking, minimizing waste, and protecting local wildlife. By engaging with national parks, teachers can also introduce discussions about the importance of preserving natural resources for future generations and the benefits of sustainable tourism for the local community.

**i) Example 9: Bulgaria’s Culinary Heritage and Eco-Tourism Initiative**

Teachers can collaborate with local chefs or culinary schools to design workshops where students learn about traditional Bulgarian dishes, such as banitsa, sarmi, and shopska-salad. Students can participate in cooking demonstrations and tastings while learning about the historical significance and cultural meaning behind these dishes. Local culinary schools, cultural tourism companies, and eco-tourism initiatives can partner with schools to offer cooking classes and culinary tours, where students can see firsthand how traditional food is made using locally sourced ingredients. Sustainability Focus: This initiative can emphasize sustainable food sourcing and the benefits of using local, organic ingredients. The project could also raise awareness about food waste reduction and sustainable practices in food production. Teachers and students could promote these practices as part of their educational experience.

**j) EXAMPLE 10: “Living History Day” at a Local Museum**

Location: A nearby museum showcasing regional culture, art, or industry (e.g., a textile museum, an archeological site museum). Museum staff or docents lead students through exhibits, explaining the region’s cultural heritage. After training, students (with teacher supervision) lead mini-tours for visiting school groups or community members, emphasizing preservation and respectful visitor behavior. Furthermore, a local craftsperson demonstrates traditional techniques (e.g., weaving, pottery), and students try them out. Role of Local Partners: Museum curators provide resources, exhibit access, and training for student docents; craftspeople demonstrate traditional methods, offer hands-on sessions; the local tourism board may help publicize the event, enhancing museum attendance.

**k) Example 11: “Tourist for a Day” Community Challenge**

Role Reversal: Students and teachers pretend to be tourists, navigating the local area, using signage, public transport, or visiting attractions as a “typical day” tourist. They record observations—where signage is missing, accessibility is limited, or where there’s an opportunity for sustainable improvements (like better recycling bins) and activities end with a feedback session: present suggestions to local officials, businesses, and community members about potential upgrades (bike racks, water refill stations, interpretive panels).

**l) Example 12: Demola Projects**

Demola works with a variety of companies and organizations that operate in different fields and where students from all backgrounds can find a match for all the innovation challenge selection. Demola project is a unique innovation and learning opportunity for University and Polytechnic students to gain job-relevant skills. Considering tourism and hospitality students can be involved in tourism initiatives that include the local community, culture, heritage, and resources, while fostering collaboration with

local organizations to promote sustainability. Such projects not only enhance students' learning experiences but also contribute to the economic and environmental well-being of the community.

**m) Example 13: Shark Tank Competition**

**Concept:** Students need to propose a new concept of business to be implemented in a real context.

**Process:** In a teamwork, students work with brainstorm tools and project-based learning mechanisms to develop a new business proposal. This proposal needs to have all the real aspects considered as it would be for implementation (facility found in the community, considerer the licensing and works requirements, investments and loan's needs, etc.) This process will include students' teamwork in the field, discovering what is the local community, its culture, heritage and resources to develop their proposal of business. Moreover, contacting with the local authorities, municipalities, financial organisations, local suppliers and agents, and associations, to develop the project proposal with real data.

**Assessment:** It is created a competition between the projects judged by a panel of tourism, hotel and catering entrepreneurs, such as a shark tank panel. The teams present their project to this panel, how comment and evaluate the project according to the touristic market and simulate real investment in the projects. In the end, the project that gathered more investment win the competition.

This competition gives students direct contact with local communities, their culture, resources and needs, as well as developing innovation, creativity and entrepreneurial skills, where sustainability is a fundamental premise. In addition, they meet experts in the field who give them a real and innovative insight into the tourism market.

**n) Example 14: Engage Students in Research Projects**

Local Surveys: guide students to conduct surveys among local residents and businesses to understand their perspectives on tourism and sustainability. Data Analysis: help students analyze the collected data and present their findings, proposing actionable solutions to enhance sustainable tourism practices in the community.

**o) Example 15: Promote Eco-Friendly Initiatives**

Green Campaigns: collaborate with environmental organizations to launch campaigns that promote eco-friendly tourism practices, such as reducing plastic use or conserving water. Community Workshops: organize workshops where students and community members can learn about and implement sustainable practices, like composting or energy conservation, in local tourism businesses.

**p) Example 16: Sustainable/Green Business Plan**

To promote entrepreneurship in sustainable tourism through the creation of Sustainable/Green Business Plans. Teachers and local businesses will collaborate to introduce sustainable practices into their traditional business models, taking advantage of an approach that reduces long-term costs and promotes energy efficiency and waste reduction. Through this model, entrepreneurs will be able to combine traditional practices with sustainable initiatives, ensuring responsible and economically viable growth. Incorporating case studies and problem-solving.

**a) Workshop on Practical Problem Solving: Managing Mass Tourism and Resource Depletion, featuring various examples**

**Workshop Title: Sustainable Solutions for Tourism in Slovenia**

**Objective:** to collectively identify and develop feasible strategies for addressing challenges such as mass tourism and resource depletion, using real-world examples of successful sustainable tourism practices; by the end of the workshop, participants will gain a deeper understanding of the challenges of sustainable tourism and practical tools to manage them in their own contexts.

**Workshop Structure**

**Introduction (30 minutes)**

- Icebreaker Activity: participants share their personal experiences with tourism (positive or negative).
- Overview of Challenges: a brief presentation on mass tourism and resource depletion, including statistical data and case studies (e.g., overcrowding in Venice, Slovenia’s Lake Bled, mass tourism in Costa Brava, Spain).
- Introduction to Sustainable Tourism: definition of sustainable tourism and its three pillars: environmental, social, and economic sustainability.

**Problem-Solving Activity (90 minutes)**

Participants work in groups to address a specific challenge related to mass tourism or resource depletion in a hypothetical or real destination.

**Scenario 1: Overcrowding in a Popular Slovenian Tourist Destination**

- Challenge: **Lake Bled**, a tourist destination, is experiencing environmental degradation due to the high number of visitors.
- Task: Develop a sustainable tourism plan to reduce overcrowding while maintaining revenue for local communities.
- Guiding Questions:
  - o How can visitor numbers be managed without excluding them?
  - o What alternative experiences or attractions could be promoted to distribute tourists more evenly?
  - o How can technology (e.g., reservation systems, virtual tours) help?

## **b) Workshop on Practical Problem Solving: Managing Mass Tourism and Resource Depletion**

### **Workshop Title: Sustainable Solutions for Tourism in Cyprus**

#### **Scenario 2:**

- Challenge: The beaches of Cyprus, especially in popular areas like Ayia Napa and Limassol, face significant environmental stress from large numbers of tourists.
- Task: Create a strategy to protect the coastal ecosystems while continuing to attract tourists.
- Guiding Questions:
  - o What measures can be implemented to protect marine life and reduce pollution?
  - o How can local businesses be encouraged to adopt eco-friendly practices?
  - o What kind of educational campaigns can raise awareness among tourists about sustainable behaviors?

## **c) Workshop on Practical Problem Solving: Sustainable Tourism in Greece**

### **Workshop Title: Sustainable Solutions for Tourism - Balancing Tourism Growth and Environmental Sustainability in Santorini**

#### **Scenario 3:**

**Objective:** This workshop aims to address the impact of mass tourism on the environment and infrastructure by exploring successful sustainable tourism strategies. Participants will analyze real-life examples and develop actionable solutions for a more sustainable tourism model in Santorini. By the end of the workshop, they will gain practical tools and strategies to apply in their own tourism contexts.

#### **Workshop Structure**

**Introduction:** The workshop begins with an icebreaker activity, where participants share memorable travel experiences and reflect on sustainability aspects like overcrowding, pollution, and responsible tourism initiatives. A brief presentation follows, highlighting overtourism challenges in Santorini, such as water scarcity, waste management, traffic congestion, and cultural impact, supported by official tourism reports and environmental studies. Finally, participants explore best practices from destinations like the Azores, Costa Rica, and the Faroe Islands, examining how they balance mass tourism with environmental and cultural preservation.

**Problem-Solving Activity:** In this problem-solving activity, participants collaborate in groups to design a sustainable tourism strategy for Santorini. They address challenges such as overcrowding, water scarcity, excessive waste, and rising housing costs due to short-term rentals, aiming to balance tourism growth with environmental conservation and community well-being.

Guiding Questions: Participants will explore key questions, such as how to manage visitor numbers without harming local businesses, promote alternative tourism models to reduce seasonal pressure, and improve public transportation and mobility. They will also assess the role of smart technology in managing tourist flows and explore ways to involve locals in decision-making and revenue-sharing.

Conclusion: In conclusion, each group presents its sustainable tourism action plan and receives feedback. Participants discuss the feasibility of solutions and their application to other destinations. The session ends with key takeaways and best practices for integrating sustainability into tourism planning.

#### **d) Workshop on Practical Problem Solving: Sustainable Tourism in Bulgaria 1**

##### **Workshop Title: Case Study Workshop - Topic: "Eco-villages: an innovative model for sustainable tourism"**

###### **Scenario 4:**

Introduction of the seminar and its main objectives: Understanding the concept of ecovillage. Creating innovative ideas or ecotourism. Development of marketing strategies. What are ecovillages? Why are they a sustainable alternative to mass tourism? Examples of successful ecovillages (Zermatt, Switzerland; Findhorn, Scotland; Tamera, Portugal). Focus: How to build a sustainable ecovillage? Key elements of an ecovillage: Architecture: Ecological building materials and passive buildings. Energy: Renewable sources - solar panels, wind turbines. Water: Recycling, rainwater and wastewater treatment systems. Food: Permaculture, urban agriculture and organic production.

Discussion - key challenges for sustainable tourism. Focus: What are the problems of traditional tourism? Key topics: Overtourism and ecosystem destruction. High energy consumption and carbon footprint. Pollution and excessive waste generation.

Discussion: Insufficient integration of local communities. Participants share examples of these issues and how they manifest in specific tourist destinations.

Case study: "Designing a sustainable ecovillage"

Task: The participants work in groups and develop a concept for an eco-village, which includes: location, main buildings and infrastructure, energy and water supply sources, food resources, marketing and promotion of ecovillages. Presentations of the groups and determination of the best idea.

#### **e) Workshop on Practical Problem-Solving for Sustainable Tourism in Bulgaria 2**

## Scenario 5:

**Objective:** The workshop aims to address the challenges of mass tourism and resource depletion through collaborative problem-solving. Participants will analyze real-life examples of sustainable tourism practices, discuss solutions, and work on practical strategies to promote responsible tourism in their own communities.

### Structure of the Workshop:

Introduction and Overview (15 minutes)

Brief introduction to the challenges of mass tourism and resource depletion. Explanation of sustainable tourism principles (economic, environmental, and social sustainability). Overview of the workshop format: collaborative problem-solving, analysis of real-life examples, and development of strategies.

### Case Study Analysis:

#### Example 1: The Ecotourism Initiative in the Pirin National Park, Bulgaria

**Background:** Pirin National Park, a UNESCO World Heritage Site, faces significant challenges from mass tourism, including habitat degradation, pollution, and overcrowding.

**Sustainable Solution:** In response, local authorities and environmental organizations introduced the Pirin National Park Ecotourism Initiative. This initiative included the creation of designated trails, strict visitor caps, guided eco-friendly tours, and the promotion of environmental education.

**Discussion:** Workshop participants will be divided into small groups to discuss potential improvements to the Pirin ecotourism strategy, such as expanding waste management infrastructure, increasing local stakeholder involvement, or introducing eco-certification for tourism businesses.

### Breakout Group Problem-Solving Session:

**Problem 1:** Addressing Overcrowding and Resource Depletion at Tourist Hotspots in Bulgaria.

**Challenge:** Mass tourism during the summer months leads to overcrowding in popular locations like Nessebar, Rila Monastery, and Sofia's Vitosha Mountain. This puts a strain on local infrastructure, damages cultural sites, and contributes to pollution.

**Task:** Develop a comprehensive strategy to manage overcrowding and reduce the depletion of local resources while promoting sustainable tourism.

### Group Focus Areas:

Introducing off-season promotion and diversifying tourism offerings.

Educating tourists on responsible behavior and sustainable practices.

Implementing visitor number caps and reservation systems for popular sites.

Enhancing waste management systems and encouraging sustainable transport options.

### **Presentation and Discussion of Group Solutions:**

Each group presents their proposed solution, including strategies for balancing economic development and sustainability.

A Q&A and discussion period follows, where participants critique each other's ideas, offering suggestions and refining the proposed strategies.

### **Real-Life Example for Analysis:**

#### **Example 2: Sustainable Tourism Practices at the Belogradchik Rocks, Bulgaria**

**Background:** The Belogradchik Rocks, a natural rock formation and a key tourist attraction in Bulgaria, have experienced environmental strain from increasing tourist activity. The area had problems with littering, erosion, and uncontrolled access to fragile sections of the site.

#### **Measures Taken:**

Development of marked trails to minimize environmental impact and protect the rocks from erosion. Introduction of guided tours, where local guides educate visitors about the site's history and natural significance.

Collaboration with local communities to provide authentic experiences such as craft-making, local cuisine, and cultural performances, benefiting the community economically.

