DECARBONISING THE TOURISM INDUSTRY POST COVID-19 SUPPORT (DETOCS)

SUMMARY OF SIMILAR REGIONAL CHALLENGES FOR DECARBONISING THE TOURISM SECTOR PROVIDING A CLEAR DIRECTION FOR POTENTIAL FUTURE POLICY IMPROVEMENT

JOINT THEMATIC SURVEY OF THE DETOCS PROJECT
SEMESTER 3

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Aim and target group of this Joint Thematic Study

This Joint Thematic Study aims to summarise similar regional challenges identified by the different partners, which need to be addressed to accelerate the decarbonisation of the tourism sector through policy improvement. Another objective of the study is to consolidate the transferable knowledge collected within the DETOCS project as it enters into its fourth semester, where more focus will be given to policy change. This study particularly explores the development and support of building sustainability strategies in the tourism sector, specifically focusing on decarbonisation.

This study includes the following information:

1. The current situations in the project partners' countries (Slovenia, Greece, Malta, Finland, Italy, Bulgaria, Hungary and the Netherlands) identified through SWOT/PESEL analyses carried out by each region.

2. The priority weaknesses and opportunities across regions

3. A summary of the similar challenges and obstacles in advancing sustainability in tourism, focusing on decarbonisation efforts necessitated by the post-COVID-19 recovery process

The report fosters collaboration by identifying similar challenges and opportunities across regions, encouraging regions to work together towards finding suitable solutions that are relevant to each region. The findings shall be used to affect the necessary policy change during the project's lifetime, and if not achieved provide strategic recommendations for policy makers to enhance policy measures in the future.

This study is primarily developed for stakeholders both within and outside of the DETOCS project partnership, including managing authorities of Operational Programmes supporting green innovation, international, national, and regional stakeholders influencing Operational Programmes, or institutions involved or interested in securing funding for their sustainability and innovation projects in the tourism sector.

The views presented here do not necessarily reflect the opinion of the partners of this project.

1. INTRODUCTION TO DETOCS PROJECT

The Interreg Europe project, **DETOCS – *DEcarbonising the TOurism Industry Post Covid-19 Support*** (https://www.interregeurope.eu/detocs) – aims to support the recovery of EU tourism infrastructure sector following the Covid-19 pandemic, amidst the energy crisis, and accelerate its decarbonisation. In doing so, DETOCS complies with EU long-term policies for the decarbonisation of the economy.

The DETOCS project has organ**ise**d international exchange events in various regions to foster collaboration and share sustainable tourism practices. To date, these were held in Ptuj, Slovenia, Seinäjoki, Finland and Sliema, Malta.

Transferable Shared knowledge cited in this Study was created by a sequence of activities:

(1) detailed mapping of regional situations of the Tourism Sector with regards to decarbonisation. This was achieved through regional stakeholders meetings held in all project partners' countries, aiming to engage with the identified regional key stakeholders and the experts in the field of tourism, and set the baseline for the status quo of the Tourism Sector with regards to decarbonisation in the region (Mar-Aug 2023). During these meetings the strengths, weaknesses, opportunities and threats (SWOT) from six perspectives namely, Political, Economic, Social, Technological, Environmental and Legal (PESTEL) aspects were identified for each region

(2) two interregional events held in:
   a. Finland (7-8 November 2023) – exchange of experience event in Seinäjoki, Finland where partners shared their initial results from their regional PESTEL and SWOT analyses
   b. Malta (15-16 May 2024) – exchange of experience event in Malta where the outcome of the Eisenhower Matrix analysis of all partner regions was shared. Each country presented their priority weaknesses and solutions for these were proposed by other partners and discussed

(3) biannual regional stakeholders' meetings (Mar 2023 – Aug 2024).

(4) virtual meetings among project partners (Mar 2023 – Aug 2024).

During the project implementation, a number of potential solutions for sustainable tourism were identified and exchanged amongst partner regions in Slovenia, Greece, Malta, Finland, Italy, Bulgaria, Hungary and the Netherlands. These, and other successful stories, will be identified and tested for eligibility as "Good Practices" during the next Semester (Sep 2024 – Mar 2025).

As a final step, project partners will aim to improve related policy in their regions and address weaknesses and challenges identified through the adoption of policies proven to be successful in other regions and other effective strategies.

2. INTRODUCTION TO THE TOPIC OF THIS JOINT THEMATIC STUDY: DECARBONISING THE TOURISM INDUSTRY POST COVID-19 SUPPORT (DETOCS) - SUMMARY OF SIMILAR REGIONAL CHALLENGES FOR DECARBONISING THE TOURISM SECTOR PROVIDING A CLEAR DIRECTION FOR POTENTIAL FUTURE POLICY IMPROVEMENT

This study focuses on transferable knowledge gathered throughout the DETOCS project. In this report, the decarbonisation of the tourism industry will be assessed, specifically in terms of strengths and successes for each region, as well as any unique or threats. It will also examine the weaknesses identified within the regions and the solutions to these weaknesses that can be transferred between partner countries, as identified in the different regional SWOT-PESTEL analyses reports.

When looking at the SWOT-PESTEL analysis, the study primarily focuses on identifying the strengths, weaknesses, opportunities and threats (SWOT) from the six perspectives namely, Political, Economic, Social, Technological, Environmental and Legal (PESTEL) for each region. Relevant stakeholders and key experts in tourism and energy efficiency were identified in the first semester and these were invited to participate in regional events to give their input and contribute towards the project. The stakeholders included government entities, public authorities, business associations, public and private organizations, academic and research institutions, experts from public administrations, representatives of the tourism sector, NGOs, energy agencies, and SME associations. These events facilitated discussions on the strengths, weaknesses, opportunities, and threats related to building energy sustainability in the tourism sector. The insights gained from these discussions were crucial in shaping the subsequent phases of the study.

Development of SWOT-PESTEL Reports

Leveraging the input from stakeholders, each region within the partner countries prepared a SWOT-PESTEL analysis report. These reports encompassed a variety of perspectives including political, economic, social, technological, environmental, and legal factors. By integrating feedback across these dimensions, the reports provided a holistic view of the challenges and opportunities in the tourism sector, particularly focusing on decarbonisation efforts.

Prioritization Using the Eisenhower Matrix

Given the extensive range of issues identified in the SWOT-PESTLE reports, a method for prioritization was necessary to effectively focus improvement efforts. The Eisenhower Matrix was employed to this end. Stakeholders were given a structured questionnaire, which was distributed through an online platform (Google Forms), asking them to rank the issues identified from the SWOT-PESTEL analysis based on their urgency and importance on a Likert scale of 1 to 5 (where 1 means LEAST urgent or important and 5 means MOST urgent or important). Additionally, the

questionnaire included a section to assess the feasibility of addressing these issues by February 2026, aligning with the project's timeline for instigating change.

The data collected from the questionnaires were used to populate the Eisenhower Matrix, allowing for a clear visualization of the most pressing issues that needed immediate attention versus those that could be deferred. This prioritization will help partner countries to focus resources on the most critical areas, thereby enhancing the efficiency and impact of the project’s initiatives.

3. THE CURRENT SITUATION IN PARTICIPATING REGIONS

This section provides a detailed description of the current situation in each participating region, focusing on the outcomes of their SWOT-PESTEL analysis to give a comprehensive understanding of their unique contexts. The insights gained from stakeholders and key experts in tourism and energy efficiency were instrumental in shaping these analyses and prioritising the top weaknesses and opportunities, which are also presented here. For a more detailed analysis of each region, the individual country reports can be reviewed.

3.1 South Ostrobothnia, Finland

In the first two semesters of DETOCS, the current situation of the tourism sector in South Ostrobothnia region, was examined using SWOT- PESTEL analyses. The tourism sector in Finland has been following the general development of the Finnish society towards a greener society. The sector has examples of forerunners in holistic sustainability as well as those who are only beginning their journey. As the SWOT/PESTEL analysis shows, there are positive and negative aspects impacting the greening of the tourism infrastructure in the region.

Table 1: SWOT/PESTEL Analysis – Finland South Ostrobothnia

	Strength	Weakness	Opportunity	Threat
POLITICAL	Stable society and safe to travel (PS1), The carbon neutrality goals of Finland (PS2) Sustainability and the green transition are recognised as important political issues (PS3) There is a political will to gain carbon neutrality in the region (PS4)	Tourism has not been one of the main focuses in the Region (PW1)	The potential for growth in tourism has been identified (PO1)	Quick changes in policies and taxes with negative impact on green investments (PT1) The unstable global situation (PT2)

	The largest city, Seinäjoki, has joined the National Hinku network – Towards Carbon Neutral Municipalities (PS5)			
ECONOMIC	Funding (loans, financial aid, projects) available for developing green tourism (EcS1) Many entrepreneurs are used to making (e.g. agricultural) investments (EcS2)	High prices and costs (EcW1) High transportation costs (e.g., fuel, trains) (EcW2) Lack of public transportation (EcW3) The lack of travel chain thinking i.e., one ticket for all types of public transportation. (EcW4)	Room for new innovations and investments (EcO1) Employing foreign talent and harnessing their language skills and cultural understanding (EcO2)	Labour shortages (EcT1) Rising interest rates -> decreasing investments (EcT2) Decreasing purchasing power of consumers (EcT3) The low price of electricity during high production times (EcT4)
SOCIAL	Safe and secure society (SS1) Entrepreneurial mindset (SS2) Several large summer events (SS3)	International travellers often travel to better known regions in Finland such as Lapland or Helsinki. (SW1) South Ostrobothnia is usually a destination for Finnish travellers. (SW2)	Foreign workforce and language skills (SO1) Room to improve visibility and recognition of the region as a tourist destination (SO2)	The aging population and depopulation (ST1) Destruction of property or vandalism for example, at free standing lean-to structures. (ST2) Internal competition

		Lack of networking with other companies/entrepreneurs (SW3) Scarcely populated area with sometimes great distances between travel destinations (SW4) Lack of courage to use foreign languages (SW5)		prevents the possible synergies (ST3)
TECHNOLOGICAL	High use of technology for diverse types of services (TS1) High use of technology for energy efficiency measures (TS2) Heat pumps and PV are widespread technologies (TS3)	Lack of digital skills in SMEs (TW1)	XR- and virtual reality (TO1) Digital solutions (incl. sales and marketing channels) (TO2) New energy solutions (TO3) The possibilities of AI even available for SMEs (TO4)	The development of technology is fast paced and there is a great possibility to fall behind (TT1) Insufficient protection against virtual attacks and threats (TT1)
LEGAL	Building code requires new buildings to be near zero energy (LS1) Everyone's right and the code of conduct on private land. "Everyone's rights have a particular	Strict legislation for example in relation to nutrition and creating/producti sing new natural products (LW1) Sunday allowance is a heavy burden for the tourism sector (LW2)	The possibility of local contracts alongside or instead of the collective agreements (in relation to workforce). (LO1) Legislation related to electricity production for own use allows for	Improper building tied in with near zero energy building code leads to mouldy and unhealthy buildings. (LT1) Changes to work force legislation leads

	significance for the recreational use of nature, natural means of livelihood and nature tourism." [2] (LS2)	The availability of work force (LW3)	small production tax free. (LO2)	to long strikes (LT2)
ENVIRONMENTAL	Clean nature. (EnS1) Outdoor activities available (EnS2) National parks and nature destinations are mostly free of charge (EnS3) Flat plains and open spaces, mires (EnS4)	Trails and pathways need to be ready and completed. Often time clear marking is lacking and finding them can be difficult. (EnW1) The region does not fit the typical image of Finland the land of a thousand lakes. (EnW2) Limited accommodation capacity in Region (EnW3)	Climate change leading to travellers seeking out destinations in cooler temperatures. (EnO1)	Decreased snow covering during winters. (EnT1) Littering increases. (EnT2) The wear and tear of nature increase with high volumes of visitors. (EnT3) The upkeep of trails and pathways is neglected. (EnT4) Potential of green washing (EnT5)

In the next step, stakeholders replied to a questionnaire via Google Forms. Eight (8) responses were received in total within the deadline 31 January 2024.

The Eisenhower methodology was applied to extract the most urgent and most important weaknesses and opportunities.

Table 2: Key weaknesses Finland South Ostrobothnia

Action	Issue
PW1	Tourism has not been one of the main focuses in the Region
EcW1	High prices and costs
EcW2	High transportation costs (e.g., fuel, trains)
EcW3	Lack of public transportation

EcW4	The lack of travel chain thinking i.e., one ticket for all types of public transportation.
SW3	Lack of networking with other companies/entrepreneurs
TW1	Lack of digital skills in SMEs
LW3	The availability of work force
EnW3	Limited accommodation capacity in Region
LW2	Sunday allowance is a heavy burden for the tourism sector

Table 3: Key opportunities Finland South Ostrobothnia

Action	Issue
EcO1	Room for new innovations and investments
EcO2	Employing foreign talent and harnessing their language skills and cultural understanding
SO1	Foreign workforce and language skills
TO2	Digital solutions (incl. sales and marketing channels)
TO4	The possibilities of AI even available for SMEs
LO1	The possibility of local contracts alongside or instead of the collective agreements (in relation to workforce).
EnO1	Climate change leading to travellers seeking out destinations in cooler temperatures.

Conclusions for the region of South Ostrobothnia Finland

The Eisenhower analysis helped refine the results from the SWOT/PESTEL analysis. Reviewing these results leads to the following recommendations for the next steps in the DETOCS project:

- The current political commitment to achieving carbon neutrality and fostering growth in the tourism sector aligns with DETOCS objectives. This political will should be encouraged and strengthened.
- The challenging impacts of inflation, higher interest rates, and energy prices often hinder new investments in energy efficiency. To mitigate these effects, ways to help the tourism sector access available funds and loans for developing green tourism should be identified and implemented.
- Heat pumps, photovoltaic systems, and other energy-efficient technologies are widely used. Sharing examples of these within the tourism sector can encourage steps towards greater energy efficiency.
- The unstable global situation, including events like COVID-19 lockdowns, the Ukraine war, and the resulting energy crisis, along with climate change, poses significant challenges. Strategies to create a resilient tourism sector should be developed.
- Climate change can drive growth in the tourism sector as tourists seek cooler destinations. The region should consider its tourism capacity and develop strategies to influence tourist behaviour, such as reducing littering.
- Good practices in public transportation, should be identified and implemented, especially given the relatively long distances in the region, should be identified and implemented.

- Technology and digitalisation can increase awareness, support behavioural change, and reduce the environmental impact of human activities, particularly in relation to energy efficiency. They also help create demand for services or locations. Smaller SMEs may need assistance finding synergies with one another to keep pace with technological advancements.
- Demonstrating that actions are genuinely green, rather than greenwashing, is a significant challenge that must be addressed.
- Where there is room for innovation, it should be identified and supported.

3.2 Municipality of Ptuj, Slovenia

In the first two semesters of the DETOCS project (Mar 2023 – Feb 2024), the current situation of the tourism sector in Slovenia was examined using SWOT/PESTEL analysis. Various strengths and weaknesses affect the advancement of sustainable tourism infrastructure in the region, presenting both opportunities and challenges for future development.

Table 4: SWOT/PESTEL Analysis – Policy instrument 1: LOCAL ENERGY CONCEPT FOR MUNICIPALITY OF PTUJ SLOVENIA

	Strength	Weakness	Opportunity	Threat
POLITICAL	Contains energy policy: demands implementation of energy measures, which improve energy efficiency at the same or decrease costs and capacity of the existing energy system	Shifting political priorities and changing government administrations can lead to inconsistent support for local energy initiatives, hindering long-term planning and implementation of virtual tourism projects	Act on efficient use of energy	Not knowing if the pandemic will happen again
ECONOMIC	Promoting short distance travels and tourism niche-markets	With the world economy in recession, the confidence of consumers and businesses has been affected	Assist regions to cope with the current energy crisis that increases the share of energy cost in their	Regulations on efficient use of energy in buildings

		by various uncertainties including rising unemployment rate and high employment risks	total operational cost threatening their profitability and economic viability	
SOCIAL	Strong connection to end users, with good ability to handle large capacity of energy data from prosumers	Regulations, and social tools to create motivation and desire to accept this are unknown yet	Increase the energy efficiency of tourism infrastructure,	Protection of socio-cultural heritage
TECHNOLOGICAL	Established integration between technological aspects and social/legal aspects	Disparities in digital literacy and access to technology within local communities, affecting their ability to participate in and benefit from virtual tourism initiatives.	"Virtual tourism" having low energy consumption and carbon footprint	Dependence on digital technologies for virtual tourism raises concerns about data security and privacy, especially if these technologies are powered by local energy systems vulnerable to cyber-attacks
LEGAL	Collecting, analysing and managing data and update records database at the national level	Complex regulations and permitting processes related to renewable energy installations and virtual tourism activities, leading to delays and bureaucratic	Promoting investments in the sustainable development of accommodation infrastructure	Respect for private property rights

		challenges at the local level		
ENVIRONMENTAL	Preparation and data collection in the field of energy supply and recording of potentials of Renewable Energy Sources (RES) and Rational Use of Energy (RUE).	Limited availability of renewable energy sources in certain regions, making it challenging to fully rely on clean energy for powering virtual tourism platforms	Covid-19 has created an excellent opportunity to pay more attention to environmental issues and that we should move towards sustainable development concepts	Energy-intensive structures (which require stable energy supply historically supported by fossil fuels.

Table 5: SWOT/PESTEL Analysis – Policy instrument 2: STRATEGY OF SUSTAINABLE DEVELOPMENT AND MARKETING OF TOURISM IN THE MUNICIPALITY OF PTUJ 2023-2028

	Strength	Weakness	Opportunity	Threat
POLITICAL	Stable political environment ensuring continuity and consistency in the implementation of long-term sustainable tourism plans	Uncertainty can make the future unpredictable and uncontrollable	Supportive policies and initiatives from local and national governments, including subsidies, tax incentives, and grants, encouraging businesses to adopt green technologies and decarbonise their infrastructure	In 2022 and 2023, tourism faces new crises the conditions resulting from the consequences of the war in Ukraine, the drastic increase in the prices of energy products and other inputs materials, high inflation and the threat of recession and a decline in economic growth, which may lower in the short-term demand for tourist trips

ECONOMIC	Promoting local and regional development and the economic development	Stakeholders in the destination about possible measures or performance adjustments to deter or reduce negative impacts of individual crisis situations on tourism providers in the destination	Tourism services can be a central driver of economic growth recovery in post COVID era	The flight of personnel from the tourism industry and the chronic lack of human resources in the tourism industry
SOCIAL	Create an effective development model of Ptuj tourism for the defined Period that will address the challenges of Ptuj tourism in the most optimal way	The energy crisis and the increase in raw material prices cause additional pressure on entrepreneurs in tourism	Organising and conducting trainings, seminars, workshops	The removal of border controls has raised concerns about security risk.
TECHNOLOGICAL	Digital transition – digitization of the entire business or activity - not just tourism, but entire local communities	The destination Ptuj and its stakeholders lag behind in implementation sustainable concepts and digitization	New project – Virtual tourism Green tourism	The management of the destination must regularly monitor the situation of possible crisis exacerbations and inform promptly
LEGAL	Regulation on development incentives for tourism	The destination Ptuj lags behind in terms of dynamism and penetration Tourism development	Lower energy consumption in the tourism sector	Increased cost (higher prices) for implementation of energy related projects

ENVIRONMENTAL	Implementation of eco-friendly initiatives, such as renewable energy usage, showcasing a commitment to environmental sustainability in tourism operations	Inadequate waste management practices in tourist areas, leading to environmental pollution and offsetting efforts to achieve decarbonisation goals.	Increase the energy self-sufficiency of tourism sector	Green transition - sustainable development of tourism, eco certified offer, circular practices, sustainable mobility

Table 6: SWOT/PESTEL Analysis – Policy instrument 3: OPERATIONAL PROGRAMME FOR THE IMPLEMENTATION OF THE EU COHESION POLICY 2021-2027

	Strength	Weakness	Opportunity	Threat
POLITICAL	The document includes the entry into force of a decree on development incentives for tourism, which will include key conditions and criteria for the allocation of funds in the sector	Long and difficult administrative procedure (bureaucracy burden due to lot of documents needed for receiving support is sometimes to exhaustive and difficult for applicants)	Collaborating with other EU member states on joint virtual tourism projects, leveraging shared resources and expertise	Varying regulations and policies across EU member states regarding virtual tourism can create inconsistencies and hinder cohesive implementation
ECONOMIC	A green and digital economy	The pandemic has had an impact on employment, environmental sustainability, the quality and added value of Slovenia's accommodation infrastructure,	New software solutions will also be supported to enhance the management and marketing of tourism products and services and better inform tourists about	Economic crisis (problems in private sector & lack of public funds at the national and EU level)

		public and shared tourism infrastructure, and the development of cultural heritage	these products and services	
SOCIAL	A flexibility amount of 50% of the allocation for the years 2026 and 2027, following an assessment by March 2025 of the challenges identified in the recommendations for progress in the implementation of the National Energy and Climate Plans (NECP)	Resistance to adopting energy-efficient technologies and practices, particularly among traditional businesses, employees, and tourists accustomed to conventional methods	Europe closer to citizens, by supporting locally-led development strategies and sustainable urban development across the EU	People are afraid that virtual tourism could potentially displace traditional tourism jobs, causing social unrest
TECHNOLOGICAL	The projects will include digitalisation and use of ICT technology to promote and interpret cultural heritage	Older buildings and infrastructure in the tourist sector may lack compatibility with modern energy-efficient technologies, making it challenging and costly to retrofit existing structures	Focus on new energy technologies and options (virtual tourism)	Rapid technological advancements might render existing virtual tourism infrastructure obsolete, requiring continuous investments to stay updated
LEGAL	The data monitoring and analysis capacity of the Green Scheme of Slovenian Tourism will be strengthened	Inadequate enforcement of energy efficiency regulations, leading to non-compliance among	Simplified, more focused And more strategic Programming	Ensuring compliance with EU data protection laws (such as GDPR) in virtual tourism activities to

		businesses and hindering the effectiveness of policy measures		safeguard user data and privacy, which might require significant legal and technological efforts
ENVIRONMENTAL	An energy performance certificate of at least class B for each renovation and at least one international eco-label	Continued reliance on non-renewable energy sources, both nationally and within the tourist sector, hampers progress toward achieving sustainable and energy-efficient practices	Important investments will focus on the development of the circular and sustainable economy, the preservation of the local biodiversity	It is becoming clearer and clearer that mitigation Actions will not reduce the negative impacts of climate change, let alone prevent climate change

A variety of stakeholders participated in an online survey conducted from February to March 2024. The following brings insights extracted by digging into the data, and analysing it using the Eisenhower Matrix framework. Stakeholders have outlined the most urgent issues they see as most important, needing immediate attention and careful prioritization.