The establishment of eco-certification for local businesses, ensuring that tourism operations adhere to environmental sustainability standards.

**Discussion:** Participants analyze this case and brainstorm how to improve sustainability efforts at Belogradchik Rocks, considering expanding eco-certification, increasing waste management infrastructure, or developing low-impact transportation options.

#### **Final Group Activity:**

**Problem-Solving for Resource Depletion:** Participants are tasked with creating a resource-depletion management strategy for a specific location (could be any famous site in Bulgaria). They must outline steps to manage natural resources such as water, waste, and energy usage while ensuring that local communities are still benefiting from tourism.

#### **Groups will consider:**

Water conservation initiatives (e.g., rainwater harvesting, water-efficient fixtures).

Waste reduction strategies (e.g., promoting recycling, minimizing plastic usage).

Encouraging green tourism practices (e.g., solar-powered accommodation, sustainable transport options).

**Conclusion and Action Plan:**

Each group shares its findings and recommendations with the larger group.

Workshop facilitators summarize key takeaways, emphasizing the importance of community involvement, education, and partnerships between local authorities, businesses, and tourism stakeholders.

**Action Plan:** Participants are encouraged to draft a local action plan, incorporating sustainable tourism practices in their region.

**f) Workshop: Practical Problem-Solving for Sustainable Tourism in Italy**

**Workshop Title: Sustainable Solutions for Tourism –Bologna, Italy**

**Scenario 6:**

Bologna has grown in popularity among tourists in recent years, but its historical centre faces significant environmental and social stress from large numbers of tourists.

Challenge: The influx of foreign visitors to Bologna has prompted a massive change in the central areas of the city, famous for its endless colonnades and medieval towers.

Task: Develop a sustainable tourism plan to reduce overcrowding, pressure on public services and the problem of rising rent and property prices while at the same time limiting residents' discontent.

Guiding Questions: How can we safeguard Bologna's architectural heritage and cultural identity from the wear and tear of high visitor volumes? What specific aspects of local life and traditions must be preserved, and how do we ensure resident engagement and support? How can we balance tourist-centric services with the everyday needs of residents? How can we disperse tourist traffic beyond the main attractions (e.g., Piazza Maggiore, the Two Towers) to lesser-known sites or nearby areas? What tools or technologies (e.g., real-time visitor data, timed ticketing) can help prevent congestion and manage peak periods? Which policies around short-term rentals or group travel (e.g., restricting tour buses in certain areas) could mitigate overcrowding?

**g) Workshop: Practical Problem-Solving for Sustainable Tourism in Portugal**

**Workshop Title: Partnerships with business associations**

Can be highly effective in addressing real-world challenges in the hospitality and tourism industry, such as mass tourism and resource depletion. These collaborations bring together industry expertise, resources, and innovative thinking to develop practical solutions. For example, we can conduct a Practical Problem-Solving Workshop in steps: 1. Define the Problem - Identify the specific challenge or the solution needed; 2. Identify the teams - invite stakeholders from business associations, hotel management, local government, environmental organizations, and community representatives and the students that provide the solution; 3. Develop an Action Plan - prioritizing the most feasible and impactful solutions.

### 4.1.2. How to incorporate sustainability education in the hospitality management curriculum

Incorporating sustainability and sustainable tourism education into the curriculum requires an integrated, holistic approach that equips students with the knowledge, skills, and values to foster environmental stewardship, social equity, and economic responsibility. This can be achieved by embedding sustainability themes across subjects—such as environmental science, economics, and social studies—while using experiential methods like field visits, project-based learning, and community engagement to ground theory in real-world practice. Drawing on frameworks like the UN Sustainable Development Goals, educators can guide learners to critically examine tourism’s impact, develop problem-solving abilities, and engage with ethical dimensions of global citizenship. Ultimately, the goal is to cultivate informed individuals who can thoughtfully contribute to sustainable development in tourism and beyond.

The methods should provide a comprehensive approach to education on sustainable development, enabling the acquisition of knowledge and skills to promote environmental, social, and economic sustainability.

- a) **Sustainability-Focused Courses:** We could introduce dedicated courses such as "Sustainable Hospitality Management," "Eco-Tourism," or "Green Hotel Operations." We could also integrate sustainability topics into existing subjects like operations management, marketing, and event planning.
- b) **Experiential Learning & Field Trips:** We could organize visits to eco-friendly hotels, sustainable resorts, or green-certified restaurants. It would also be a good idea to encourage students to participate in sustainability-focused internships or projects.
- c) **Case Studies & Best Practices:** We could use real-world examples of sustainable hospitality practices (e.g., zero-waste hotels, carbon-neutral resorts). Why not discuss challenges and innovative solutions in sustainability within the industry?
- d) **Guest Lectures & Industry Partnerships:** We might invite sustainability experts, hotel managers, and environmental consultants to share insights, as well as collaborate with eco-conscious hospitality businesses for training and workshops.
- e) **Sustainability Certifications & Standards:** We could educate students on global sustainability certifications such as LEED, Green Globe, and Earth-Check, and also encourage participation in certification programs to enhance employability.
- f) **Sustainability Innovation Projects:** Encourage students to develop sustainable tourism initiatives, such as eco-friendly tour packages, waste reduction strategies for hotels, or community-based tourism models. These projects can be presented in competitions or as part of coursework.

- g) Community Engagement & Social Responsibility:** Facilitate partnerships with local communities and NGOs to involve students in conservation efforts, cultural heritage preservation, or sustainable tourism development projects. This hands-on experience fosters a deeper understanding of social and environmental responsibility. The objective is to enable teachers to integrate community-based sustainability projects into the hospitality curriculum. The training approach can consist of Community Collaboration Training: provide frameworks for building relationships with local stakeholders (hotels, restaurants, NGOs, community groups) to identify real-world sustainability projects. Teachers can learn how to design clear, measurable objectives aligned with sustainability education (e.g., reducing local hospitality food waste, promoting local sourcing) in a project design workshop and they should be trained in conducting reflective sessions and evaluations post-project, emphasizing social and economic impacts.
- h) Integration of technology for sustainability monitoring and management:** Integrate the use of technology for real-time monitoring and management of sustainability practices. This could include, for example: training in the use of software and hardware for monitoring energy and water consumption, analysis of waste management and recycling, carbon footprint calculations and reduction strategies, customer feedback platforms for sustainable development initiatives... Students could learn to analyse data from these technologies to identify areas for improvement and develop data-driven sustainability strategies. Experts on the subject can speak in class to explain how technologies are used; students can also visit places that use these technologies to understand how they work. Introduce courses on digital solutions for sustainability, such as smart energy systems in hotels, AI for waste management, or blockchain for ethical tourism. This approach prepares students to leverage technology in addressing sustainability challenges.
- i) Incorporating Sustainable/Green Business Plan:** We could integrate sustainability as a key component in the creation of business plans within the hospitality management curriculum or into existing subjects like “Entrepreneurship and innovation”, “Organisation of tourism companies”, and “Strategic Management”. Students should include sustainable strategies ensuring responsible and economically viable development of their business decisions.
- j) Gamification & Interactive Learning:** Use simulations, role-playing activities, and sustainability challenges to engage students in real-world problem-solving. For instance, a virtual sustainability hotel management game could allow students to make decisions that impact environmental and financial outcomes.
- k) Green Human Resources:** We could integrate the topic of green human resources in the classes of human resources management in the courses of tourism, hospitality, and restaurant management. This topic would contribute to a better understanding of sustainability, and how it can be applied to several sectors in the tourism and hospitality industry (Alreahi, 2023).
- l) Sustainable Leadership:** We suggest the integration of the topic of sustainable leadership in the context of leadership that already exists in some master courses. One of the main challenges

related to sustainability is the kind of culture of the organization (Liao, 2022). With the topic of sustainable leadership, we could contribute to a sustainable culture involving the leaders and raise awareness about the role of the leader in implementing sustainable practices in the tourism and hospitality industry, contributing to more enterprises with a sustainable culture.

- m) Digitalization for Sustainability:** We suggest introducing the topic of digitalization for sustainability in tourism and hospitality since it will make a solid contribution to achieving the Sustainable Development Goals of the United Nations and the global development community. Presenting examples, or having invited experts, of using technologies like the ‘Internet of Things’, location-based services, artificial intelligence, augmented and virtual reality, robotics, and blockchain technology can make tourism and hospitality offer more attractive, efficient, inclusive, and economically, socially and environmentally sustainable. It can also facilitate innovation and rethinking processes, with a view to tackling challenges such as seasonality and overcrowding and developing smarter destinations (UNWTO, 2025).
- n) Artificial Intelligence (AI) for Sustainability:** We could invite experts to conduct a workshop for students about the application of AI technology to hospitality and tourism. IA have several applications for hospitality that can promote sustainability, such as: AI-powered customer support, Personalized services, Review analysis, Enhanced automated task creation, Automated accounting, Data-driven insights, Energy management, Waste reduction, Optimizing housekeeping and maintenance, Revenue management: Predictive demand analysis, Pricing optimization, Occupancy optimization, Marketing: Listing content creation, Automated promotional offers, Loyalty programs (Above, 2024). Also, for tourism, there are several examples of using IA that could be discussed with students, such as: AI Trip Planning, Hotel Review Summaries, AI Travel Assistants, Optimization of Marketing Content, Voice Assistants in Local Languages, Comparing Travel Offers, and Support in Customer Communication (Rojewska, 2024).
- o) Workshop about Sustainable Practices in Hospitality:** Strategies for a Greener Future- involving hotel managers, hospitality students, sustainability officers, operations staff and industry professionals. In the hotel industry, sustainability refers to a range of methods meant to reduce environmental effects while optimizing social and economic gains. Adopting sustainable practices is essential for improving competitiveness in a crowded market as well as for protecting the environment. The need for sustainable development is being emphasized more and more by global trends, and the hotel sector is changing to meet these demands (Vagena, 2025). The main goal is to understand sustainability in Hospitality, mainly the key concepts like triple bottom line, SDGs (especially those relevant to hospitality), carbon footprint, water and energy efficiency, and waste management. This workshop should also present sustainable operations and best practices of energy efficiency, water conservation, waste reduction and sustainable sources (e.g. local & organic food, eco-friendly amenities).
- p) Workshop in Rethinking Tourism and Workshops on SDGs: Sustainability, Overtourism and Regenerative Solutions -** we suggest one workshop involving tourism professionals, policymakers,

destination managers, hospitality leaders, NGO (non-governmental organizations) and students. It is crucial to emerge the concept of regenerative tourism, distinguishing it from sustainable tourism by emphasizing active ecological and socio-cultural restoration rather than mere harm reduction (Bellato & Pollock, 2023). Regenerative tourism seeks to repair and enhance ecosystems and communities, moving beyond "doing less harm" (sustainability) to create net-positive impacts. The main goal should be understanding regenerative tourism beyond sustainability. Should be analysed in depth topics such as the key concepts, best practices and success stories, solutions and tools to combat overtourism and design regenerative tourism projects and tools to develop actionable strategies for destinations and businesses. Workshops on the different SDGs can be organised in the framework of one class session. The workshops can have a theoretical and practical orientation: from a brief presentation of SDGs to a critical discussion about the contribution of the tourism industry in each SDGs.

- q) **Research Projects & Sustainability Audits:** Teachers/trainers/professors could conduct research projects analysing sustainability trends in hospitality and tourism. Additionally, they could perform sustainability audits and surveys of local hotels, restaurants, or travel agencies to assess their environmental and social impact and propose improvements. Developing systems thinking skills and scientific research skills plays an important role in sustainability education (Chen et al., 2022).
- r) **Community Engagement & Service Learning:** Teachers/trainers/professors could be encouraged to participate in community-based sustainability projects, such as collaborating with local organizations on eco-tourism initiatives, conservation efforts, or responsible tourism campaigns.
- s) **Technology & Innovation in Sustainable Tourism:** Courses could explore the role of technology in sustainability, such as AI-driven energy management, blockchain for sustainable supply chains, and digital solutions for reducing food waste in hospitality.
- t) **Sustainable Event Planning & Responsible Travel Initiatives:** Teachers/trainers/professors could be tasked with designing and executing sustainable events that minimize waste and carbon footprints or sponsored to participate in the thematic conferences and events where experts and industry stakeholders make presentations about green practices and sustainability initiatives. E.g. Energy and Environment Alliance ([EEA Sustainability Symposium 2024 - EEA](#)) organizes yearly summits on sustainability in hospitality and a variety of other events. Teachers/trainers/professors could also participate in developing responsible travel guides or itineraries promoting ethical tourism practices, cultural preservation, and environmental conservation.
- u) **Development of ecological thinking:** We will try to incorporate and present to students' successful practice, which must coordinate with specific conditions and traditions in different countries.
- v) **Development of interactive simulations focused on sustainability:** We could create simulations and role-playing activities where students make decisions about different topics like managing a hotel or tourism destination with sustainability goals. These activities can help students

understand how their choices affect the environmental, social, and economic impact of a tourism operation; experience the consequences of their decisions; and understand the decision-making regarding sustainable practices.