Weaknesses

Upon examination of the Eisenhower matrix, the following primary conclusions emerge regarding the internal factors impeding the enhancement of energy efficiency within the tourism sector and extending to Slovenia at large:

I. The most important internal factors that hinder energy efficiency in the tourism sector are the technological context and the political factor. On the contrary, the economic and environmental aspects hinder the green transformation of the tourism sector much less.

II. Based on the responses received, **the following internal factor is the main obstacle to improving the energy efficiency of tourism facilities:** *TW1: Older buildings and infrastructure (under heritage protection) in the tourist sector may lack compatibility with modern energy-efficient technologies, making it challenging and costly to retrofit existing structures.*

III. Based on the responses received, **the internal factor that hinders the improvement of energy efficiency in tourism facilities the least is***: EcW1: The pandemic has had an impact*

on employment, environmental sustainability, the quality and added value of Slovenia's accommodation infrastructure, public and shared tourism infrastructure, and the development of cultural heritage.

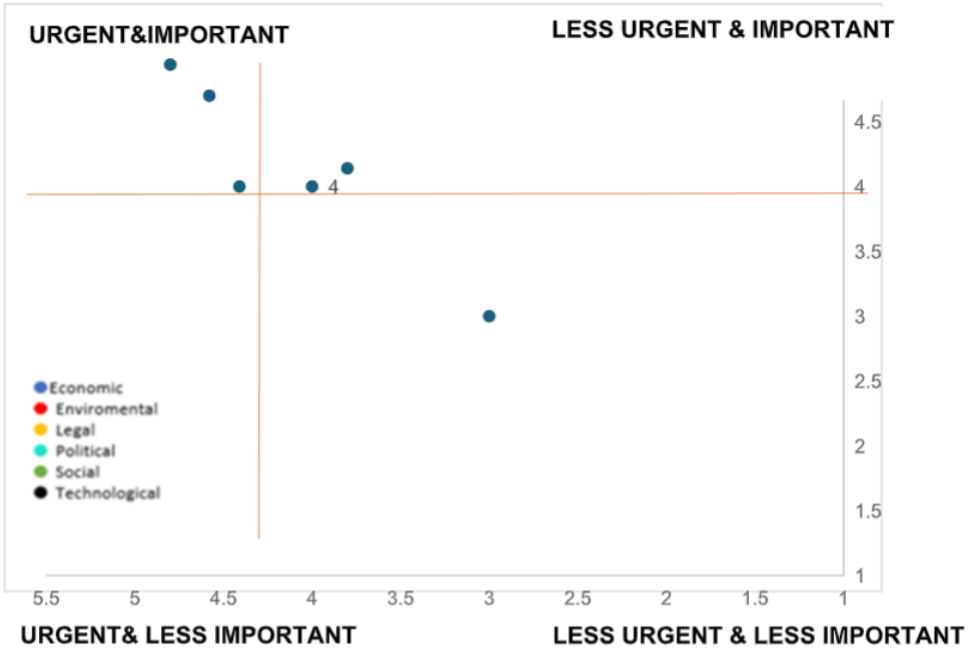


Figure 1: Municipality of Ptuj Slovenia Eisenhower matrix: results for SWOT/PESTEL weaknesses categories

Table 7: Key weaknesses by importance and urgency Municipality of Ptuj Slovenia

Ranking	Action	Issue	Importance	Urgency
1st	TW1	Older buildings and infrastructure (under heritage protection) in the tourist sector may lack compatibility with modern energy-efficient technologies, making itnchallenging and costly to retrofit existing structures.	4.94	4.8
2nd	PW1	Long and difficult administrative procedure (bureaucracy burden due to lot of documents needed for receiving support is sometimes to exhaustive and difficult for applicants).	4.7	4.58
3rd	LW1	Complex regulations and permitting processes related to renewable energy installations and virtual tourism activities, leading to delays and bureaucratic challenges at the local level.	4	4
4th	SW1	The energy crisis and the increase in raw material prices cause additional pressure on entrepreneurs in tourism.	4	4
5th	EnW1	Continued reliance on non-renewable energy sources, both nationally and within the tourist	4.14	3.8

		sector, hampers progress toward achieving sustainable and energy-efficient practices		
6th	EcW1	The pandemic has had an impact on employment, environmental sustainability, the quality and added value of Slovenia's accommodation infrastructure, public and shared tourism infrastructure, and the development of cultural heritage	3	3

Data source: own questionnaire survey

Opportunities

The Eisenhower matrix sheds light on key insights regarding external factors that promote energy efficiency improvements within Slovenia's tourism sector:

I. **Environmental conditions and the political environment** emerge as the most influential external factors contributing to energy efficiency in tourism. These aspects play a significant role in shaping the energy-saving initiatives within the sector.

II. Based on the responses received, **the external factor that provides the greatest incentive to** increase the energy efficiency of tourism facilities is *EnO1: Increase the energy self-sufficiency of tourism sector*.

III. Based on the responses received, **the external factor that provides the least incentive to** increase the energy efficiency of tourism facilities is *PO1: Collaborating with other EU member states on joint virtual tourism projects, leveraging shared resources and expertise.*

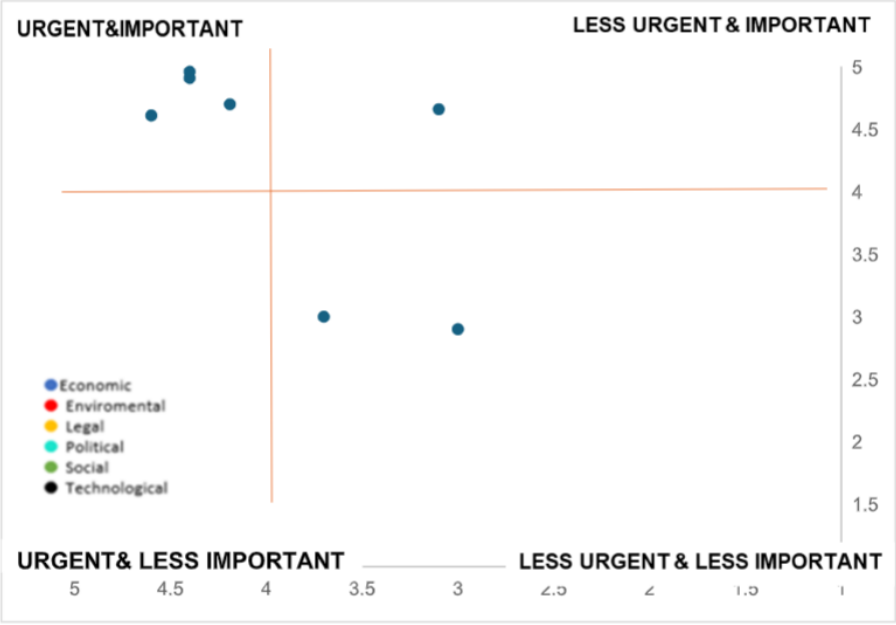


Figure 2: Municipality of Ptuj Slovenia Eisenhower matrix: results for SWOT/PESTEL opportunities categories

Table 8: Key opportunities by importance and urgency Municipality of Ptuj Slovenia

Ranking	Action	Issue	Importance	Urgency
1st	EnO1	Increase the energy self-sufficiency of tourism sector.	4.96	4.4
2nd	PO2	Supportive policies and initiatives from local and national governments, including subsidies, tax incentives, and grants, encouraging businesses to adopt green technologies and decarbonize their infrastructure.	4.91	4.4
3rd	LO1	Promoting investments in the sustainable development of accommodation infrastructure.	4.7	4.85
4th	SO1	Organising and conducting trainings, seminars, workshops..	4.66	3.7
5th	EcO1	Tourism services can be a central driver of economic growth recovery in post COVID era.	4.61	4.6
6th	TO1	New project – Virtual tourism Green tourism	3	3.7
7th	PO1	Collaborating with other EU member states on joint virtual tourism projects, leveraging shared resources and expertise.	2.9	3

Data source: own questionnaire survey

3.3 Central Danube, Hungary

The SWOT/PESTEL analysis conducted during the second semester of DETOCS, was prepared with the involvement of a wide range of stakeholders. This analysis identifies both internal and external barriers and drivers affecting the green transition of the tourism sector in the Central Danube Region.

Table 9: SWOT/PESTEL Analysis – Central Danube Hungary

	Strength	Weakness	Opportunity	Threat
POLITICAL	Many municipalities, including many tourist centres and spa towns, have their own municipal level climate and energy strategies (PS1) Hungary's energy mix is gradually shifting towards carbon-neutral technologies, with a target of 90% of electricity generation by 2030 (PS2) Under the operational programmes, both refundable and non-refundable grants are available for the energy renovation of accommodation /spas (PS3) In the form of the	Complex management of projects made up of investments eligible under different operational programmes is difficult, lack of coordination makes it difficult to implement complex projects (PW1) The energy tenders are not written with a tourism perspective, e.g. the tendering schemes do not differentiate between accommodation and spas, or the indicators and specific cost factors required in the tenders are not adapted to the characteristics of accommodation and even more so of spas, thus	A more predictable, categorised tender system targeting energy modernisation of accommodation and spas, and the development of intelligent operation (PO1)	Local authorities' limited financial resources (PT1) Primarily for spa development it is a risk that local authorities are being reluctant to take out loans, it is also limited by the regulatory environment (PT2) Risk of access to EU funding (PT3) Risks of adverse international and/or domestic trends affecting the tourism sector as a whole (PT4)

	Strength	Weakness	Opportunity	Threat
	Kisfaludy Accommodation Development Facility, a highly successful accommodation development support scheme was available in Hungary in the last programming period, the experience of which can be used in the future, as the Kisfaludy Programme will run until 2030 (PS4)	constituting an obstacle to obtaining funding (PW2) Excessive administrative burdens (PW3) Many individual funding decisions which reduce the transparency of the support scheme (PW4) There is no comprehensive database on the building stock of the tourism sector that could form the basis for a comprehensive building energy support programme focusing on accommodation (PW5)		

	Strength	Weakness	Opportunity	Threat
ECONOMIC	Rising overheads will put more emphasis on energy saving operation and energy upgrades (EcS1) In commercial finance, through financial institutions and investment funds, sustainability requirements have been introduced (EcS2) Green lending is seen by financial institutions as a safer way to lend (EcS3) Corporate tax relief is available for energy modernisation (EcS4)	High cost of complex renovations and of advanced technological solutions (EcW1) Low capital strength of mainly small accommodation and spas (EcW2) Investors are uncertain about financing the tourism sector due to developments in recent years (e.g. COVID, decline in domestic solvent demand due to high inflation) (EcW3)	Targeted subsidies (either in the form of non-reimbursable or soft loans) for the energy modernisation of accommodation and spas, in which, for example, the comprehensive renovation of older, dilapidated hotels, including mechanical, water supply and thermal insulation systems should form a separate category (EcO1) Establishment of a municipal facilities renovation fund, which would be "replenished" from the resources saved as a result of the renovation of facilities (EcO2) Provision of financial benefits for energy-efficient accommodation and spas (e.g. tax incentives, discounts at certain tenders) (EcO3)	As local business tax and tourism tax are the main sources of revenue for local authorities, they are cautious about any tax reliefs they may grant for energy renovation, as the revenue from these taxes is essential for the functioning of the municipality (EcT1) Construction prices are rising at a high rate, which significantly reduces the return on investment (EcT2) Primarily for smaller accommodation facilities, the future elimination of the annual net metering of solar PV systems will reduce the return on investment in renewable energy (EcT3)

	Strength	Weakness	Opportunity	Threat
SOCIAL	General increase in the popularity of environmentally conscious attitude (SS1) Young generation, more environmentally conscious than the middle-aged, is increasingly taking a larger share of tourism (SS2) The continuing demand for the Green Hotel certification scheme demonstrates the marketing value of "green" hotel management (SS3) Sustainable building management is an optional search category in international accommodation service systems (SS4) Based on the high demand for some ecologically oriented accommodation in Hungary, it can	A significant proportion of guests in accommodation have a wasteful attitude, which includes energy and water use, and are willing to give up something as long as it is not at the expense of convenience (see, if I pay for it, I can afford to use a lot of it) (SW1) For the vast majority of the domestic clientele, price sensitivity overrides environmental awareness, which is particularly prevalent in the case of spas (SW2) Among the sustainability issues of interest to the guests, energy efficiency is not the main focus of attention, rather avoiding food waste and using local products and food are (SW3)	Media support, green marketing to promote green accommodation (SO1) Changing guests' mindsets through campaigns, information materials and energy-aware communication in accommodation (SO2) Introduce a central sustainability rating system for potential suppliers of accommodation and spas, similar to the Green Hotel Award (SO3)	The rise in the popularity of 'green approach' is accompanied by the emergence of 'green washing', which in the case of accommodation establishments is a risk, particularly in connection to suppliers, as the verification of suppliers' claims can place a significant burden on the accommodation establishment and its powers to do so are limited (ST1)

	Strength	Weakness	Opportunity	Threat
	be concluded that there is a significant marketing value of ecologically oriented accommodation in certain social groups (SS5)			
TECHNOLOGICAL	Technologies for sustainable, i.e. energy and water efficient, low-waste operation are known and available on the market for all domestic accommodation and spas (TS1) The vast majority of accommodation establishments with a larger number of guests have already made low-cost investments to improve operational efficiency (e.g. replacement of light fixtures; lighting only with entrance card; automatic shutdown of air conditioning when windows are open) (TS2)	In the operation of outdated building services older buildings are overrepresented (TW1) A significant, but not predominant, proportion of accommodation is in listed or locally protected buildings, where energy efficiency upgrades can only be achieved at significant additional cost (TW2) Due to the scarcity of development funds, in the vast majority of cases, non-complex renovations are carried out, which reduces the efficiency of the system as a whole (e.g. the mechanical system is oversized in relation to the	Training staff to operate engineering, lighting and any automated systems efficiently (TO1) Deployment of building monitoring and remote monitoring systems (TO2) Use of smart solutions in all establishments (smart lighting, heating, equipment management) (TO3) Provision of an energy consultancy service to accommodation establishments with a smaller number of guests to identify the optimal energy saving opportunities on site and the ideal sequence of their	Gaps in the electricity distribution network that hinder the widespread use of renewable energy (TT1)

	Strength	Weakness	Opportunity	Threat
		heat demand, if the thermal insulation is carried out after the mechanical renovation) (TW3) Following refurbishment, staff are often not trained on the operation of the installed equipment, and on the possible need to modify settings, which can reduce the efficiency of the whole system (TW4) Especially in smaller establishments, there is often no systematic, even automated, monitoring system of energy and water use, so malfunctions are often hidden (this is particularly a problem for water use, where losses are already high) (TW5)	implementation (TO4)	

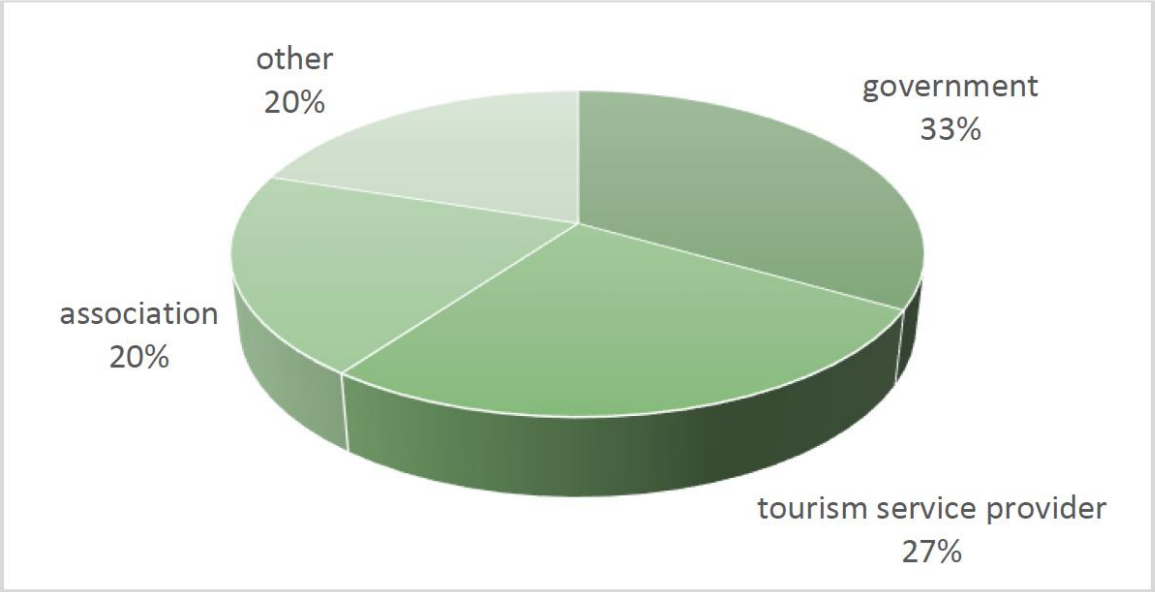
	Strength	Weakness	Opportunity	Threat
LEGAL	The legislation on the energy performance of buildings has recently been renewed (Decree No. 9/2023 ÉKM of the Minister of Construction and Transport, which enters into force on 1 November 2023). The new legislation introduces, after several years of postponement, near-zero energy requirements (LS1) Energy certification and auditing system in place, significant experience in applying the legislation (LS2)	The uptake of renewable energy is made more difficult by the need to match electricity generation and consumption sites for own use (LW1) The legal regulation of energy communities is not solved, although energy communities could also include accommodation (LW2) In the case of smaller accommodation facilities, energy upgrades may be counteracted by the fact that under the new provisions, energy performance certificates are no longer a compulsory part of sales contracts (LW3) Waste heat recovery may sometimes be subject to legal barriers (see if the heat source is waste, as waste is subject to strict requirements) (LW4)	A more predictable regulatory environment or one that is less dependent on change (5) Legislation to support the creation and operation of energy communities (LO1) Creating a legislative environment that better encourages, in some cases (e.g. thermal spas) requires the use of waste heat (LO2)	Frequent changes in the regulatory environment (LT1)

	Strength	Weakness	Opportunity	Threat
ENVIRONMENTAL	Since environmental objectives, in particular energy and water consumption and waste reduction, also bring financial benefits, accommodation owners have an economic interest in investing in these objectives (EnS1) Small-scale environmental - and cost-saving - investments or operational modifications have been widely implemented in domestic accommodation (e.g. on-demand towel change, motion activated light control, food/furniture/detergent donation) (EnS2) Decades of operation of the Green Hotel Certification Scheme by the Hungarian Hotel and Restaurant Association, which receives 40-50	While energy renovations are relatively common, grey water recycling is much less common in domestic accommodation (EnW1) Due to the high capital demand for investments, many spas do not have a solution for waste heat recovery (EnW2)	Complex building energy renovation (thermal and water insulation, modernisation of mechanical and lighting systems, use of renewable energy) (EnO1) Recovery of waste heat from spas (EnO2) Exploiting the energy-saving potential of shading (e.g. applying smart shading systems, installing deciduous vegetation) (EnO3) Installation of electric car and bike charging stations (EnO4) Enabling bicycle rental (EnO5) Preference for local, regional raw materials and suppliers (EnO6) Designation of a "Green team", staff training (4) Use of ECO label certified cleaning products, furniture (EnO7)	Investors have a pragmatic approach to the questions of environmental protection and climate adaptation. They decide to invest mainly on the basis of price, with only a small number of specifically environmental/climate-friendly developments. As a consequence, investors only opt for more stringent but more environmentally friendly solutions than the legal requirements when the requirements are outdated (i.e. there are market-based savings to be made by meeting more stringent requirements) or when they expect explicit marketing benefits from 'green' operations. (EnT1)

	Strength	Weakness	Opportunity	Threat
	applications per year (EnS3)			

The statements contained in the SWOT/PESTEL analysis were used to formulate the questionnaire. The questionnaire contained 75 statements (strength: 20, weakness: 22, opportunity: 22, threat: 11).

Fifteen (15) responses were received in total within the deadline. Most respondents were from local authorities, but similar number of respondents were from tourism service providers and professional associations as well. Other category contains responses from colleagues of a higher education institution and two businesses.