- w) **Workshop on the creation of sustainable city tours:** Students could work in groups and choose a theme linked to the SDGs (climate action, gender equality, responsible consumption and production, etc.). They then create a guided tour of their city, passing by key points linked to the promotion/discussion of their theme, while giving a detailed presentation of the theme, the issues at stake and the solutions existing. Then, they have to present this touristic itinerary to the rest of the class for testing. This itinerary should be as participative as possible, so that the other students can interact with the themes raised and learn the concept.
  
- x) **Sustainable tourism in rural communities:** A hands-on experience. Students visit a rural community known for its community-based tourism and sustainable initiatives. They participate in traditional craft-making, farm-to-table experiences, and heritage tours led by residents, gaining insight into how tourism supports local economies and implement sustainable actions. Through discussions with business owners, policymakers and locals, students analyse sustainable tourism practices. This experiential learning opportunity allows them to evaluate and create a proposal of a project based on real community tourism models to propose strategies for responsible tourism development.
  
- y) **Action plan and decalogue on sustainable practices:** Students participate in an interactive workshop where they learn about key sustainability European certifications in tourism. Through case studies, they assess a tourism business's sustainability practices, identify gaps, and develop an action plan for achieving certification. An invited speaker from the industry provides insights into real challenges and benefits of certification and provides some examples. By the end of the session, students agreed upon a decalogue with the main certification criteria based on the examples given.

### 4.1.3. How to teach Green Entrepreneurship in tourism

Green entrepreneurship in tourism includes various practices that promote sustainable and responsible management of natural resources and reduce negative impacts on the environment. Green approaches in tourism not only contribute to greater environmental sustainability, but also increase the attractiveness of destinations for environmentally conscious tourists. Teaching green entrepreneurship in tourism requires a combination of sustainable development principles, business skills, and knowledge of the tourism industry.

Main European documents and policies for sustainable tourism are set out in the EU Tourism Agenda 2030. Knowledge and understanding the main EU measures for responsible tourism for the benefits of tourism industry and regions, which promote the sustainable use of resources and the development of environmentally sustainable tourism practices, are important.

The ten topics on how to present green entrepreneurship in tourism include sustainable use of natural resources, eco-friendly accommodation and sustainable construction, local food and circular economy, reduction of carbon footprint and climate action, the use of green certificates, awards and sustainable standards, green mobility and sustainable transport systems, digital solutions, green marketing strategy and responsible advertising, social responsibility and community involvement, business opportunities in sustainable tourism and development of green tourist destinations.

#### a) Sustainable use of natural resources in tourism:

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Waste reduction and circular economy practices – Group project</b> on eliminating single-use plastics and managing waste in a beach resort. Example: peak tourist season in the Med can spike marine plastic pollution by up to 40% <a href="http://weforum.org">weforum.org</a>, so resorts adopt refillable amenities and robust recycling/composting programs. Students also examine the EU Single-Use Plastics Directive that bans common disposable items to protect coastal environments.</p>	<p><i>To reduce solid waste and pollution from tourism.</i> By auditing a tourism facility’s waste stream, students develop skills to implement “reduce, reuse, recycle” strategies. They gain awareness of how cutting plastics (as mandated by EU law) and composting food waste can prevent ecosystem damage (e.g. less litter on beaches) and even save money. (Two hotels in one initiative cut up to 400 kg of food waste per week, saving up to €26,000 annually <a href="http://oneplanetnetwork.org">oneplanetnetwork.org</a>).</p>
<p><b>Water conservation in tourism operations – Case study analysis</b> of a Mediterranean hotel implementing greywater recycling and rainwater harvesting. For example, EU researchers showed hotels can cut water use by 30–50% through on-site wastewater treatment and reuse</p>	<p><i>To understand practical water-saving measures and their impact.</i> Students learn to calculate a hotel’s water footprint and devise a plan to reduce it, aligning with EU sustainability goals (e.g. reducing consumption in water-scarce regions). They recognize that technology and</p>

<p><a href="http://cordis.europa.eu">cordis.europa.eu</a>. <b>Class discussion</b> can cover installing low-flow fixtures, towel reuse programs, and EU policies on water (e.g. Water Framework Directive).</p>	<p>behavioral nudges (like towel reuse cards) can significantly curb water waste <a href="http://cordis.europa.eu">cordis.europa.eu</a>.</p>
<p><b>Protecting biodiversity and natural areas – Interactive seminar</b> on visitor management in fragile ecosystems (e.g. a coastal national park or marine reserve). Students review guidelines like carrying capacity and zoning to prevent overuse of trails, reefs, forests, etc. Mass tourism in the Med has led to ecological loss in high-value coastal areas when poorly managed <a href="http://mio-ecsde.org">mio-ecsde.org</a>. <b>Role-play</b> an environmental impact assessment for a new nature-tourism project, weighing conservation vs. Visitation (mass tourism vs sustainable tourism).</p> <p>Faced with increasing visitor pressure on Girona’s gorges and wetlands, the project RiuNatur has implemented a comprehensive strategy to preserve biodiversity, maintain ecological integrity, and avoid over-tourism. The students will receive a full explanation of the good practice and will be invited to select one river to propose an improvement, following the requirements proposed by Riunatur. They will <b>work in groups</b> and will present the project to the whole group for open discussion; they can also go to educational excursions (visits to eco-trails, organic farms, protected areas).</p>	<p><i>To promote ecosystem stewardship in tourism.</i> Students learn to balance tourist access with conservation needs by creating plans that set limits on resource use (e.g. caps on daily visitors, seasonal closures for restoration). They become familiar with tools like environmental impact assessments and park regulations, understanding that long-term business success depends on preserving the “natural capital” (wildlife, landscapes, clean water) that attracts tourists in the first place <a href="http://mio-ecsde.org/mio-ecsde.org">mio-ecsde.org/mio-ecsde.org</a>.</p> <p><i>To understand the environmental challenges</i> caused by uncontrolled tourism in river and wetland ecosystems and identify sustainable tourism strategies that balance public use with biodiversity conservation.</p> <p>To develop tourism <i>proposals that promote seasonal and spatial redistribution of visitors while supporting local communities.</i></p> <p>To identify the main types of natural resources used in tourism and the associated risks of overexploitation of natural resources and negative impacts of tourism on the environment.</p>
<p><b>Calculating and reducing energy consumption in tourist facilities – Workshop</b> on efficient use of energy-saving appliances in different tourist facilities and the use of alternative energy sources (eg.: water, wind, sun, sea).</p>	<p><i>To gain skills to audit and improve energy efficiency in tourism businesses.</i></p>
<p><b>Using environmentally friendly materials and products – Group discussion</b> on how to motivate tourists to behave responsibly.</p>	<p><i>To understand and distinguish between different types of green practices – energy efficiency, waste management, water resources, use of environmentally friendly materials and products, etc.</i></p>

**b) Eco-friendly accommodation and sustainable construction:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Integration with local environment and culture</b> – <i>Discussion</i> on “building with nature” and cultural heritage preservation. Highlight the “<i>albergo diffuso</i>” model in Italy, where a hotel is spread through existing historic village buildings instead of new construction, thus revitalizing communities with minimal new footprint. Similarly, rural lodges use natural materials (wood, stone) and native plant landscaping to maintain the landscape aesthetics.</p>	<p><i>To foster place-based and culturally sustainable development.</i> Students appreciate how respecting local architecture and ecology can enhance a hotel’s appeal. They gain the ability to develop accommodation concepts that support local culture (through traditional building styles and local artisans’ work) and protect biodiversity (through habitat-friendly landscaping). This nurtures an entrepreneurial mindset that values heritage and environment as assets rather than obstacles.</p>
<p><b>Green building design for tourism facilities</b> – <i>Lecture and design workshop</i> on sustainable architecture in hotels (energy-efficient design, local materials, passive cooling). For example, a Spanish eco-resort <i>La Bobadilla</i> installed a biomass boiler using olive pits for fuel, cutting its CO<sub>2</sub> emissions by 80% and energy use by 45% <a href="http://thebluesurfer.com">thebluesurfer.com</a>. Students draft a blueprint of an eco-friendly hotel, integrating solar panels, natural ventilation, and rainwater collectors.</p>	<p><i>To apply sustainable construction principles.</i> Students learn how building choices (e.g. insulation, solar orientation) reduce a hotel’s environmental footprint. Through the workshop, they gain the ability to design lodging that blends with the local environment – minimizing land disturbance and using renewable energy. They also become aware of EU building standards (e.g. Nearly Zero-Energy Buildings requirement) and how innovative ideas (like using agricultural waste for energy, as in La Bobadilla) can both save costs and cut emissions.</p>
<p><b>Eco-friendly hotel operations and certifications</b> – <i>Case study</i> of a Mediterranean “green hotel” showcasing sustainable practices in daily operations. For instance, <i>Son Bernadinet</i> agro-hotel (Mallorca) uses eco-certified cleaning products, recycles &gt;80% of waste, implements water-saving toilets and energy-efficient lighting, and sources food from its organic garden <a href="http://thebluesurfer.com">thebluesurfer.com</a>. Students could perform a simulated green audit of a hotel, checking criteria for certifications like EU Ecolabel or Green Key.</p>	<p><i>To implement sustainable practices in hospitality management.</i> Students learn concrete measures (waste separation, linen reuse programs, renewable energy use) and see their benefits: the cited EU Ecolabel hotel cut energy use by 30% and water by nearly 50% with such steps <a href="http://environment.ec.europa.eu">environment.ec.europa.eu</a>. By attempting an audit, students practice meeting sustainable tourism standards, understanding how certifications and awards (Green Key, EU Ecolabel, etc.) require not just one-time changes but ongoing commitment (staff training, guest education, continuous improvement). This builds skills in meeting and promoting internationally recognized sustainability benchmarks.</p>

<p><b>Field trip:</b> Visiting a certified eco-lodge/eco-hotel to observe sustainable practices.</p> <p>E.g. <i>visiting Casale Panagiotis resort in Cyprus, or Cyprus Villages in Tochni and observing how historic village houses were re-purposed to provide an authentic experience for tourists.</i></p> <p>Students could observe renewable energy in hotel operations, as well as the use of passive solar design for natural heating and cooling.</p> <p>Students could see the eco-friendly materials, living roofs and walls, and net-zero buildings (producing as much energy as they consume).</p>	<p><i>To see real-world applications of eco-friendly accommodation; to understand how to evaluate and implement green energy solutions in tourist accommodation; to analyse the benefits of architectural designs for energy efficiency.</i></p> <p>To understand how to apply energy-efficient systems and to know low-carbon construction materials.</p>
<p><b>Water Conservation and Management – discussion</b> on rainwater reuse, low-flow and water-saving showers and toilets, reusing water from sinks/showers for irrigation.</p>	<p><i>To identify how to reduce water use, energy consumption and promote longer lifespan of materials due to durability and smart design.</i></p>
<p><b>Eco-Conscious Guest Experience</b> - Local and organic food – <b>workshop</b>.</p>	<p><i>To know how to create farm-to-table dining options.</i></p>
<p><b>Trip: Designing mitigation plan for sustainability strategy of tourist accommodation</b> - This activity is based on <a href="#">The Ballena Alegre Campsite</a> which is a leading success story in sustainable tourism and eco-friendly construction. Winner of the 2020 EuroSolar Prize in the industrial category, the e-Devesa bungalows are the first photovoltaic, environmentally sustainable holiday lodgings in Europe. Equipped with 39 Sonnen batteries and a total storage capacity of 234 kWh, they allow for local, zero-kilometer energy management. A key element of the project is its educational approach: guests are encouraged to use energy responsibly during their stay, and those with the most efficient behavior are rewarded. This initiative combines technological innovation, environmental awareness, and active guest engagement, turning the accommodation experience into a learning opportunity aligned with the Sustainable Development Goals. The students will visit the camping where all this information will be provided along with short interviews with some responsible and guests</p>	<p><i>To analyse the role of the tourist as an active agent and to design a mitigation plan for the sustainability strategy of the accommodation.</i></p>

<p>(after prior consent). After gathering all this information, the students will be invited to prepare <b>a mitigation plan</b> considering the pros and cons and will work on a proposal that will be shared with camping owners.</p>	
<p><b>An On-site visit:</b> The model of <a href="#">Can Buch</a>, a 17th-century farmhouse restored using bioconstruction principles and a holistic sustainability approach. The activity may include an on-site visit to Can Buch or a virtual session with the team. Students will work in groups to design a concept for a regenerative rural accommodation inspired by Can Buch, considering key elements such as: Restoration using natural materials (clay, stone, wood, lime) and traditional techniques; Energy self-sufficiency (solar panels, biomass) and circular water management (rainwater harvesting, phytopurification); Integration of an agroecological system (biodynamic garden, extensive livestock, composting); and Connection with the local territory and community (local products, crafts, environmental education). Each group will present a sustainable tourism value proposition with a focus on positive impact.</p>	<p><i>To assess good practices in bioconstruction from an awarded company; to understand the principles of bioconstruction and their application in rural tourism projects; to analyse models of energy and food self-sufficiency in protected natural areas; to foster the ability to design sustainable tourism experiences with regenerative impact; to work collaboratively to develop innovative proposals that integrate sustainability, culture, and the local economy.</i></p>
<p><b>Relationship between construction and environment – discussion.</b></p> <p>Students’ discussion on sustainable design and planning of tourist buildings in compliance with green standards and certifications and the rules of ecological construction.</p> <p><b>Case studies</b> for discussion on different types of eco-friendly accommodation - eco-hotels with international certification (e.g. Green Key, EU Ecolabel); Bio-guesthouses with wooden structure and natural materials; glamping sites (luxury camping) with minimal ecological footprint; passive buildings or zero-energy hotels; social hostels that support local communities.</p>	<p><i>To understand and apply the principles of passive architecture, the environmental regulations in restricted areas, the selection of a site with minimal environmental impact.</i></p> <p><i>To understand the relationship between location, design and environmental impact, as well as the role of standards and certification in ensuring a high level of sustainability and transparency in green building (the knowledge of Certifications such as LEED, BREEAM, DGNB, HQE, EU Ecolabel).</i></p> <p><i>To recognize eco-design criteria and building codes.</i></p>