Data source: own questionnaire survey

Figure 3: Distribution of Respondents by Category – Central Danube Hungary

After processing the responses to the online questionnaire, the Eisenhower matrix was produced in March 2024. This matrix assesses the primary drivers and barriers enhancing energy efficiency

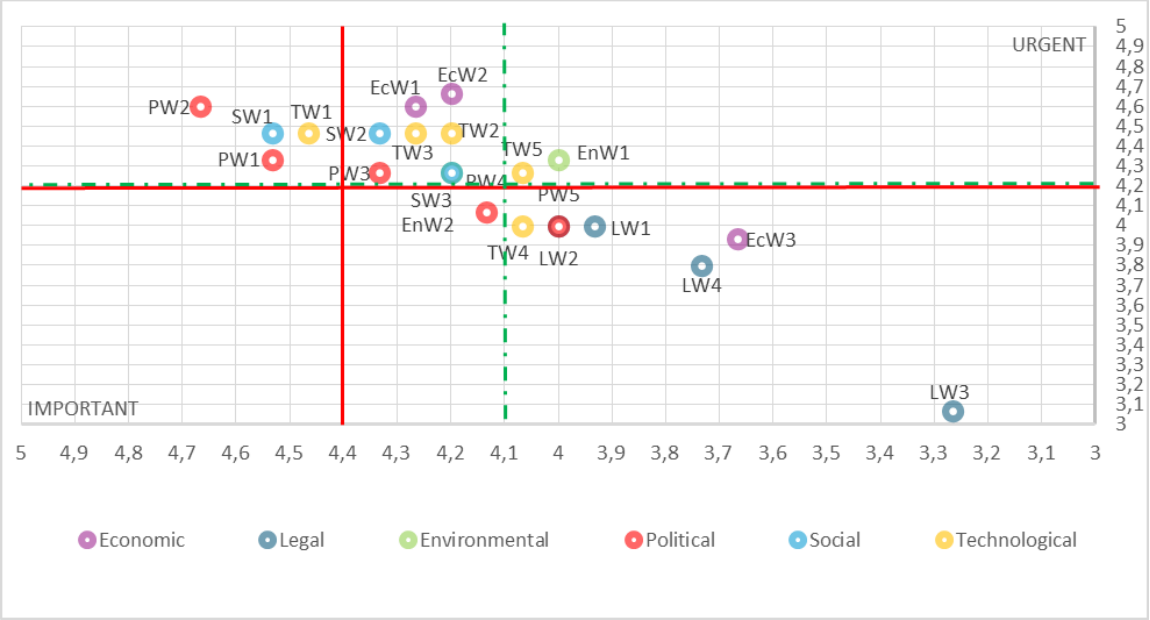
in the tourism sector of the Central Danube Region and, more broadly, Hungary. It also identifies which potential interventions need urgent attention to improve energy efficiency and which are worth addressing in the long term.

The main results of the Eisenhower matrix for weaknesses and opportunities are summarised below.

Weaknesses

Based on the Eisenhower matrix, the following key conclusions can be drawn about the internal factors impeding energy efficiency improvements of the tourism sector in the Central Danube Region - and Hungary more broadly:

- The most significant internal factors hindering energy efficiency in the tourism sector are the policy context, the technological environment and certain aspects of social acceptance. In contrast, the legal and economic environments present much less of a barrier to the green transformation of the tourism sector.
- Of the dimensions, as with the strengths, the statements on social acceptability show the greatest consistency in their significance. The ranking values for importance range from 3.26 to 4.46, while the ranking values for urgency range from 4.2 to 4.53. This area as a whole is rated by respondents as a major internal constraint.
- Of the dimensions, the statements on the legal environment show the largest variance in the significance of each, with a ranking of 3.06 to 4 for importance and 3.26 to 4 for urgency.
- Based on the responses received, the following internal factor is the main obstacle to improving the energy efficiency of tourism facilities: *"PW2: The energy tenders are not written with a tourism perspective, e.g. the tendering schemes do not differentiate between accommodation and spas, or the indicators and specific cost factors required in the tenders are not adapted to the characteristics of accommodation and even more so of spas, thus constituting an obstacle to obtaining funding."*
- Based on the responses received, the internal factor that hinders the improvement of energy efficiency in tourism facilities the least is: *"LW3*: *In the case of smaller accommodation facilities, energy upgrades may be counteracted by the fact that under the new provisions, energy performance certificates are no longer a compulsory part of sales contracts"*



Data source: own questionnaire survey

Figure 4: Central Danube Hungary Eisenhower matrix: weaknesses categories: zooming in on urgent and important

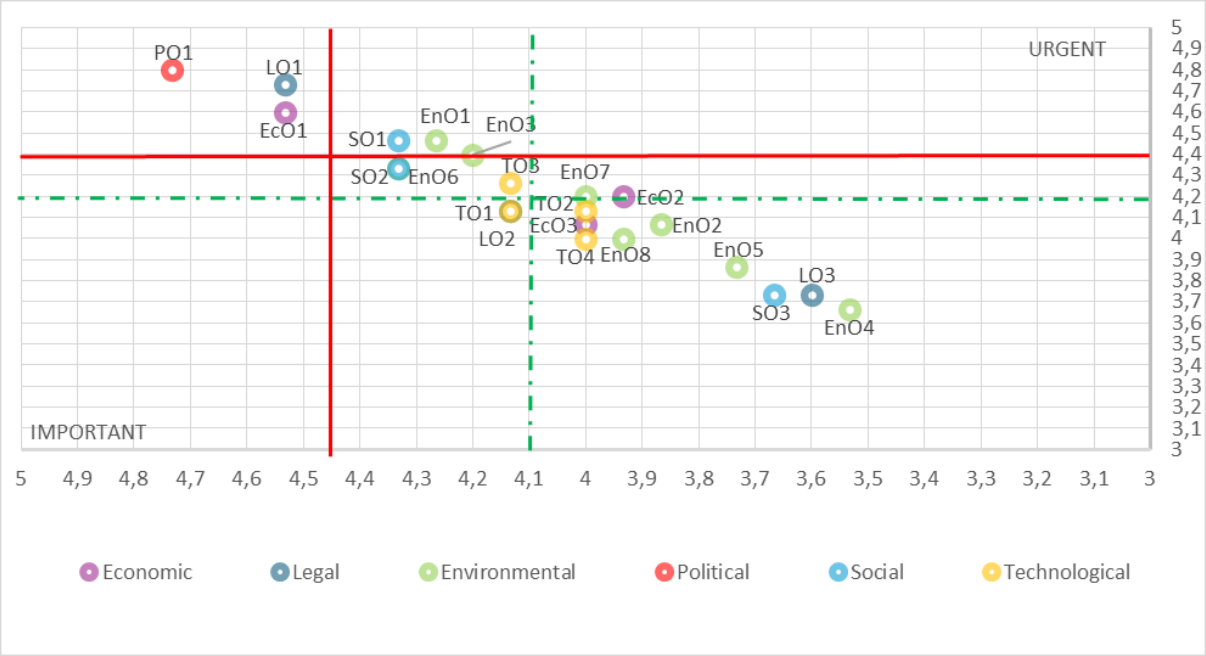
Table 10: Key weaknesses by importance and urgency Central Danube Hungary

Ranking	Action	Issue	Importance	Urgency
1st	PW2	The energy tenders are not written with a tourism perspective, e.g. the tendering schemes do not differentiate between accommodation and spas, or the indicators and specific cost factors required in the tenders are not adapted to the characteristics of accommodation and even more so of spas, thus constituting an obstacle to obtaining funding	4.60	4.67
2nd	SW1	A significant proportion of guests in accommodation have a wasteful attitude, which includes energy and water use, and are willing to give up something as long as it is not at the expense of convenience (see, if I pay for it, I can afford to use a lot of it)	4.47	4.53
3rd	TW1	Complex management of projects made up of investments eligible under different operational programmes is difficult, lack of coordination makes it difficult to implement complex projects	4.47	4.47
4th	PW1	In the operation of outdated building services older buildings are overrepresented	4.33	4.53

Data source: own questionnaire survey

Opportunities

- Based on the Eisenhower matrix, the following key conclusions can be drawn about the external factors that can contribute to energy efficiency improvements in the tourism sector of the Central Danube Region - and Hungary more broadly: The most significant external factors contributing to energy efficiency in the tourism sector are the policy context, the legal environment and certain characteristics of the economic environment. In contrast, the general desire to protect the environment and adapt to climate change is a much less important driver for a green shift in the tourism sector.
- Of the dimensions, the statements on the technological environment show the greatest consistency in their importance, except for the policy environment, which was the subject of only one statement. The ranking values for importance range from 4.13 to 4.26, while the ranking values for urgency range from 4.13 to 4. This area as a whole is rated by respondents overall as an external driver of medium significance.
- It is striking that for most of the dimensions considered, there is considerable variation in the significance of the findings under each of them. However, the greatest variation is in the perceived significance of two characteristics of the legal environment. While one of these features was ranked among the most important and urgent factors, the other was ranked among the least important and urgent factors.
- Based on the responses received, the external factor that provides the greatest incentive to increase the energy efficiency of tourism facilities is *"PO1: A more predictable, categorised tender system targeting energy modernisation of accommodation and spas, and the development of intelligent operation"*
- Based on the responses received, the external factor that provides the least incentive to increase the energy efficiency of tourism facilities is *"EnO4: Installation of electric car and bike charging stations."*



Data source: own questionnaire survey

Figure 5: Central Danube Hungary Eisenhower matrix: opportunities categories: zooming in on urgent and important

Table 11: Key opportunities by importance and urgency Central Danube Hungary

Ranking	Action	Issue	Importance	Urgency
1st	PO1	A more predictable, categorised tender system targeting energy modernisation of accommodation and spas, and the development of intelligent operation	4.80	4.73
2nd	LO1	A more predictable regulatory environment or one that is less dependent on change	4.73	4.53
3rd	EcO1	Targeted subsidies (either in the form of non-reimbursable or soft loans) for the energy modernisation of accommodation and spas, in which, for example, the comprehensive renovation of older, dilapidated hotels, including mechanical, water supply and thermal insulation systems should form a separate category	4.60	4.53

Data source: own questionnaire survey

3.4 Burgas, Bulgaria

The SWOT analysis was prepared based on feedback from the identified stakeholders in Burgas, Bulgaria. Following the first regional stakeholders meeting in August 2023, a questionnaire was prepared and circulated among all stakeholders, focusing on identifying the Strengths, Weaknesses, Threats and Opportunities across six pillars: political, economic, social, technological, legal and environmental issues. Several bilateral follow-up meetings were organised for stakeholders who missed the initial August 2023 meeting. The draft SWOT analysis report was then discussed with the Bulgarian stakeholders during the second SG meeting held on 20th February 2024.