**c) Local food and circular economy:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Food waste reduction and circular practices – Practical assignment:</b> implement a hotel kitchen composting and waste audit. Using real data (hotels can waste hundreds of kg of food weekly), students brainstorm how to cut buffet waste (smaller batches, donation of leftovers, guest education) and close the loop (composting scraps to grow herbs on-site). They examine initiatives where hotels saved tens of thousands of euros by slashing food waste <a href="http://oneplanetnetwork.org">oneplanetnetwork.org</a>. Tying in EU goals to halve food waste by 2030, class debate addresses challenges (buffet culture, guest expectations) and tech solutions (apps to monitor waste).</p>	<p><i>To improve resource efficiency via circular economy.</i> Students gain skills in quantifying and reducing waste in a tourism context, learning to treat waste as a resource (compost for gardens, used cooking oil for biofuel, etc.). They understand the environmental and financial benefits: less landfill use, lower costs, and a greener brand image. This fosters an entrepreneurial eye for innovation— for example, seeing an opportunity in connecting with local bioenergy producers or farms for waste reuse. Ultimately, they internalize that circular systems (minimize waste, reuse outputs) can make a tourism business more resilient and community-friendly.</p>
<p><b>Farm-to-table dining and agritourism – Group activity</b> to plan a resort menu or food tour that uses “0 km” local ingredients (seasonal produce, regional specialties). Students explore examples like Italian “agriturismo”, where guests stay on working farms, eat organic produce, and even learn traditional cooking. They discuss how this supports farmers and preserves food heritage (eg. a Tuscan farm offers cheese-making classes, creating a network of neighboring producers and providing jobs <a href="http://fao.org">fao.org</a>). Reference the EU’s Farm-to-Fork strategy, encouraging shorter food chains.</p> <p>Some local restaurants in the <a href="#">Barcelona region</a> also source the majority of its ingredients from nearby organic farms and producers with a 50-km radius. This commitment extends to their waste management, where food scraps are composted and used by a local agricultural project, and packaging is minimized through reusable containers and partnerships with suppliers who prioritize sustainable materials. For this activity, students could investigate a real restaurant in Barcelona or the surrounding area that emphasizes local sourcing and circular practices. They would analyze the restaurant's</p>	<p><i>To strengthen local economies and cultural heritage through tourism.</i> Students see how sourcing locally reduces transportation emissions and delivers fresher, authentic experiences. They develop the ability to design tourism products that benefit local producers, boosting rural incomes and sustaining traditions (eg. olive oil, winemaking, cheese). By the end, students can articulate the link between local food systems and tourism, explaining how a circular approach (tourism revenue -&gt; local farms -&gt; quality experience -&gt; competitive advantage) creates a win-win for businesses and communities <a href="http://fao.org">fao.org</a>.</p> <p><i>To identify and analyze real-world examples of restaurants prioritizing local food sourcing.</i></p> <p><i>To understand the practical implementation of circular economy principles within a food service business.</i></p> <p><i>To evaluate the economic, environmental, and social implications of local food networks.</i></p> <p><i>To assess the challenges and opportunities associated with establishing sustainable supply chains.</i></p>

<p>menu, identify the local producers they work with, and map their supply chains. Furthermore, they would examine the restaurant's waste management system, noting any composting, recycling, or waste reduction initiatives. Students would then evaluate the benefits and challenges of this approach, considering factors like cost, quality, and community impact.</p>	
<p><b>Cooking demonstration: <i>Preparing meals</i></b> using locally sourced, seasonal ingredients / Creating a zero-waste menu for a hypothetical restaurant Eg. Taverna in Tochni, attending the cooking demonstration – Cyprus Villages is an argotourism company in Cyprus using locally sources ingredients for cooking.</p>	<p><i>To develop actionable plans for sustainable food management and to understand the principles of circular economy; to explore parterships between tourism and agriculture.</i></p>

**d) Reducing carbon footprint and climate action in tourism:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Climate action strategies and commitments – Seminar</b> on mitigation strategies aligned with international goals. Students study the Glasgow Declaration on Climate Action in Tourism which calls for halving emissions by 2030 and reaching Net Zero by 2050unwto.org. Through case studies (e.g. a tour operator switching to electric vehicles, a resort investing in solar panels and mangrove restoration to offset emissions), they learn practical steps: renewable energy adoption, energy-efficient appliances, encouraging train or coach travel over flights, carbon offset programs, etc. Each student team then creates a brief Climate Action Plan for a tourism business, setting targets in line with EU’s climate targets (55% reduction by 2030).</p>	<p><i>To develop actionable climate plans.</i> By translating big goals into specific actions, students learn to formulate and implement emission reduction strategies. They become familiar with industry pledges and certifications for low-carbon tourism. More importantly, they practice balancing customer experience with sustainability (e.g. offering incentives for guests who arrive by rail, or designing attractive low-carbon tour packages). This builds strategic thinking: students can later lead businesses in cutting emissions while maintaining competitiveness, contributing to global climate efforts (Paris Agreement, EU Green Deal) from the tourism sector.</p>
<p><b>Carbon footprint assessment of tourism activities – Interactive lecture</b> where students calculate the carbon emissions of a sample holiday (transport, accommodation, activities). They learn that tourism contributes about 8% of global greenhouse gases <a href="http://weforum.org">weforum.org</a>, with transport (especially flights) being the largest share <a href="http://weforum.org">weforum.org</a>. Using tools/carbon</p>	<p><i>To quantify and analyze emissions.</i> Students become adept at measuring carbon footprints in tourism, a critical skill as businesses increasingly report their emissions. By seeing the breakdown (e.g. one long-haul flight can outweigh a week of hotel emissions), they grasp where intervention is most needed. This analytical ability prepares them to prioritize actions (like boosting</p>

calculators, students audit a hotel or tour company’s operations (energy use, vehicle fuel, etc.) to identify hotspots.	efficiency or shifting transport modes) in any tourism venture they manage.
<b>Resilience and adaptation to climate change – Discussion</b> of how climate impacts (heatwaves, sea-level rise, extreme weather) affect tourism and how businesses can respond. For example, Mediterranean destinations face rising temperatures and wildfires; ski resorts face shorter winters. Students consider adaptation measures: planting shade trees, shifting marketing to shoulder seasons, investing in water-efficient infrastructure, and diversifying offerings (e.g. more cultural tourism if beaches become too hot). They also explore offering carbon-conscious travelers alternatives (like “slow travel” itineraries).	<i>To plan for a climate-resilient tourism model.</i> Students will be able to identify climate risks to tourism operations and propose adaptation solutions, ensuring business continuity. They learn to communicate climate initiatives to clients (turning efforts into a marketing advantage for eco-conscious travelers). In sum, they gain foresight in climate-proofing tourism ventures – an increasingly sought skill as the industry commits to sustainable, long-term planning in harmony with climate science.
<b>Simulation:</b> Playing a simulation to learn how to reduce carbon footprint (eg. Sustainability Management Simulation: Net Zero) - learners play the role of the General Manager of a 500-room, 4-star city-center hotel with the goal of reaching net zero greenhouse gas emissions by 2050.	<i>To learn to reduce emissions in tourism businesses; to use digital tools to track emissions and calculate carbon footprints; to design climate-conscious travel plans.</i>
<b>Case study:</b> Airlines or tour operators offsetting emissions (eg. <a href="#">Carbon Credit Negotiation (A)</a> ).	<i>To analyze corporate climate action strategies.</i>
<b>Role-play:</b> Debating the ethics of carbon offsetting in tourism.	<i>To critically evaluate sustainability claims.</i>
<b>Nature-Based Climate Solutions</b> - reforestation and carbon appropriation, wildlife and habitat protection, Blue Tourism - <b>discussion</b>	<i>To identify how to reduce carbon footprint in tourism; to low-impact marine activities (eg. coral-safe snorkelling)</i>
<b>Climate Education and behavioural change</b> - guest engagement, staff training in sustainability, awareness campaigns, public-private partnerships, global initiatives – <b>case studies</b> .	<i>To know the carbon footprint trackers, and green loyalty programs; to comprehend how to promote "slow travel" and responsible tourism.</i>
<b>Measuring the carbon footprint emitted by a venue</b> - This will enable them to understand which elements emit the most and thus know where it is possible to take action. It is also vital for them to understand the effects of CO2 and	<i>To identify the key sources of carbon emissions within the tourism industry.</i>  <i>To calculate the carbon footprint of a hospitality venue.</i>

<p>its link with the climate crisis. In this context, students can be tasked with selecting a tourism or hospitality business in the Barcelona area and utilizing available carbon footprint calculators (such as the HCMI calculator or general online tools) to estimate its environmental impact. They would need to identify the key operational areas contributing to the carbon footprint (e.g. energy consumption, waste generation, guest transportation) and gather hypothetical or publicly available data to input into the chosen calculator. Following this, students would analyse the results, pinpoint the most significant sources of emissions, and then brainstorm and propose specific, measurable actions the business could implement to reduce its carbon footprint and contribute to climate action, considering local regulations and sustainability best practices in Catalonia. Students will gain hands-on experience in applying carbon footprint calculators to a real or hypothetical tourism business in Barcelona, moving beyond theoretical understanding to practical quantification of environmental impact.</p>	<p><i>To identify the key emission sources in the tourism and hospitality industry. To explore various strategies and technologies for reducing the carbon footprint of tourism businesses.</i></p> <p><i>To analyse the role of renewable energy and energy efficiency in sustainable tourism.</i></p> <p><i>To understand the concept of carbon offsetting and its application in the tourism sector.</i></p> <p><i>To critically evaluate the climate action initiatives of different tourism businesses and their effectiveness.</i></p>
<p><b>Climate action in tourism – project work</b> (flexible tourism models, new seasonalities, green planning and infrastructure, the role of education and awareness).</p>	<p><i>To develop a strategy for “carbon-neutral travel”.</i></p>

**e) Green certificates, awards and sustainable standards in tourism:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Tourism eco-certifications and criteria – Overview presentation</b> on major sustainability certifications (e.g. EU Ecolabel for Tourist Accommodations, Green Key, Travelife, EarthCheck). Students break into groups, each researching one certification’s criteria (energy, water, waste benchmarks, social responsibility, etc.) and how businesses achieve them. For instance, the EU Ecolabel requires optimized waste management and lowered energy/water</p>	<p><i>To understand and compare sustainability standards; to be aware of their benefits. Students become fluent in the language of eco-certifications – learning what it means in practice to meet “strict criteria” across environmental and social areas. They can articulate the business case: certification often brings cost savings (as seen with water/energy cuts) and market benefits (e.g. 30% of guests chose one hotel because of its eco-certificate</i></p>

<p>use; a certified hotel in Prague saw 50% water savings and 30% energy savings after renovations. Groups share how their scheme improves operations and any support available (like EU coaching for Ecolabel applicants <a href="http://environment.ec.europa.eu">environment.ec.europa.eu</a>).</p>	<p><a href="http://environment.ec.europa.eu">environment.ec.europa.eu</a>). By examining real criteria, they develop the ability to conduct or prepare for a sustainability audit, a valuable skill for green entrepreneurs aiming for certified excellence.</p>
<p><b>Awards and recognition programs – Case study</b> on destination-level awards like the European Destinations of Excellence (EDEN) initiative. Students examine a winning example (eg. a small town in Slovenia or Greece recognized for innovative low-impact tourism <a href="http://single-market-economy.ec.europa.eu/single-market-economy.ec.europa.eu">single-market-economy.ec.europa.eu</a>) – what did they do to earn the award (Renewable energy ferries? Community tourism projects? Conservation efforts)? Similarly, discuss hotel/attraction awards (e.g. Green Tourism Awards, UNESCO sustainable tourism awards). The class then simulates an awards committee: each team nominates a local site or business, detailing its green achievements to “compete” for a Sustainability Award.</p>	<p><i>To motivate excellence through benchmarking.</i> By analyzing award-winning cases, students grasp best practices in sustainable tourism and how they are evaluated. They learn how public recognition can serve as marketing and how participating in such schemes encourages constant improvement. Through the role-play, they also practice persuasive communication – pitching sustainability achievements convincingly. This not only reinforces their understanding of what top-tier sustainability looks like, but also prepares them to pursue and leverage awards/certificates in their future ventures, gaining a competitive edge and networking opportunities.</p>
<p><b>Standards and regulations compliance – Review</b> of formal standards like ISO 14001 (Environmental Management) or the Global Sustainable Tourism Criteria (GSTC). Students learn how aligning with these standards provides structure for a sustainability strategy. They also learn about emerging regulations against greenwashing: eg. the EU proposed a Green Claims Directive (2023) because over half of “green” marketing claims were found to be vague or misleading <a href="http://environment.ec.europa.eu">environment.ec.europa.eu</a>. In a practical exercise, students assess a tourism company’s website for truthful vs. misleading sustainability claims and suggest improvements to meet truthful communication standards.</p>	<p><i>To ensure credibility and accountability.</i> Students will be able to navigate the frameworks that guide sustainable tourism at a management level. They gain insight into systematic approaches (like PDCA – Plan, Do, Check, Act – cycles under ISO 14001) for continuous improvement. Moreover, they internalize the importance of honest reporting and marketing. This means as entrepreneurs they will know to set measurable targets and publish results (e.g. CO<sub>2</sub> reduced, % local food procured) rather than vague statements – thereby building trust with customers and complying with stricter EU advertising rules on sustainability claims.</p>
<p><b>Group activity:</b> Auditing a local hotel’s compliance with a chosen certification.</p>	<p><i>To practice applying sustainability standards.</i></p>
<p><b>Guest speaker:</b> A certified hotel manager sharing their journey to sustainability.</p>	<p><i>To gain insights into real-world challenges and successes.</i></p>