A total of 77 points are reported, with 23 strengths, 13 weaknesses, 22 opportunities and 19 threats, as detailed below:

Table 12: SWOT/PESTEL Analysis – Burgas Bulgaria

	Strength	Weakness	Opportunity	Threat
POLITICAL	Long-term programme for encouraging the use of RES and biofuels 2021 – 2030 Short-term (2021 - 2023) and Long-term (2021 - 2030) energy efficiency program of the Municipality of Burgas A Tourism Development Strategy has been developed with clear objectives	-Areas need to be specified and declared for priority infrastructure and incentivised superstructure development Lack of important strategic documents for tourism development	To work actively to establish Bulgaria as a competitive tourist destination for sustainable year-round tourism. Concerted efforts shall be made so that Bulgaria is perceived as an attractive tourist destination with its uniqueness.	Military conflicts (importance 5) Increasing migration flows
ECONOMIC	Recovery and Sustainability Plan - it provides BGN 550 million for tourism companies under the forthcoming	Need to link the tourism legislation and municipal strategies more closely to the possibilities of	Stimulating the supply of tourist products and their integration with the tourist industry - marine and	Pandemics such as COVID-19 Outflow of tourists

	Renewable Energy for self-generation and energy storage, as well as for growth and for energy efficiency and renewable energy. The municipality of Burgas applies implementation of measures at local level to mitigate the consequences of energy poverty (Comact) Horizon 2020. Together with city of Sofia, the municipality participates in a project "Cities powered by the sun. Unlocking the potential for solar energy production of the cities of Burgas and Sofia" /Solar cities/.	introducing energy efficient measures and practices; need to introduce incentives for the tourism industry that implement such measures and practices.	fishing attractions (expositions, marine collections). Tourist sites on the territory of the municipality of Burgas can be advertised for free on the GoToBurgas platform. Create one-stop-shop energy office - support for the planning and implementation of RES projects. Development of business and congress tourism as a result of the industrial profile of the municipality	Increasing prices of different energy carriers, which results in constant increase in prices of electricity and natural gas. Prices of main energy carriers (electricity, natural gas, and fuels) have increased by about 100% just for one year, from 2021 to 2022, which puts the touristic sector in Bulgaria at an emergency situation Strong competition of neighbouring countries (Turkey and Greece offer touristic packages at quite competitive price levels)
SOCIAL	Hotels, restaurants and attractions are encouraged to submit proposals to be included in the themed weekends according to the Strategy for sustainable	Should be provided water supply, sanitation, energy supply, transport accessibility, marked routes, visitor centres, observation points for places	- The deep energy renovation of the building stock Providing assistance to energy-poor households to implement	Lack of trained staff in touristic sector Terrorist threats Inability of the superstructure to absorb tourist flows

	development of tourism in Burgas municipality, 2022-2023. . Active participation in European initiatives related to cultural heritage. Active protection of intangible cultural heritage folklore, traditional practices and customs. Walking guides tours of the central part of the town are organised in English during the summer season. Burgas established itself as a festival centre - hosting the International Folklore Festival, Burgas Film Fest, and Spice music festival.	with ecological and rural tourism Professional guides and tour guides should be trained in the field of ecological and rural tourism; - Noise pollution Inaccessibility of most of the tourist sites to people with disabilities	energy efficiency measures in their homes. Comprehensive modernization of public transport Stimulate the tourism business and to create new attractive zones with rich cultural content. Stimulating the digitisation of cultural material and assets Many local festivals stimulated by the Municipal Culture Fund All festivals in Burgas have the potential to attract different categories of tourists and visitors to the city.	High competition for staff from countries with a longer tourist season - Greece, Turkey, Italy Decrease in the quality of the tourist service due to recruitment of low-skilled personnel from Ukraine and Moldova
TECHNOLOGY	Burgas Municipality has built in over 20 km. of cycle paths Reconstruction of the mineral water network in “Mineral Baths” neighbourhood	Overloading of the water network, leading to risks in the operation of wastewater treatment plants and disruptions in water supply;	The switch to high-efficiency LED lighting in the street lighting system Stimulation of integrated and sustainable tourism development	Lack of a system of links and interactions between state and public tourism organizations, tourism educational institutions and

	Electrification of the bus fleet New solar-powered bike shelter for up to 40 conventional and e-bikes Modernization of the street lighting system in 22 zones including the main road arteries of the city of Burgas Smart urban mobility: Digital ticketing system for the operator of the city transport; Real time information system for passengers; Bus operations management system and optimization of the public transport scheme of the city.		through the use of digital technologies and promotion of Burgas as a SMART CITY Stimulating digital innovations and services in the tourism sector and digital presence Technical survey of the building and technical passport of the building can be made	owners of tourist sites; Insufficient and unsystematic promotion of the destination
LEGAL	The Tourism law states that the state shall financially support sustainable tourism development by providing funds for increasing energy efficiency and introducing environmentally friendly tourism technologies;	Difficult to track tourism development funding, unclear data on total investments and results; Lack of important strategic documents for tourism development;	Building an effective link between early planning, demand and supply of the tourism product through the development of electronic communication channels and;	Impact of grassroots tourism campaigns by competing destinations, especially by Mediterranean ones

	A lot of parties (maybe participants) concerned with the green tourism value chain Measures to stimulate the categorization of guest apartments and highlight the sector	Lack of measurable indicators for reporting on progress as a result of marketing activities;		
ENVIRONMENTAL	"Increasing the share of RES in the municipality up to 32% by year 2030" is laid in the Long-term programme for RES and biofuels. Policies to reduce environmental impacts through more effective waste management, modernizing public transport, limiting residential development, improving air quality A significant part of the space occupied by the municipality of Burgas falls under the Biodiversity Act - 6 protected areas for the conservation of natural habitats have been identified here	- The product line of ecological and rural tourism needs initially the upgrading of the existing infrastructure in tourist places suitable for these types of tourism. Air pollution Congestion on roadways in active season	The purchase of electric vehicles for public transport and the municipal bus fleet. Conservation and promotion of the identity of the fishing village "Chengene skele" Immediate actions towards increasing awareness and realizing the importance of using local and sustainable RES by accommodation sites Introduction of sustainable business models with the purpose to reduce or re-use resources and services	Water contamination Insufficient number of waste water treatment stations, as well as water supply and sewerage facilities Climate change and natural disasters Improper exploitation of natural resources and disturbance of biodiversity

			related to a popular touristic product.	

Several meetings with Bulgarian stakeholders were organised in January and February 2024 to introduce them to the Eisenhower Matrix and support them in providing feedback.

A Google Form was prepared, incorporating almost all of the 77 points. Stakeholders were asked to rank the points according to their importance and urgency using on a scale of 1 to 5, with 1 being “least” and 5 being “most” urgent or important. For the WEAKNESSES and OPPORTUNITIES categories, an additional ranking was requested in terms of the feasibility for implementation.

A total 20 stakeholders from Bulgaria responded to the questionnaire and the analysis was conducted to determine the average scores attained.

The results for the most urgent and most important weaknesses and opportunities are as follows.

OPPORTUNITIES

The top six opportunities were identified as follows.

Table 13: Key opportunities by importance and urgency Burgas Bulgaria

Action	Issue	Importance	Urgency
EcO2	Tourist sites on the territory of the Burgas municipality can be advertised for free on the GoToBurgas platform.	4.5	4.1
EcO5	Development of business and congress tourism as a result of the industrial profile of the municipality.	4.25	4.1
SO2	Local festivals can be promoted and supported by the Municipal Culture Fund. This activity will impact the touristic sector positively.	4.3	4.05
SO1	Promote the sustainable and environmental tourism by creating new attractive zones with rich cultural contents.	4.25	4.1
PO1	Policymakers in Burgas should work actively to establish the region as a competitive touristic destination for sustainable year-round tourism.	4.3	4.15
PO2	Concerted efforts need to be made by local stakeholders so that the region is perceived as an attractive tourist destination with its uniqueness, and historic heritage.	4.3	4.05

Data source: own questionnaire survey

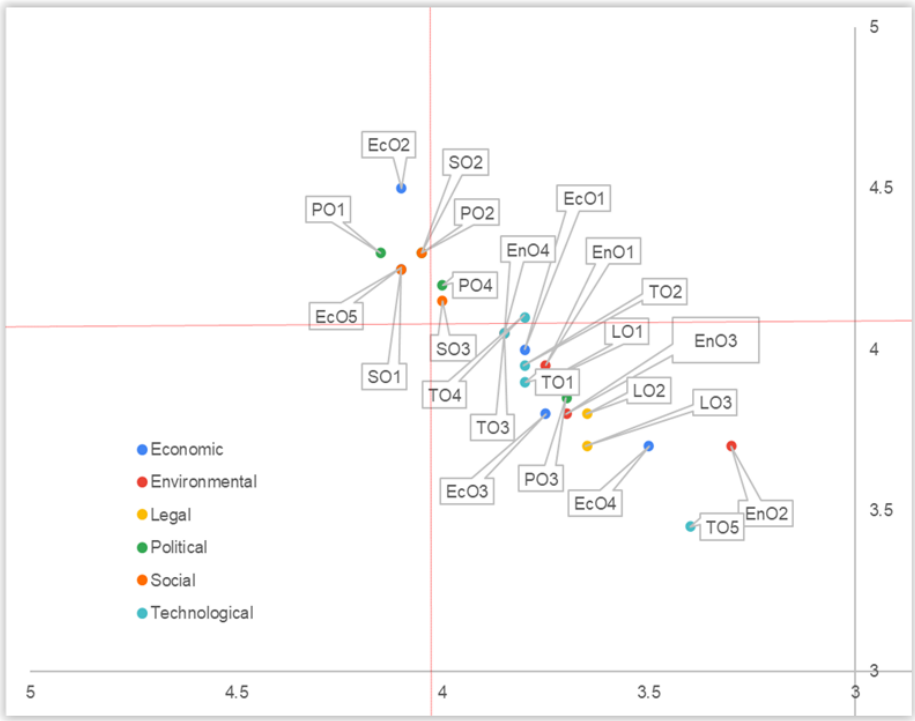


Figure 6: Burgas Bulgaria Scoring distribution of the OPPORTUNITIES – A Zoom in on Top Left Quadrant (Important and Urgent) with Red Line Delimiting Top Six Points

WEAKNESSES

Similarly, the WEAKNESSES were analysed and the top six were identified as follows:

Table 14: Key weaknesses by importance and urgency Burgas Bulgaria

Action	Issue	Importance	Urgency
SW3	Inaccessibility of some of the touristic sites to people with disabilities can be a significant challenge.	4.4	4.25
EcW1	Grant programmes are complex, hard, and bureaucratic, which makes the number of applications from the private touristic sector quite low, and the adoption of funds is low.	4.15	4.15
EnW3	Existing water and air pollution – infrastructure improvement is necessary in order to improve the sustainability of touristic sector.	4.15	4.05
EnW4	Lack of initiatives which aim at increasing awareness and understanding the importance of using local and sustainable RES by touristic sites.	4.2	4
LW2	Bureaucratic and sluggish procedure to introduce RES installations in touristic buildings and sites can significantly delay the decarbonisation of the touristic sector.	4.2	4.05
SW1	The sector needs more training and capacity building activities. Professional guides and tour guides should be trained in the field of environmental and sustainable tourism.	4	3.95

Data source: own questionnaire survey

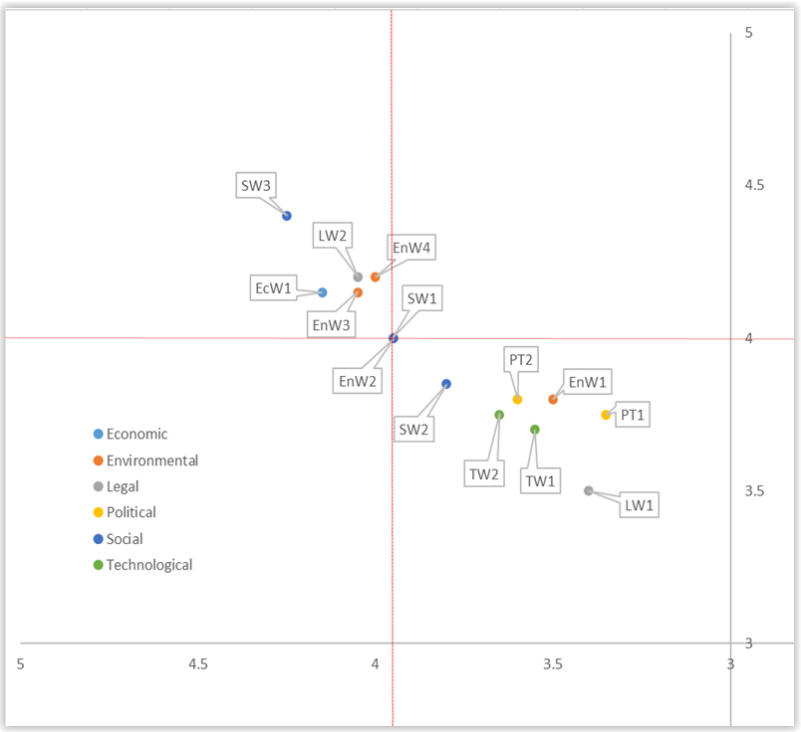


Figure 7: Burgas Bulgaria Scoring distribution of the WEAKNESSES – A Zoom in on Top Left Quadrant (Important and Urgent) with Red Line Delimiting Top Six Points

3.5 Malta

The SWOT/PESTLE analysis has revealed a plethora of positive points as well as challenges that the Tourism Sector is experiencing in Malta, post COVID-19. The table below provides a summary of the feedback gathered from various stakeholders during the initial Regional Stakeholders Meeting, which took place in Malta on June 27, 2023, followed by an additional online meeting on September 29, 2023. During both meetings, a questionnaire was distributed to collect detailed feedback. The SWOT analysis report was subsequently compiled from insights contributed by 29 identified stakeholders representing government bodies, authorities, tourism industry associations, and educational institutions.