<p>Eg. Casale Panagiotis' manager invited a group of students to discuss and brainstorm sustainability initiatives of the hotel</p>	
<p><b>Steps to Achieve Certification – Case study:</b> self-assessment, gap analysis, implement changes, audit, maintain and improve</p>	<p><i>To identify actionable tools to navigate the process and overcome challenges; to understand how to develop an action plan for a business seeking certification.</i></p>
<p><b>Awarded initiatives</b> - This activity is based on the Alimara CETT Awards Barcelona. Specifically, these awards have one category called “through sustainability”, which is given by CETT and UN Tourism. This award rewards those professional initiatives that show commitment with sustainability and corporate social responsibility. In this sense, teachers can propose to the students to revise the <a href="#">list of awarded initiatives</a> and select one of the companies. The students will need to analyze the actions that this company is undertaking in sustainability, explaining the good practice and identifying indicators. The students will also need to reflect on the transferability of this good practice to other companies.</p>	<p><i>To assess good practices in green sustainability from an awarded company.</i></p> <p><i>To propose a transferability plan of green practices identified from an awarded company.</i></p>
<p><b>National and regional initiatives – project work</b></p> <p>Sustainability assessment systems and standards: GSTC – Global Sustainable Tourism Council: basic criteria and roles, voluntary and mandatory standards, certification process: application, verification, audit, validation.</p> <p>Awards and recognitions for sustainable destinations: EDEN (European Destinations of Excellence) – destinations with sustainable potential, Green Destinations Top 100 – international ranking of sustainable destinations, and other international and national awards.</p> <p>Benefits for tourism business: increased trust and competitiveness; optimization of resources and costs</p> <p>Challenges: financial and administrative costs; maintaining compliance and quality</p> <p>The role of consumers and education: Impact of tourism demand on the supply of sustainable</p>	<p><i>To build knowledge and understand the role of sustainable national / regional standards and certification in tourism; to develop skills for analysis, comparison and evaluation of various green certificates and good practices.</i></p> <p><i>To understand the functions and values of certification for tour operators, hotels and destinations.</i></p> <p><i>To analyze the certification process – from application to implementation.</i></p> <p><i>To argue the importance of certification to tourists, partners, investors.</i></p> <p><i>To build sustainable thinking and ethics regarding the environment, cultural heritage and local communities.</i></p>

products, the importance of awareness and transparency, the role of education in promotion of sustainable practices.	
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**f) Green mobility and sustainable transport systems:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Eco-friendly transport options for travelers – Workshop</b> to redesign a destination’s local transport for tourists. Students propose ideas like shuttle buses or e-minibuses (powered by renewables) connecting hotels to attractions, extensive cycling lanes and bike-share systems, pedestrianized historic centers, and promotion of train travel for inter-city routes. They draw inspiration from cities like Ljubljana, whose center is largely car-free (12+ hectares pedestrian zone) and extremely bike-friendly <a href="http://slovenia.info">slovenia.info</a>, or from green islands like Hydra (Greece), which have no cars at all. The plan must consider convenience and experience (eg. fun bike rental programs, scenic walking paths) to encourage tourists out of private cars.</p>	<p><i>To design low-carbon, user-friendly mobility systems.</i> Students learn to prioritize sustainable transit infrastructure in tourism planning. By creating their own plan, they practice balancing practicality (schedules, capacity) with innovation (eg. solar-powered golf carts, bicycle tours). They also understand policy tools – for example, how cities enforce low-emission zones or provide transit passes to tourists. As a result, students can later contribute to or advocate for mobility initiatives that reduce congestion and pollution while enhancing visitor experience – making destinations both greener and more pleasant for everyone.</p>
<p><b>Transition to electric and alternative fuel transport – Case discussion</b> on initiatives like the Greek island of Astypalea becoming a “model for climate-neutral mobility” by replacing its vehicle fleet with electric cars and scooters and powering them with local solar/wind energy <a href="http://astypalea-sustainable-island.gr">astypalea-sustainable-island.gr</a>. Students examine the required infrastructure (EV charging stations, solar farms) and incentive structures (subsidies for locals to switch to EVs, as done on Astypalea <a href="http://theguardian.com">theguardian.com</a>). They also look at public transport innovations – e.g. “Astybus” on Astypalea, an on-demand electric minibus service, or high-speed electric ferries being piloted in Scandinavia. Each student then picks a tourism business (car rental, tour bus company, etc.) and outlines a roadmap for it to go electric or adopt biofuels.</p>	<p><i>To embrace technological innovation for decarbonizing transport.</i> Students gain insight into the feasibility and benefits of electrification and other green mobility tech. They will be able to enumerate the steps needed for a business or destination to transition (from securing funding to marketing the green upgrade to eco-conscious tourists). By engaging with a real example, they see that barriers (cost, range anxiety) can be overcome with planning and partnerships (e.g. carmakers and governments in Astypalea). This empowers them to lead or support similar transitions – contributing to the EU’s broader goals of cutting transport emissions (such as the 2035 phase-out of new petrol cars) from a tourism perspective.</p>
<p><b>Multimodal and slow travel itineraries – Creation of sample itineraries</b> that rely on trains,</p>	<p><i>To promote low-carbon travel experiences.</i> By this exercise, students learn to market</p>

<p>buses, biking, and walking instead of personal cars or flights. For instance, students design a “slow tourism” route through Italy: using a Eurail pass or local trains between cities, cycling in the countryside between agritourism stays, perhaps an overnight ferry instead of a short flight. They incorporate scenic railway journeys (like Spain’s Olive Oil Train route or Italy’s Cinque Terre hiking+train combo) to show that low-carbon can be leisure-friendly. They also consider luggage transfer services for bikers or apps that integrate transit schedules for ease.</p>	<p>sustainable transport as part of the attraction rather than a sacrifice. They practice creativity in itinerary building, improving their ability to cater to the growing segment of tourists looking for greener options. They also become familiar with European transport networks (such as cross-border night trains making a comeback) and how to coordinate logistics. This not only reduces carbon footprint but often leads tourists to discover off-the-beaten-path areas (an added selling point). Students come away ready to craft travel products that align with climate goals and satisfy the wanderlust for authentic, unhurried exploration.</p>
<p><b>Case study:</b> Bike-sharing programs in tourist cities and electric scooters (eg. Copenhagen, Amsterdam, Barcelona, Maribor).</p>	<p><i>To explore alternatives to fossil fuel-dependent transport and low-emission transport alternatives.</i></p>
<p><b>Debate:</b> The role of electric vehicles, eco-shuttle services in sustainable tourism.</p>	<p><i>To weigh the pros and cons of emerging technologies and design sustainable transport models for tourism.</i></p>
<p><b>Case study:</b> This activity follows the Collaborative Online International Learning (COIL) methodology, where students from two different universities based on different countries collaborate on two case studies within their respective regions. The focus of this activity is on the issue of sustainable tourism mobility in rural areas, addressing the lack of public transport infrastructure and, consequently, the massive use of private vehicles. Students from both universities will select two rural areas in their own countries and conduct research to assess the current situation. They will analyze the key tourism attractions, mobility needs, tourism flows, existing transportation systems, and the environmental impact of the current mobility practices. Based on the results, they will need to design a project to improve environmental sustainability in mobility, considering alternative means of transportation, the design of accessible tourist routes, the promotion of sustainability and the economic</p>	<p><i>To analyze the level of sustainability in tourism mobility in specific rural areas.</i></p> <p><i>To collaboratively design proposals for improving the sustainability in tourism mobility in specific rural areas.</i></p>

<p>feasibility of the project. After it, a synchronous workshop will take place where students from both universities will present their project and exchange ideas. They will evaluate whether some proposals from one context can be transferred to the other one. Finally, the students will refine their final proposals to the public authorities of the rural area analyzed.</p>	
<p><b>Workshops:</b> students work in groups to design a sustainable tourism experience that reduces carbon emissions and supports climate action. Drawing from the EU Climate Pact's learning material—specifically the “<a href="#">How We Move and Get Around</a>” module, the teacher organizes workshops in which students develop tourism experiences that minimize carbon emissions and incorporate climate action strategies. Students focus on key aspects such as transportation, accommodation, activities, food sourcing, and waste management. In each workshop, they research and present a detailed travel package that includes low-carbon options and demonstrates how their design aligns with climate goals.</p>	<p><i>To foster creative thinking and practical awareness of how tourism can align with climate goals.</i></p> <p><i>To identify key components of sustainable tourism and the impact on carbon emissions and climate change.</i></p> <p><i>To analyse the environmental footprint of tourism choices related to transportation, accommodation, activities, food, and waste management.</i></p> <p><i>To design a low-carbon tourism experience that aligns with climate action strategies using information from the EU Climate Pact resources.</i></p>
<p><b>Tourism sustainable greenways blog:</b> The <a href="#">Greenways of Girona</a> are a network of paths that reuse old, disused railway lines to convert them into safe and accessible routes for cyclists and pedestrians. The design of these routes promotes sustainable mobility, the recovery and preservation of natural spaces, as well as education about heritage and local economic development. The annual saving of 1,328 tons of CO<sub>2</sub> positions these infrastructures as a strategic axis for the decarbonization of the Girona region. Some local initiatives include the integration of digital tools for route planning, the promotion of local products and services, and the improvement of biodiversity along the routes. The activity consists of a field visit to one of the green ways, obtaining information about the characteristics of tourist routes based on the</p>	<p><i>To understand the transformation of obsolete infrastructures into sustainable tourism assets.</i></p> <p><i>To promote sustainable tourism based on digital tools.</i></p> <p><i>To create a tourism blog on education and awareness considering sustainability.</i></p>

<p>principles agreed upon. They will use different technologies to gather information and obtain pictures, audio recordings, and notes. Once they have all the data, they will be asked to prepare the “sustainable greenways blog” for their school, explaining the analysis and their experience after the field visit. The result of the analysis will end up with a decalogue with 10 recommendations to implement new greenways in their territory.</p>	
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**g) Digital solutions for sustainable tourism:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Digital consumer tools and virtual tourism – Hands-on demo of apps and platforms</b> that promote sustainable choices: eg. an app that shows water refill station locations (to avoid buying plastic bottles), or a booking site filter for eco-certified hotels. Students also experiment with virtual reality (VR) tours and augmented reality (AR) as alternatives or enhancements to physical travel. For example, a UNESCO underwater heritage site is made accessible through VR diving experiences <a href="http://euronews.com">euronews.com</a>, letting people “explore” a shipwreck without harming it. Likewise, AR in an urban walking tour can provide rich cultural info without the need for printed guides or large groups. Each student gives a short “tech pitch” – proposing a new app or digital service that could make tourism more sustainable (such as an AI chatbot that suggests off-season travel deals or an online carbon calculator integrated into trip planning).</p>	<p><i>To utilize innovation to change tourist behavior and access.</i> Students will be able to identify and use digital tools that reduce physical resource strain – for instance, substituting a paper map with a digital guide or using virtual tours for education so that only truly necessary travel is undertaken. They also nurture creativity by envisioning new tech solutions for persistent issues (crowding, resource waste, lack of visitor awareness). Importantly, they come to understand that technology can broaden inclusion (allowing those who cannot travel to still experience sites) and enhance sustainability education (interactive apps conveying ecological information). By the end, students can confidently incorporate digital strategies into tourism business models to drive both operational greening and deeper visitor engagement.</p>
<p><b>Smart destination management (IoT and data analytics)</b> – Exploration of how “smart tourism” initiatives use digital tools to optimize resource use and visitor distribution. Example: A popular Mediterranean city uses sensors and mobile data to monitor tourist flows in real time, redirecting crowds via apps to less busy attractions and thus preventing overtourism at</p>	<p><i>To leverage technology for efficiency and stewardship.</i> Students learn to apply the Internet of Things (IoT) and data analysis to solve sustainability problems (like congestion or waste). They gain the ability to interpret data (visitor counts, traffic, energy use) and make decisions that balance tourist satisfaction with conservation. This builds skills in using evidence-</p>

<p>monuments. Students study a cutting-edge case like Turin (Italy), which won the 2025 European Capital of Smart Tourism for integrating AI in mobility and aiming for carbon neutrality by 2030 <a href="https://www.datappeal.io">datappeal.io</a> – eg. apps for real-time public transport info, smart parking to reduce idling, AI-driven energy management in museums. Students could simulate a smart city dashboard, deciding how to adjust services when certain sites get crowded or when energy demand spikes.</p>	<p>based approaches – a key competency as destinations worldwide adopt smart city tools. Ultimately, students appreciate that technology can amplify sustainability (doing more with less): for instance, cutting electricity use via smart HVAC systems or protecting a fragile site by limiting access when sensors detect stress.</p>
<p><b>Online marketing and stakeholder collaboration platforms</b> – A brief look at how digital communication can foster sustainability. Students examine how destinations use social media and online campaigns to promote responsible tourist behavior (e.g. hashtags encouraging visitors to respect nature, or storytelling about community projects). They also learn about platforms where tourism businesses coordinate ride-sharing or inventory sharing to minimize waste (for example, an online exchange where hotels donate excess food to local NGOs daily). Through a role-play, students simulate a virtual stakeholders’ meeting using an online platform: hoteliers, tour operators, community leaders coordinate a unified sustainability initiative (like a destination-wide plastic reduction pledge), highlighting how digital connectivity enables broader, faster cooperation beyond physical meetings.</p>	<p><i>To enhance collaboration and outreach for sustainability.</i> Students gain insight into digital marketing for good – how to craft messages that make sustainable tourism appealing and to utilize influencers or traveler reviews to spread awareness. They also practice stakeholder engagement in a digital context, which is increasingly how industry coalitions and destination management occur. Mastering virtual collaboration tools means they can galvanize collective action (for example, an entire region becoming bike-friendly) more efficiently. In sum, they learn that sustainability in tourism isn’t just about on-site changes, but also about creating online communities and networks committed to continuous improvement and knowledge-sharing.</p>
<p><b>Demo:</b> Using apps to promote paperless ticketing and digital guidebooks.</p>	<p><i>To discover how technology reduces waste in tourism.</i></p>
<p><b>Group project:</b> Designing a virtual reality (VR) tour to replace physical travel and developing apps for eco-friendly tourist planning.</p>	<p><i>To innovate ways to lower tourism’s carbon footprint; to explore how digital tools can enhance sustainable tourism.</i></p>
<p><b>Discussion:</b> Ethical concerns of data privacy in smart tourism</p>	<p><i>To critically assess the downsides of digital solutions.</i></p>
<p><b>Digital Transformation in Hospitality and Restaurants</b> - digital tools to revitalize tourism: AI, VR, AR, Robotics, Big Data, IoT, GIS</p>	<p><i>To understand and identify the role of digital transformation in the hotel and restaurant industry to boost sustainability in tourism.</i></p>

<p><b>Discussion</b> on why digital transformation is essential for the hotel and restaurant industry, benefits and challenges in digital transformation in hospitality and restaurant, technologies driving digital transformation in hospitality and restaurant, and future trends in technology for hotel and restaurant industry.</p>	<p><i>To understand the future trends in digital technology for the hotel and restaurant industry.</i></p>
<p>The "<a href="#">Lloret Smart</a>" app offers various options as part of the town's tourism strategy. It aims to support more intelligent service management, aligned with the goal of enhancing the quality of life for both residents and visitors. The app enables faster, more personalized, and geolocated access to services and content. The activity begins with a short multimedia lecture introducing the concept of smart tourism, highlighting Lloret de Mar as a good practice example. This is followed by a guided class discussion, in which students critically examine how the town uses its official mobile app and smart services to reduce environmental impact and improve the visitor experience.</p>	<p><i>To understand the concept of smart tourism in sustainable destination management.</i></p> <p><i>To analyse the different functions of the App as a case study in digital innovation for tourism.</i></p> <p><i>To evaluate the impact of smart services on environmental sustainability.</i></p> <p><i>To assess the integration of digital tools in local tourism services that improve the customer experience.</i></p>
<p><b>A real case activity</b> by <a href="#">Areas</a>, a global leader in travel dining and retail. The company has launched the world's first AI-powered robotic restaurant in an airport, offering popular items such as coffee, premium sandwiches, juices, pastries, salads, pokes, desserts, and soft drinks—all freshly prepared daily. Aligned with its "Areas for Change" sustainability strategy, the facility incorporates energy-efficient LED systems, 100% recyclable FSC-certified paper packaging, and eco-friendly uniforms made from organic cotton through a partnership with Clothink.</p> <p>In this activity, students work in small groups to brainstorm and sketch out their own airport restaurant concept, using the real case as inspiration. They consider aspects such as the types of food offered, how AI and robotics can enhance customer service, and what sustainability measures they would propose for the future. The activity concludes with a group</p>	<p><i>To identify how artificial intelligence (AI) and robotics can be applied in the food and beverage industry to improve customer experience.</i></p> <p><i>To analyze real-world examples of sustainable practices in hospitality and eco-friendly solutions.</i></p> <p><i>To collaborate in small groups to develop a creative concept for a smart, sustainable airport restaurant.</i></p> <p><i>To design a SWOT based on the group discussion and peer feedback.</i></p>

<p>discussion to evaluate the pros and cons identified in each concept, and elaborate a final SWOT.</p>	
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**h) Green marketing strategy and responsible advertising:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Sustainability as a value proposition – Interactive lecture</b> on crafting a brand story around eco-friendly practices. Students look at current trends: surveys show the majority of travelers (70%+) want sustainable options and ~43% are willing to pay more for certified eco-friendly services <a href="http://weforum.org">weforum.org</a>. They analyze a successful campaign (eg. a Mediterranean tour company whose marketing highlights its solar-powered boats and community give-back program, or a city tourism board’s “Travel Smart, Travel Green” initiative). In small groups, students then develop a marketing brief for a new eco-tourism startup, identifying target segments (eg. Gen Z travelers, who heavily favor low-impact vacations <a href="http://stqry.com">stqry.com</a>) and key messages (authenticity, experience, environmental impact) that set their product apart.</p>	<p><i>To communicate sustainability effectively to attract customers.</i> Students learn to position green practices as a selling point rather than an add-on. They come to understand consumer motivations – health, authenticity, climate concern – and how to tap into them with compelling narratives (eg. “by staying here, you help preserve this olive grove” or “our eco-hotel saved X liters of water – join the mission!”). By drafting their own strategy, they build skills in blending factual highlights (certifications, stats) with emotional appeal (beautiful imagery of nature, local community stories). They will be able to create marketing materials that educate and excite, thereby driving demand for sustainable tourism offerings.</p>
<p><b>Green marketing channels and partnerships – Discussion</b> on where and how to market sustainable tourism. Students explore the rise of dedicated platforms (eg. <a href="http://bookdifferent.com">bookdifferent.com</a> or EcoBNB, which list only sustainable accommodations) and how to get featured on them. They also consider partnerships with influencers or NGOs – for example, teaming up with a local environmental NGO for a campaign, which can lend credibility and reach new audiences. The class could simulate a social media plan: choosing Instagram/Facebook for visual storytelling of eco-initiatives, LinkedIn for sharing sustainability milestones to attract business clients (who increasingly require ESG-compliant travel partners <a href="http://environment.ec.europa.eu">environment.ec.europa.eu</a>), etc. Additionally,</p>	<p><i>To strategize market outreach for maximum impact.</i> Through this, students learn to navigate the marketing ecosystem specific to sustainable products. They will be able to select the right channels (e.g. a vivid YouTube video series on the making of their eco-lodge, or a blog highlighting local community benefits) to reach their ideal customer base. They also recognize the value of alliances – how working with travel bloggers focused on sustainability or participating in travel fairs that emphasize green tourism can amplify their message. By planning and discussing these approaches, they build a toolkit for launching and promoting a green tourism venture in a cost-effective and genuine</p>

<p>they examine how awards and certifications (from topic e) can be leveraged in marketing materials and sales pitches.</p>	<p>way, aligning their marketing strategy with their sustainability values.</p>
<p><b>Avoiding greenwashing and building trust – Lesson on ethics</b> in advertising. Students review examples of misleading green claims (eg. an airline calling itself “carbon neutral” without transparent data) versus examples of honest communication (a resort that publishes an annual sustainability report of its progress and setbacks). They learn about regulations: many countries (and the EU) are cracking down on vague claims – 53% of green claims have been found to be misleading <a href="http://environment.ec.europa.eu">environment.ec.europa.eu</a>, prompting new laws to require proof. As a practical exercise, students each take a mock promotional snippet and refine it to be truthful and specific. For instance, instead of “eco hotel in harmony with nature,” they might change it to “hotel with 100% solar electricity and organic linens, certified by Green Key”. They also discuss how to handle tough questions from savvy customers (like providing data on request).</p>	<p><i>To practice transparency and credibility in marketing.</i> Students will be able to audit and improve marketing content so that it accurately reflects sustainable practices. This not only keeps them on the right side of advertising laws but also teaches them that long-term brand loyalty is built on trust. By scrutinizing language and promises, they learn to set realistic expectations and then meet or exceed them – which is essential to avoid backlash or cynicism. In effect, they develop an ethical compass for promotion: any sustainability claim should be backed by action or certification. This competency ensures that as future managers or entrepreneurs, they uphold integrity while highlighting their green initiatives, strengthening reputation and customer confidence.</p>
<p><b>Workshop:</b> Crafting a marketing campaign for an eco-tourism package.</p>	<p><i>To learn to communicate sustainability authentically.</i></p>
<p><b>Case study:</b> Corporate Greenwashing vs Green Marketing – students examine if environmental claims are just empty promises.</p>	<p><i>To identify greenwashing practices and to understand the role of green marketing in promoting sustainability in tourism.</i></p> <p><i>To identify green marketing strategies to enhance sustainability and consumer behavior.</i></p>
<p><b>Role-play:</b> Pitching a sustainable tourism product to investors.</p>	<p><i>To develop persuasive, ethical marketing skills.</i></p> <p><i>To identify green marketing strategies to enhance sustainability and consumer behavior.</i></p>
<p><b>Group work:</b> Students are asked to create a social media campaign for a fictional sustainable tourism business. They will design promotional content that highlights the business’s eco-friendly practices, such as reducing waste,</p>	<p><i>To develop a sustainable tourism campaign that promotes environmentally responsible practices.</i></p>

<p>supporting local communities, or conserving natural resources. Students will also develop fictional branding, including a business name, logo, and slogan that reflect environmental values. The campaign will feature sample social media posts using platforms like Instagram, TikTok, or Facebook, and should include key messages, suggested visuals, and ideas for engaging the audience, such as polls or guest testimonials. Students will consider which platforms best suit their target audience and tailor their content accordingly. At the end of the activity, each group will present their campaign to the rest of the class, where other students will act as a committee or jury, evaluating the presentations based on sustainability indicators discussed previously.</p>	<p><i>To demonstrate creativity and critical thinking by designing fictional branding and social media content that aligns with sustainability goals.</i></p> <p><i>To design a promotional strategy for a fictional eco-tourism business.</i></p> <p><i>To analyse the campaign on sustainability proposed based on indicators.</i></p>
<p>In this activity, students will develop a comprehensive communication campaign for a sustainable tourism business utilizing only green tools and platforms. Students will <b>work in groups</b> to create a communication campaign for a newly established eco lodge located in a biodiversity hotspot. The eco lodge is committed to minimizing its environmental footprint and maximizing positive impacts on the local community. Students must utilize only green tools and platforms for their campaign. Example of green marketing strategy: create a simple energy efficient website using a website builder with a strong commitment to sustainability: GreenGeeks (which uses renewable energy), utilize social media platforms with a focus on sustainability: Mastodon (an open source decentralized social network which allows for smaller community focused engagement with potentially lower energy consumption than mainstream platforms), design an email newsletter using an eco-friendly email marketing service (one that emphasizes energy efficiency in its data centres). Each group will present their campaign to the class, justifying their choices of green tools and platforms, explaining their</p>	<p><i>To identify and select appropriate green communication tools and platforms for a specific target audience and campaign.</i></p> <p><i>To develop effective key messages that communicate a sustainable tourism business's environmental and social responsibility.</i></p> <p><i>To design a user-friendly and energy-efficient website that effectively showcases a sustainable tourism business.</i></p> <p><i>To create engaging content for social media platforms, specifically Mastodon, to promote a sustainable tourism business and its initiatives.</i></p> <p><i>To develop an email marketing campaign that highlights the sustainable features of a tourism business and attracts environmentally conscious travellers.</i></p> <p><i>To produce visual materials (photos, videos, graphics) that effectively convey a sustainable tourism business's message while minimizing environmental impact.</i></p>