Table 15: SWOT/PESTEL Analysis – Malta

	Strength	Weakness	Opportunity	Threat
POLITICAL	PS1: In several national strategies Malta shows strong commitment towards decarbonisation, which can support the tourism sector's transition to low-carbon operations. PS2: There are measurable targets for decarbonisation which provide clear, quantifiable goals that can potentially drive focused and concerted efforts towards sustainability. For example, the low carbon development strategy for Malta for 2050 has a number of targets	PW1: Insufficient corporate support to accelerate the implementation of policy goals to reduce carbon emissions and to achieve decarbonisation PW2: Synchronisation of policies falling under the responsibility of different ministries and authorities is not always evident and effective. For example, increased bed capacity is supported, while no sufficient support is provided to shift to green energy to counterbalance the increase in tourists. PW3: There is a noticeable gap in comprehensive data regarding Malta's current standing in	PO1: The shift towards sustainable tourism will place Malta at par with other leading tourism destinations, attracting tourists who are conscious about their environmental impact. PO2: In the EU there are a number of islands and small states that can cooperate together that can harmonise their policies towards sustainable tourism (e.g. Clean Energy for EU islands initiative). PO3: Initiate collaborations with organizations, such as the Small Islands Organisation (SMILO) and Greening the	PT1: A change in administration could lead to the prioritisation of different initiatives, potentially impacting the continuity and effectiveness of sustainability initiatives started. PT2: International political instability may have a direct or indirect effect on prioritising sustainability initiatives to decarbonise the tourism sector.

	Strength	Weakness	Opportunity	Threat
	covering all sectors. PS3: The Regional Development Strategy for Gozo not only outlines a roadmap for holistic growth but also integrates sustainable tourism as a priority area to ensure the region's future prosperity and environmental balance PS4: Gozo Climate Neutral by 2030 - Gozo has been selected to participate in the EU Mission "100 climate-neutral and smart cities by 2030". The aim of this mission is to have 100 climate-neutral and smart cities by 2030, an ambitious target of the European Green Deal and in line with the EU's commitment to global climate action under the Paris Agreement. Through this mission, the Gozo Regional Development Authority, will receive advice and assistance from the Mission Platform	decarbonisation efforts, in terms of hotels and major contributors within the tourism sector. The absence of a defined baseline for Malta hinders the establishment of clear and measurable decarbonisation targets. It is crucial to assess and understand the major contributors to carbon emissions within the sector to devise an effective and strategic plan for carbon reduction. PW4: Except for the majority of larger non-SME hospitality operators, there is insufficient interest from small tourism industry operators to invest in decarbonisation.	Islands Foundation, to benefit from knowledge sharing and promote sustainable practices. PO4: Strengthen collaboration with the private sector to foster and leverage expertise and resources, fostering a joint effort that can accelerate the transition towards a decarbonised tourism industry. PO5: Implementing specific accommodation policies guided by targeted incentives to direct investment where necessary. For example, providing incentives to renovate existing tourist establishments or conversion of derelict buildings into tourist accommodation or attractions instead of new builds. PO6: Implementing policies rooted in principles of strong sustainability and introducing mitigation measures addressing the higher impact elements of	

	Strength	Weakness	Opportunity	Threat
	(managed by the NetZeroCities consortium), providing funding and the opportunity to participate in pilot projects.		emissions in the industry, whilst taking into consideration the existing capacities of the tourism industry.	
ECONOMIC	EcS1: Malta's tourism sector is a significant contributor to the national economy, which could provide the financial resources and motivation necessary for sustainable tourism decarbonisation. EcS2: Studies evaluating the impact of EU Funded projects and schemes are regularly uploaded on the Fondi.eu website, which is one website which covers all EU Funds managed under MEFL. The relevant link to Evaluation studies is as follows: https://fondi.eu/important-documentation/reference-documents/evaluations-and-assessments/. One specific example of a study pertaining to energy	EcW1: The high dependence on the tourism sector makes the Maltese economy vulnerable to global events such as the COVID-19 pandemic or economic downturns, which could affect the resources available for sustainability initiatives. EcW2: Some stakeholders have difficulty finding information at the start of ongoing projects benefitting from grants, given that the project implementers mostly promote results late in the project's lifetime when all outcomes have already been achieved. EcW3: Heritage buildings are costly to renovate which may limit the feasibility of certain decarbonisation measures.	EcO1: The growing global trend towards sustainable tourism presents an opportunity for Malta to attract environmentally conscious tourists, which could drive economic growth and support the shift towards low-carbon tourism practices. EcO2: Following COVID-era there are a number of financial instruments that can be tailor-made to address the challenges to achieve higher sustainability in the tourism sector. EcO3: Encourage the private sector to embrace long-term planning through incentives and rewards. This can facilitate the development and implementation of sustainable, decarbonised business models within the tourism industry.	EcT1: Economic instability or downturns could lead to reduced investment in sustainability initiatives in the tourism sector. EcT2: Possible increases in fuel and energy costs, as well as basic supplies and commodities, would put pressure on the tourism industry and affect its ability to invest in sustainable practices. EcT3: Address issues related to free riders, who benefit from collective efforts to decarbonise without contributing themselves, which can disrupt fair economic practices and

	Strength	Weakness	Opportunity	Threat
	efficiency projects is the ex-ante study on the Smart Finance for Smart Buildings (SFSB) Financial Instrument: https://fondi.eu/wp-content/uploads/2023/01/Ex-Ante-Assessment-on-the-Smart-Finance-for-Smart-Buildings-SFSB-Financial-Instrument_Summary.pdf.		EcO4: Boost funding for research and development in clean technologies and sustainable solutions, particularly in building designs EcO5: Conducting a Cost-Benefit Analysis (CBA) of the tourism industry could provide valuable insights into the economic feasibility and potential impacts of decarbonisation efforts and can be viewed as an opportunity to inform and refine policy and decision-making. EcO6: The transition towards a greener, more sustainable model presents significant economic opportunities. By demonstrating to stakeholders and entrepreneurs through concrete studies and evidence that 'being green pays', we can foster a positive attitude towards environmental initiatives. This economic benefit may derive from cost savings, enhanced reputation, customer	slow down overall progress towards sustainable tourism. EcT4: Tourism operators do not sufficiently take into consideration all risks pertaining to this industry and tend to put the onus on Government to solve operational shocks. For example, a hotel builds extra floors but then expects government to put policies and measures to increase tourists influx to fill the extra beds.

	Strength	Weakness	Opportunity	Threat
			loyalty, or access to new markets. Moreover, providing economic incentives, such as tax breaks, grants, or subsidised loans, can stimulate businesses and individuals to invest in decarbonisation efforts. EcO7: The list of approved operations is communicated through Fondi.eu website, as required by the pertinent regulation. Therefore the ongoing projects are known publicly. Once implementation is complete, evaluation can take place to assess the impacts of operations on the results approved in the programme.	
SOCIAL	SS1: Malta's rich cultural heritage and warm hospitality can attract tourists and support the tourism sector, which in turn can drive sustainable tourism decarbonisation. SS2: High levels of English proficiency among the population can	SW1: Potential social resistance to changes associated with sustainable tourism decarbonisation, such as changes in traditional practices or job roles, could pose a challenge. SW2: The high population density in relation to available resources and infrastructure could pose a challenge to decarbonisation	SO1: The growing global trend towards sustainable and responsible tourism presents an opportunity to attract tourists who value sustainability, which can drive social support for decarbonisation initiatives. SO2: Education and awareness campaigns can increase public	ST1: Changes in social trends or preferences among tourists could impact the attractiveness of Malta as a tourism destination, potentially affecting the resources available for sustainable tourism

	Strength	Weakness	Opportunity	Threat
	facilitate communication with tourists and stakeholders from different countries, supporting international collaboration for sustainable tourism.	efforts within the tourism sector. Increased strain on these resources due to population pressure may lead to decreased quality of life for residents, triggering potential resistance to sustainable tourism initiatives. SW3: The growth trajectory of tourism to Malta needs to be formulated on the basis of a combination of maximised incremental economic returns, visitor satisfaction and host population reaction. Limits are set when diminishing returns or negative returns risk being generated. The challenges of managing carrying capacity without negatively impacting sustainable energy and good practices are not fully realised and insufficiently mitigated. SW4: There seems to be a societal resistance to make small sacrifices to adopt and implement sustainable transportation solutions. A notable	understanding and acceptance of sustainable tourism practices, fostering a supportive social environment for decarbonisation. SO3: Initiate a cultural shift that empowers citizens to actively participate in dialogues and decision-making processes. Increased public participation can lead to broader acceptance and adoption of low-carbon lifestyle choices, directly influencing the carbon footprint of tourism activities. SO4: Improve societal attitudes towards cyclists by initiating comprehensive education campaigns. These campaigns could target the importance of sharing the road and fostering mutual respect between motorists and cyclists. Given that the shift from cars to bicycles can contribute significantly to decarbonisation efforts, such initiatives could help	decarbonisation. ST2: Insufficient measurement of key performance indicators for tourism such as focusing on the evaluation of tourism activity based on number of arrivals may not be conducive to effectively support the formulation of energy policies or social measures to ensure sustainability of the tourism sector. (For example, other indicators could include average days spent as well as average expenditure per tourist night) ST3: Increased capacity in hotels and tourist services requires more labour which may be limited in quality or require additional importation of skilled