content strategy and outlining their evaluation plan.	
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**i) Social responsibility and community involvement:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Corporate Social Responsibility (CSR) in tourism businesses – Exploration</b> of how larger tourism companies (hotels, tour operators) can contribute to local communities and social causes. Students research initiatives like hotels funding local school programs or hiring and training underrepresented groups (for example, a resort that runs a hospitality training for local youth or sources all staff locally to reduce unemployment). They also examine tourism’s role in protecting cultural heritage – e.g. a tour company that partners with indigenous communities for cultural tours and ensures fair compensation and respect for traditions. For a practical component, each student proposes one CSR idea for a tourism business: it could be as simple as organizing voluntourism clean-ups on trails, or as structured as an internship/apprenticeship scheme for locals.</p>	<p><i>To integrate social responsibility into business plans.</i> Students will be able to outline and evaluate CSR initiatives that a tourism enterprise can undertake. This fosters an understanding that profitability can go hand in hand with positive social impact. By generating their own ideas, they practice aligning a business’s resources with community needs (for instance, identifying that a coastal hotel could sponsor swim lessons or marine conservation workshops for local children). They also consider measurement – how to gauge the outcomes of CSR (number of locals employed, funds donated, heritage sites restored) – which instills a mindset of accountability. Ultimately, they gain the perspective that a green entrepreneur is also a social entrepreneur, aiming for a triple bottom line: people, planet, profit.</p>
<p><b>Community-based tourism (CBT) models – Case study</b> review of a rural village or urban neighborhood that successfully runs community-led tourism. For instance, students might examine a Mediterranean island cooperative where residents jointly manage guesthouses, or a heritage town in Spain where locals serve as guides and hosts through a social enterprise. They consider how profits are shared and re-invested locally. A prominent example: Italy’s agritourism sector, where farm stays have diversified incomes and revitalized remote areas, increasing the value of local produce and food heritage <a href="http://fao.org">fao.org</a>. Students could engage in a role-play where they are a community council planning a tourism project – deciding on aspects like local employment, cultural shows by</p>	<p><i>To empower local communities via tourism.</i> Students learn firsthand how tourism can be a driver of rural development and cultural preservation when locals are in the driver’s seat. They develop the ability to plan tourism initiatives that actively involve residents – ensuring jobs for local people (from guides to artisans), respecting local culture (perhaps through homestays or workshops taught by residents), and fostering pride and stewardship. By seeing economic and social benefits (as in the agritourism example where multiple small businesses – beekeepers, tomato farmers, olive mill – gain new income from tourist visits <a href="http://fao.org">fao.org</a>), students internalize that community involvement is not just ethical but also makes business sense (authentic experiences for</p>

<p>villagers, and profit allocation to community projects (schools, clinics).</p>	<p>tourists, unique offerings, and community support for the tourism venture).</p>
<p><b>Stakeholder engagement and participatory planning – Group discussion</b> on the importance of involving community voices in tourism development from the start. Students simulate a town hall meeting for a proposed new eco-resort: roles are assigned (community elder concerned about cultural impact, local business owner, environmental NGO rep, tourism developer, etc.) and they negotiate to address concerns and wishes (maybe the resort agrees to fund a community center and limit building height to preserve village views, while locals agree to partner in providing services). This ties into understanding regulatory frameworks: many EU nations require social impact assessments or public consultations for tourism projects. Students learn how respecting community input can prevent conflicts (like protests over overtourism) and lead to more resilient operations.</p>	<p><i>To master collaborative planning and conflict resolution.</i> Through the role-play and discussion, students build communication and negotiation skills crucial for any tourism manager working in a community setting. They learn to see locals not as obstacles but as partners whose buy-in is essential. The goal is that they can conduct stakeholder meetings and facilitate win-win outcomes, ensuring the community feels ownership. They also become aware of tools like community surveys and advisory boards as standard practice. This experience prepares them to implement tourism projects that are socially sustainable – reducing the risk of community backlash and enhancing the long-term authenticity and welcome that tourists feel.</p>
<p><b>Fieldwork:</b> Partnering with a local municipality to organize a beach/territory cleanup.</p>	<p><i>To experience the impact of community engagement.</i></p>
<p><b>Panel discussion:</b> Balancing tourism growth with residents’ quality of life and designing a tourism initiative that benefits rural communities (economic development, cultural exchanges and understanding, sustainable resource management, social equity and inclusivity).</p>	<p><i>To explore the social dimensions of sustainable tourism and to create inclusive, equitable business models.</i></p> <p><i>To understand the benefits of social responsibility and community involvement for a sustainable tourism industry.</i></p>
<p><b>Tourism businesses can operate ethically and contribute positively to the local communities</b> - This could involve exploring fair labour practices, respecting local cultures and traditions, supporting local economies through procurement and partnerships, engaging in community development projects, and ensuring accessibility and inclusivity. Students might research businesses with strong social responsibility initiatives and analyse their impact on the community and their stakeholders.</p>	<p><i>To analyse how tourism businesses can implement fair labour practices and ensure ethical working conditions.</i></p> <p><i>To evaluate the importance of respecting local cultures and traditions in tourism operations.</i></p> <p><i>To search the importance and the benefits of a certificate for small businesses.</i></p> <p><i>To assess the role of tourism businesses in initiating and participating in community development projects.</i></p>

<p>To explore this further in Catalonia, students could investigate businesses that have received the Biosphere certification. This certification recognizes tourism destinations and establishments that meet certain criteria for environmental sustainability, cultural preservation, social equity, and economic development.</p> <p>The city of Barcelona itself holds the <a href="#">Biosphere World Class Destination Certification</a>. This certification encompasses a broad range of criteria related to sustainable tourism management, including: cultural heritage (initiatives to preserve and promote local culture and traditions, and respect for the local identity) and social and economic development: actions that benefit the local community, including fair employment, support for local businesses, and accessibility for all.</p> <p>Students could research the specific initiatives undertaken by the Barcelona City Council and local tourism operators to meet the criteria of this certification. This could involve analysing their public transport policies, waste management programs in tourist areas, support for local markets and artisans, accessibility initiatives, and cultural preservation projects.</p>	<p><i>To examine how tourism businesses can improve accessibility and inclusivity for diverse travellers and community members.</i></p>
<p><b>Case study:</b> <a href="#">Aethnic's Xarxa</a>, which represents a network of local players and experiences in Catalonia. Students could collect sets of tourist activities and experiences offered by locals in a region and see how they could network these players and promote their products. The Network integrates cultural and social entities, tourist companies, businesses, artisans, academics and cultural institutions with the common goal of creating and promoting a new model of tourist activities and experiences. On an economic level, the project brings visitors closer to the towns and villages of Catalonia and promotes local commerce, especially that developed by artists, craft workshops, cultural laboratories, and other local agents.</p>	<p><i>To identify strategies for networking local tourism stakeholders and their offerings.</i></p> <p><i>To analyse the structure and objectives of a network of local tourism players.</i></p> <p><i>To understand how a tourism network can promote local products and experiences.</i></p> <p><i>To evaluate the economic benefits of connecting tourists with local businesses and communities.</i></p> <p><i>To recognize the role of tourism in empowering local artists, artisans, and cultural agents.</i></p> <p><i>To assess the potential of a network model for promoting a more community-based and sustainable form of tourism.</i></p>

<p>This case study would be analysed by groups that will need to identify the structure and objectives of a network of local tourism players, the promotion of local products and experiences, the economic benefits, the empowerment of local community, and the role of the network model for promoting a community-based tourism. It will end with a discussion comparing the analysis among the different groups. This activity will allow students to see how to empower local communities and their businesses on a specific territory.</p>	<p><i>To apply the principles of a successful tourism network to a different regional context.</i></p>
<p><b>Project work and presentations:</b> Organization of events with a sustainable focus (festivals, clean-ups, educational campaigns) and meeting good practices from Bulgaria and other countries (e.g. Kosovo village, Kovachevitsa, Besa in Albania, eco-villages in Scandinavia). Students could participate through training, interactive events, volunteering and different communication channels – social media, local media, schools.</p>	<p><i>To distinguish the roles of different stakeholders: local communities, tourism businesses, NGOs, tourists.</i></p> <p><i>To analyze real-life cases and models of partnership between tourism operators and local communities.</i></p> <p><i>To promote skills for organizing initiatives to involve the community in sustainable activities (eco-tourism, crafts, agro-tourism, etc.), as well as respect for local culture, nature and economy.</i></p> <p><i>To develop an understanding of the importance of shared responsibility in environmental protection.</i></p>

**j) Business opportunities in sustainable tourism and development of green tourist destinations:**

THEMATIC CONTENT	GOALS ACHIEVED
<p><b>Finance and support for green tourism startups – Brief on practical aspects:</b> Where can aspiring green entrepreneurs find support? Students explore examples of incubators or grants – eg. EU Erasmus for Young Entrepreneurs program, which has initiatives on sustainable tourism; national tourism boards offering innovation prizes; impact investors focusing on sustainability. They also consider partnerships with larger firms (a big hotel chain might sponsor a local eco-tour if it aligns with their CSR). For the final activity, students simulate a pitch to investors for a sustainable tourism business. They must highlight not only profit potential but</p>	<p><i>To mobilize resources and articulate value to stakeholders.</i> This teaches students how to make the business case for sustainability in financial terms – a critical skill when seeking capital. They learn the landscape of funding and support, increasing their ability to actually launch a project post-class. By pitching, they refine their communication: framing green initiatives as financially viable and desirable investments. They also learn to answer tough questions (scalability, return on investment, risk mitigation through sustainable practices). By the end, they are better prepared to turn theoretical knowledge into real-world ventures, armed with</p>

<p>also impact (carbon saved, jobs created, heritage preserved), essentially practicing a triple bottom line pitch.</p>	<p>knowledge of current trends, consumer expectations, and support networks that give green tourism businesses a head start.</p>
<p><b>Developing sustainable tourist destinations – Case study</b> of a region that transformed through sustainable tourism development, such as Slovenia or certain Italian regions that have branded themselves as green destinations. For example, students might examine how Slovenia’s national strategy made it one of the world’s most sustainable destinations (with initiatives from green accommodation certification to zero-waste events), resulting in increased international recognition and tourist interest. Or how Spain’s government, through its Sustainable Tourism Plans, invested recovery funds in hundreds of local projects (eg. improving national park facilities, creating cultural circuits) to boost tourism in less-traveled areas, creating jobs while avoiding overtourism in hotspots. Students then work in teams to create a mini destination development plan for a hypothetical Mediterranean island or rural county: mapping out sustainable infrastructure (renewable energy, efficient water systems), visitor management, training for local businesses, and marketing under a green brand.</p>	<p><i>To plan for regional sustainable tourism growth.</i> Students synthesize knowledge from all prior topics to strategize at a destination scale. They learn the components of destination management (infrastructure, marketing, community, environment) and how to align them towards sustainability. By doing the planning exercise, they gain insight into working with multiple stakeholders – government, businesses, residents, NGOs – to create a coherent approach that can attract funding. They also become aware of the policy context: EU and national strategies that favor sustainable tourism development (like EDEN awards <a href="http://single-market-economy.ec.europa.eu">single-market-economy.ec.europa.eu</a> or country-specific recovery plans). By completing this, students will be capable of contributing to or leading destination-wide initiatives, understanding how individual business efforts knit together into a broader sustainable tourism ecosystem that can revitalize economies responsibly.</p>
<p><b>Market trends and entrepreneurship opportunities – Presentation of data</b> on the rapid growth of the eco-tourism market (valued at \$172 billion in 2022 and expected to double by 2028 <a href="http://stqry.com">stqry.com</a>) and rising consumer demand for sustainable travel (76% of travelers aiming to travel more sustainably <a href="http://weforum.org">weforum.org</a>). Students identify niche areas emerging in Europe, especially the Mediterranean: eg. demand for rural retreats (farm stays, nature lodges), experiential travel (wildlife tracking, astronomy tourism in dark-sky reserves), wellness and sustainability combined (yoga retreats that are zero-waste). They also consider post-COVID trends – smaller groups, private tours outdoors – which favor green, spacious offerings. As an activity, each student outlines a business</p>	<p><i>To identify and evaluate new business ideas in sustainable tourism.</i> Students will be able to pinpoint where gaps in the market align with sustainability goals, essentially learning to see opportunity in solving environmental and social challenges. By writing up a concept, they practice entrepreneurial thinking: assessing target customers, revenue streams, and operational needs for a green business. They learn to articulate how being sustainable is not a constraint but a value-add that attracts a growing customer segment and often allows premium pricing or access to grants. This ability to generate viable green business ideas lays the groundwork for actual entrepreneurial ventures</p>

<p>concept in sustainable tourism (anything from an electric bike tour company in a city, to a zero-plastic beach kiosk, or a mobile app that connects tourists to local eco-guides). They must highlight the unique selling proposition (USP) that sustainability provides in their business model.</p>	<p>or innovative intrapreneurship within existing companies.</p>
<p><b>Case study:</b> Writing their own case study of a rural area experiencing an eco-tourism boom and identifying untapped markets for eco-tourism in their region.</p>	<p><i>To analyze factors behind thriving green destinations and to develop actionable business insights.</i></p>
<p><b>Simulation:</b> Pitching a sustainable resort idea to a panel of “investors” and crowdfunding green tourism initiatives.</p>	<p><i>To practice entrepreneurship with an environmental focus and to understand financing strategies for green startups.</i></p>
<p><b>Discussion:</b> Market Trends and consumer demand (eco-conscious travel market, premium pricing for green experiences, rise of regenerative tourism) and Marketing and branding for Sustainable Tourism (storytelling for impact, digital marketing to eco-travellers, certifications and eco-labels, eco-certified destinations, conservation-focused tourism).</p>	<p><i>To identify all the market trends and consumer needs and to understand lucrative business opportunities in sustainable tourism.</i></p> <p><i>To understand compelling narratives that highlight a business’s sustainability efforts.</i></p> <p><i>To identify how to avoid greenwashing by ensuring messaging is transparent, specific, and backed by proof.</i></p> <p><i>To identify market conservation experiences.</i></p>
<p><b>Preparing an »Eco pack«</b> - <a href="#">Celler La Vinyeta</a> has not only positioned itself as a benchmark in the world of wine but has also diversified its offerings by embracing innovative and sustainable products or services. They have incorporated activities such as olive growing, beekeeping, and extensive livestock farming, creating a self-sufficient agricultural ecosystem. They also offer wine tourism experiences that go far beyond traditional wine tastings. They are committed to regenerative viticulture, where the main challenge is to continue evolving sustainably, a commitment that earned them the 2024 Agri-food Technological Innovation Award, among others. The educational activity will be focused on proposing an “Eco pack” considering all the different sustainable actions</p>	<p><i>To collaborate with local producers and companies, promoting the consumption of local products and fostering the culture and traditions of the area.</i></p> <p><i>To promote responsible and sustainable consumption.</i></p>

<p>and activities conducted in the cellar. This Eco pack will include transport, meals, accommodation and different tourist services such as ecotourism routes and visits to the cellar. To design it, the students need to consider sustainability criteria. The proposal will be presented in a one-day <b>workshop</b> in the cellar.</p>	
<p><b>Creating a sustainable tourism business</b> - The business model will be open and can vary (eg. accommodation, experience-based travel agency, nature activities, consulting agency, etc.), but it must integrate principles of environmental, social, and economic sustainability.</p> <p><b>Working in teams</b>, students will develop a brief business plan including: a description of the service, target audience, location, expected positive impact, and a digital marketing strategy. At the end of the project, each group will present their idea in a “marketplace” or “pitch” session, encouraging creativity, entrepreneurship, and critical thinking.</p>	<p><i>To explore the potential of sustainable tourism as a field for innovation and entrepreneurship.</i></p> <p><i>To apply sustainability concepts in the development of a tourism business model.</i></p> <p><i>To develop entrepreneurial skills.</i></p> <p><i>To foster creativity and critical thinking to design responsible and viable tourism solutions.</i></p>
<p><b>Green business ideas applicable in the local context – discussion and project work:</b> students get familiar with different types of sustainable tourism businesses (eg. co-houses and family hotels with energy efficiency, agro-tourism and farm experiences, adventure and nature-based activities (like hiking, cycling, bio-observation, etc.), and cultural and artisanal tourism based on local heritage.</p>	<p><i>To identify the main niches and business models in sustainable tourism.</i></p> <p><i>To evaluate the economic, social and environmental value of sustainable initiatives.</i></p> <p><i>To analyze real examples of good practices.</i></p> <p><i>To understand the economic and social benefits of sustainable tourism practices.</i></p> <p><i>To analyze real business models in sustainable tourism (eco-houses, agro-tourism, eco-activities).</i></p> <p><i>To develop entrepreneurial thinking with a focus on nature and local communities and a responsible attitude towards resources and cultural heritage.</i></p>

#### 4.1.4. Introduction summary - Self-assessment tools on all curricula

A self-assessment tool for sustainable development and green entrepreneurship in tourism can be very useful in teaching, as it allows students or trainees to assess their readiness and understanding of sustainable tourism and green entrepreneurship. Such a tool can help to promote critical thinking, analysis and reflection on sustainable tourism practices. Using a self-assessment tool in teaching promotes active learning, improves critical thinking and develops sustainable and responsible tourism practices.

It would be useful to use a combination of different tools to teach these topics, as they allow a holistic approach to understanding sustainable development and green entrepreneurship in tourism. Integrating these methods into the curriculum can help students develop a deep understanding and skills to implement sustainable practices in practice.

#### 4.1.4.1. Self-assessment tools on all curricula

##### **Teacher Self-Evaluation Form: Sustainable Development and Green Entrepreneurship in Tourism**

###### General Information:

- Teacher's Name and Surname: \_\_\_\_\_
- Date of completion of the form: \_\_\_\_\_
- Subject/Module: \_\_\_\_\_

This self-evaluation form is designed for teachers, trainers, and professors preparing to implement the GreenHost sustainable tourism curriculum. It focuses on the content of the first three WP4 training modules for instructors on sustainable tourism:

- **Relating classroom to labour market in green tourism**
- **Incorporating sustainability education in the hospitality management curriculum**
- **Teaching green entrepreneurship in tourism**

This questionnaire will help you assess your readiness in three key areas: **Knowledge Acquisition** (your understanding of the curriculum content), **Teaching Confidence** (your comfort level in delivering the content), and **Practical Implementation Readiness** (your preparedness to apply the content in your teaching practice).

##### **1. Lesson planning and preparation – knowledge acquisition**

<b>Statement</b>	<b>I completely agree</b>	<b>I partially agree</b>	<b>I disagree</b>
1.1. I align learning objectives with the principles of sustainable development.			
1.2. I include all three pillars of sustainability (environmental, social, economic) in the curriculum.			
1.3. I use a variety of tools and methods to understand the topics holistically.			

1.4. I encourage students to independently research sustainability topics.			
1.5. I am familiar with relevant sustainability standards and policies (such as the SDGs or the European Green Deal) in the context of tourism.			
1.6. I can identify the key sustainability skills that students will need for careers in sustainable tourism.			
1.7. I have thoroughly reviewed the GreenHost module materials and resources.			

## 2. The use of active learning methods – teaching confidence

Statement	I completely agree	I partially agree	I disagree
2.1. I use methods that encourage critical thinking.			
2.2. Students regularly participate in discussions on sustainability challenges.			
2.3. I encourage reflection on sustainable practices in tourism.			
2.4. I use a self-assessment tool as part of the learning process.			
2.5. I am comfortable using the GreenHost-provided materials (such as slides,			

examples, or case studies) in my teaching.			
2.6. I use interactive and experiential learning methods (e.g. gamification, PBL, VR simulations).			

### 3. Integrating green entrepreneurship – teaching confidence

Statement	I completely agree	I partially agree	I disagree
3.1. Students develop their own ideas for green entrepreneurial projects.			
3.2. We develop concrete examples of sustainable entrepreneurship in tourism.			
3.3. I include practical challenges and cooperation with local stakeholders in the learning process.			
3.4. Students understand the importance of responsible entrepreneurship.			
3.5. I include digital solutions (apps, AR/VR, IoT) in entrepreneurial projects.			

#### 4. Self-reflection and professional development – practical implementation readiness

Statement	I completely agree	I partially agree	I disagree
4.1. I regularly reflect on my teaching practice.			
4.2. I actively seek ways to improve the teaching of sustainability topics.			
4.3. I participate in professional training in the field of sustainable tourism.			
4.4. I use classroom experiences to further develop teaching content.			
4.5. I plan to include up-to-date examples of green practices in hospitality (such as eco-friendly hotel initiatives or waste reduction programs) in my lessons.			
4.6. I have prepared or identified activities (e.g., class projects, field trips, case studies) that will give students hands-on experience with sustainability concept.			

## 5. Open-ended questions for in-depth reflection

5.1. What approaches have you used to encourage sustainable thinking among students?

Answer:

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5.2. What challenges have you identified in teaching green entrepreneurship and how have you addressed them?

Answer:

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5.3. Describe a successful activity or project you've implemented that links curriculum to real-world sustainability practices.

Answer:

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5.4. Which module topic do you feel you are most knowledgeable about and why; which do you feel you need to better understand, and what would help you improve your knowledge in that area?

Answer:

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5.5. How would you further improve your pedagogical practice in the field of sustainable tourism?

Answer:

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5.6. If you have any other comments or suggestions regarding the GreenHost training or your preparation to deliver it, please add them here.

Answer:

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## Conclusion

The transition towards sustainable and digitally enriched vocational education in hospitality and tourism is not only timely but imperative. This report underscores the critical role that innovative pedagogical strategies—particularly experiential, interdisciplinary, and research-based approaches—play in preparing learners to navigate and lead within an increasingly complex global tourism landscape. By embedding sustainability as a core educational principle rather than a peripheral topic, the training materials and curriculum reforms discussed here foster a transformative learning environment where students develop both theoretical knowledge and practical competencies.

Central to this transformation is the integration of green entrepreneurship and the use of digital tools such as virtual reality, gamification, and data-driven simulations. These methods deepen engagement and enable learners to tackle real-world sustainability challenges through interactive and applied learning experiences. The adoption of frameworks like the European Commission’s Environmental Footprint Methods further enhances the relevance and rigor of sustainability education, ensuring that learners can align their skills with industry standards and environmental imperatives. Moreover, the emphasis on methodological literacy, critical reflection, and scholarly communication within student-led research projects strengthens the academic foundation of tourism education while reinforcing professional readiness. Initiatives like ECO-Schools and community-based partnerships extend this learning beyond the classroom, anchoring sustainability in local contexts and cultural heritage.

In conclusion, this report advocates for a comprehensive reimagining of VET in hospitality and tourism—one that bridges the gap between education and practice, fosters innovation and responsibility, and aligns with broader societal goals for sustainable development. By equipping future professionals with integrated green and digital competencies, tourism education can serve as a powerful catalyst for environmental stewardship, economic resilience, and social inclusion in a rapidly evolving world. Each of the participating countries (Greece, Portugal, Italy, Slovenia, Bulgaria, Spain and Cyprus) prepared its own observations and conclusions.

The integration of sustainability principles into tourism education is increasingly recognized as essential for addressing the complex socio-environmental challenges facing the global tourism industry. As demonstrated through the case of the Santorini workshop and comparative approaches from European countries such as Portugal, Italy, Spain, Bulgaria, and organizations like CIPER, a comprehensive and interdisciplinary educational framework is critical for equipping future professionals with the knowledge, values, and tools necessary to promote sustainable tourism development.

The Santorini workshop exemplifies a pedagogical model that emphasizes active participation, real-world problem-solving, and collaborative learning. Participants engage in experiential activities that address key issues such as overtourism, water scarcity, waste management, and rising living costs—challenges that are not unique to Santorini but are emblematic of wider global trends (UNWTO, 2018;

Gössling et al., 2020). Through interactive components like case study analysis and group action planning, participants acquire practical competencies in visitor management, sustainable mobility, community involvement, and the integration of smart technologies—critical tools for promoting sustainability in tourism (Becken & Simmons, 2015; Hall, 2019).

In parallel, national strategies demonstrate how sustainable tourism education can be implemented systematically at different educational levels. Portugal’s emphasis on ESG (Environmental, Social and Governance) principles within hospitality and tourism curricula aligns education with broader corporate responsibility frameworks, encouraging ethical business models and long-term environmental stewardship (European Commission, 2020; World Bank, 2021). The use of interdisciplinary project-based learning, industry collaboration, and digital tools—such as virtual and augmented reality—supports the development of critical thinking, creativity, and innovation, all of which are essential for future employment in the sector (Ruhanen et al., 2015; Camilleri, 2016).

Italy and CIPER contribute to this educational landscape by advocating for the incorporation of internationally recognized sustainability frameworks, including the Global Sustainable Tourism Council (GSTC) criteria and the Sustainable Development Goals (SDGs). These standards offer robust benchmarks for monitoring tourism’s social, economic, and environmental impacts, providing educators and students with tools to translate global policy goals into local action (GSTC, 2021; UN, 2015). The implementation of these frameworks into educational practices, supported by the European Green Deal and EU environmental footprint recommendations, reinforces the alignment between tourism education and policy (European Commission, 2019).

Bulgaria’s approach further broadens the scope by emphasizing tourism’s potential role in addressing global sustainability challenges through resource conservation, carbon reduction, and community well-being. This echoes scholarly arguments that sustainable tourism is not merely a niche market or trend but a foundational strategy for ensuring the long-term viability of destinations and communities (Bramwell & Lane, 2011; Weaver, 2006). Spain’s application of simulation-based learning and gamification techniques similarly reflects innovative efforts to engage students in understanding the systemic and often abstract dimensions of sustainability, such as carbon footprints and socio-economic trade-offs (Ferri et al., 2020).

Across all contexts, the integration of sustainability into tourism education is most effective when it connects academic learning with the labor market. Internships, business collaborations, community-based projects, and digital simulation tools enable students to experience how sustainable practices are implemented in real-life tourism operations. These strategies not only improve employability but also ensure that graduates can respond to the dynamic demands of the tourism industry, which increasingly requires digital, green, and soft skills (OECD, 2021).

In conclusion, sustainable tourism education must be seen as both a response to and a driver of global change. By embedding sustainability into curricula, adopting experiential learning methodologies, and

aligning with international standards and industry practices, tourism education can play a transformative role in shaping a more resilient, inclusive, and environmentally responsible tourism sector. As tourism continues to recover and evolve in the post-pandemic world, such education is not only desirable—it is indispensable. Future tourism professionals must be prepared to lead the sector toward models that prioritize ecological integrity, cultural preservation, and equitable economic development. Through comprehensive and forward-thinking educational initiatives, we can ensure that the next generation of tourism leaders will be well-equipped to balance growth with responsibility, and to safeguard the resources upon which tourism ultimately depends.

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