	Strength	Weakness	Opportunity	Threat
		example is the public backlash against allocating parking spaces to an electric car rental company catering to tourists and expatriates. Despite the company closing for reasons unrelated to this issue, its closure was met with relief rather than disappointment, indicating a societal reluctance to embrace change, particularly when it involves new, more sustainable practices. This can hinder the progress towards decarbonising the tourism industry.	reduce resistance and foster acceptance towards cycling infrastructure, thus promoting more sustainable modes of transport. SO5: New niches of tourism that tend to attract more eco-conscious tourists should be promoted. For example, free-diving tourists (diving without equipment) that may contribute to improved sustainable tourism behaviours.	personnel. This impacts other aspects (such as traffic, infrastructure, social conflicts), which negatively affects tourist experience and locals.
TECHNOLOGICAL	TS1: Malta's strong ICT infrastructure can support the implementation of digital solutions for sustainable tourism, such as energy management systems, online booking platforms for eco-tours, and virtual tourism experiences. TS2: The country's commitment to technological innovation, as evidenced by initiatives like the Malta Digital	TW1: Lack of widespread technical expertise in IT-related sustainable technologies within the tourism sector may hinder the implementation of decarbonisation initiatives. TW2: The small size of the Islands makes direct knowledge and access to innovative technologies more difficult.	TO1: Technological advancements in renewable energy and energy efficiency provide opportunities to improve sustainability in tourism decarbonisation. For instance, new technologies can make it more feasible to install solar panels on buildings or improve energy efficiency in hotels. TO2: The rise of digital technologies like AI, IoT, and blockchain could be	TT1: Rapid technological change could make it challenging for the tourism sector to keep up with the latest sustainable technologies, potentially leading to missed opportunities or inefficient investments. TT2: Cybersecurity risks associated with digital

	Strength	Weakness	Opportunity	Threat
	Innovation Authority, can drive the adoption of new technologies for sustainable tourism.		leveraged to enhance various aspects of sustainable tourism, from energy management to customer experience. TO3: Foster an innovation-friendly environment that not only encourages deviations from the status quo but also mitigates the risks and costs associated with innovation. Such an environment can stimulate the development of carbon-neutral technologies and practices in the tourism sector. TO4: The transition towards digital solutions such as paperless systems in the tourism sector. This move not only reduces waste and the industry's carbon footprint but also fosters digital innovation, enhancing the overall tourism experience and sustainability.	technologies could pose a threat to the tourism sector, potentially impacting operations and customer trust.

	Strength	Weakness	Opportunity	Threat
LEGAL	LS1: Malta's existing laws and regulations that support environmental conservation and sustainable development can provide a legal framework for sustainable tourism decarbonisation. For instance, building codes that require energy efficiency can drive the adoption of sustainable practices in the tourism sector.	LW1: Bureaucratic hurdles might impede the integration of solar PV systems into buildings, hindering the use of renewable energy within the tourism industry	LO1: Malta's commitment to EU directives and international agreements on climate change and sustainability can provide legal backing for decarbonisation initiatives in the tourism sector. LO2: The development and implementation of new laws and regulations that specifically support sustainable tourism decarbonisation could provide a significant opportunity. This could include incentives for renewable energy use, energy efficiency measures, or sustainable building practices in the tourism sector. LO3: Legal frameworks that support public-private partnerships could facilitate collaboration and investment in sustainable tourism infrastructure. LO4: Maximise the appropriate implementation of existing building regulations that	LT1: Although there are no issues so far in Malta, changes in energy regulations may affect the viability of renewable energy projects. LT2: Legal disputes or challenges related to sustainable tourism initiatives could potentially delay or derail decarbonisation efforts. For example, disputes over land use or building permits could impact the development of sustainable tourism infrastructure. LT3: Low quality EPCs may potentially mislead building owners when it comes to building renovation options. LT4: Reliance on self-regulation such as for the

	Strength	Weakness	Opportunity	Threat
			promote sustainability. LO5: Promoting more sustainable alternatives to reduce waste in the tourism industry and contribute to environmental sustainability while protecting health and safety. LO6: Strengthening the requirements, application, and quality control of the EPC process is crucial to ensure its role in fostering sustainable, energy-efficient practices in the industry. This is addressed through independent control systems performed by the Building and Construction Authority. LO7: Revise legal requirements for minimum services to be provided in rooms (For example, is a minibar still popular among tourists and is it used? If not, removing it would reduce energy consumption). Similarly, some facilities may no longer be in trend or in high demand and could be removed	case of developers, operators, warranted engineers and warranted architects may lead to an impression that the regulations are not required and therefore there is the risk that these regulations are not adhered to. To address this issue effective measures should be in place to monitor compliance. LT5: More tourists are making use of short-term rental accommodation which do not necessarily apply high energy efficiency standards and their operations are not sufficiently regulated in terms of energy efficiency and sustainability. LT6: Insufficient enforcement of existing

	Strength	Weakness	Opportunity	Threat
			from the list of obligatory requirements for hotels' operational conditions. LO8: Introduction of timeframes for hotels and tourist establishment to reach more efficient energy performance levels by specified deadlines. For example, in Spain strict deadlines are applied for hotels to meet criteria for certain sustainability labels.	regulations could undermine their effectiveness in achieving sustainable tourism decarbonisation goals since part of decarbonisation measures are incorporated in regulations.
Environmental	EnS1: Malta's abundant sunshine provides a significant opportunity for solar energy, which can be harnessed to power the tourism sector in a sustainable manner. This can significantly contribute to the decarbonisation of the tourism sector. EnS2: A number of spatial planning policies are in place, which take into consideration	EnW1: In practice, many new and renovated projects do not always fully apply the existing national policies to achieve near zero energy status and better environment. EnW2: Malta's small size and high population density may limit the available space for large-scale renewable energy projects. This could pose a challenge for the decarbonisation of the tourism sector.	EnO1: There is already a solid knowledge base which could be leveraged to improve sustainability in tourism decarbonisation. For example, the Interreg MED-INCIRCLE project proposed a roadmap for improving water, energy, waste, and mobility management in the tourism sector. EnO2: The growing global awareness about climate	EnT1: Climate change poses a significant threat to Malta, with potential impacts such as sea-level rise and increased frequency of extreme weather events. These could have direct impacts on the tourism sector, such as damage to infrastructure or decreased attractiveness

	Strength	Weakness	Opportunity	Threat
	the decarbonisation aspect of buildings, including touristic constructions, such as the Policy and Design Guidance 2015 (DC15), and Solar Farms Policy. EnS3: 'Malta's average water consumption stands at 110 litres per person per day, a figure which is nearly half of the 200-litre EU average' (WSC). This strong culture of water conservation may positively influence the use of water in other touristic establishments.	EnW3: High density and concentration of human activity within Malta increases the need for a sustainable approach to development. This could strain resources and infrastructure, making it more challenging to achieve sustainability in tourism decarbonisation. EnW4: Infrastructural bottlenecks such as traffic, sewage, power, water, and waste management could hinder the implementation of sustainable practices in the tourism sector. EnW5: Lack of public transport options (eg. Some routes not served, frequency of bus serving the route) leads to increase the use of individual private or rented cars or taxis for tourists visiting the island contributing to increasing congestion and emissions.	change and environmental conservation presents an opportunity to promote Malta as a sustainable tourism destination. This can attract environmentally conscious tourists and drive the shift towards low-carbon tourism practices. EnO3: Encouraging the use of electric vehicles for daily operations and transfer services could significantly reduce carbon emissions associated with the tourism sector. EnO4: The accommodation sector may be provided with the opportunity to revisit their planning energy management optimisation initiatives through the support of expertise recommendations and further assisted by support schemes. EnO5: Confront the high-waste nature of the tourism industry, seeking strategies to reduce waste generation and	of the destination. EnT2: Climate change poses a direct threat to tourism due to rising temperatures, sea level rise, extreme weather events, desertification, availability of water, and climate refugees. For example, low lying tourist sites that require funding or loans will find it harder to secure such funds due to higher risk of flooding sea level rise. EnT3: Air emissions due to traffic causing higher need for energy through filtration of air could increase the carbon footprint of the tourism sector. EnT4: The varying levels of commitment towards circularity goals

	Strength	Weakness	Opportunity	Threat
			promote recycling and other sustainable practices, essential for the sector's decarbonisation. EnO6: Transitioning towards better waste separation, higher recycling rates and lower energy consumption to treat the generated waste in the hospitality sector. EnO7: Drawing from the experiences of destinations like Mallorca in attracting cycling tourism, Malta has an opportunity to foster a more cycle-friendly environment for both tourists and locals. This initiative not only reduces the carbon footprint by promoting a non-polluting mode of transport, but also enriches the tourist experience by offering a healthier, more immersive way to explore the local landscape. Furthermore, encouraging cycling can help alleviate traffic congestion and decrease noise and air pollution, contributing to the	could pose a challenge to achieving sustainability in tourism decarbonisation. EnT5: Insufficient focus and thinking are placed on adapting both existing and new infrastructure to accommodate future climate conditions. For example, higher temperatures and intense solar radiation may deter tourists to come during summer. Also sea level rise may impact a number of tourist establishments around coastal zones. EnT6: The growing number of restaurants and hotels can create waste management challenges, increased energy

	Strength	Weakness	Opportunity	Threat
			overall quality of life for residents.	consumption, and potential degradation of natural and cultural landscapes, undermining the sustainability and appeal of the tourism industry. EnT7: 'Water scarcity and droughts are increasingly frequent and widespread in the EU' (EU Commission). In Malta around 60% of potable water is produced by reverse osmosis plants, putting additional demands on electrical generation. The priority to move towards a water efficient and water saving economy has a direct impact on decarbonising the economy.

The questionnaire for ranking the importance and urgency of each point was directly derived from the statements of the SWOT/PESTEL analysis. It comprised 92 statements in total, categorised

into 14 strengths, 19 weaknesses, 36 opportunities, and 23 threats. Twenty (20) stakeholders answered the questionnaire.

OPPORTUNITIES

The top six opportunities were identified as follows.

Table 16: Key opportunities by importance and urgency Malta

Ranking	Action	Issue	Importance	Urgency
1st	EnO6	Transitioning towards better waste separation, higher recycling rates and lower energy consumption to treat the generated waste in the hospitality sector.	4.45	4.32
2nd	LO4	Maximise the appropriate implementation of existing building regulations that promote sustainability.	4.36	4.36
3rd	LO8	Introduction of timeframes for hotels and tourist establishment to reach more efficient energy performance levels by specified deadlines. For example, in Spain strict deadlines are applied for hotels to meet criteria for certain sustainability labels.	4.41	4.23
4th	LO6	Strengthening the requirements, application, and quality control of the EPC process is crucial to ensure its role in fostering sustainable, energy-efficient practices in the industry. This is addressed through independent control systems performed by the Building and Construction Authority.	4.36	4.27
5th	EcO5	Conducting a Cost-Benefit Analysis (CBA) of the tourism industry could provide valuable insights into the economic feasibility and potential impacts of decarbonisation efforts and can be viewed as an opportunity to inform and refine policy and decision- making.	4.36	4.09
6th	EnO5	Confront the high-waste nature of the tourism industry, seeking strategies to reduce waste generation and promote recycling and other sustainable practices, essential for the sector's decarbonisation.	4.23	4.09

Data source: own questionnaire survey

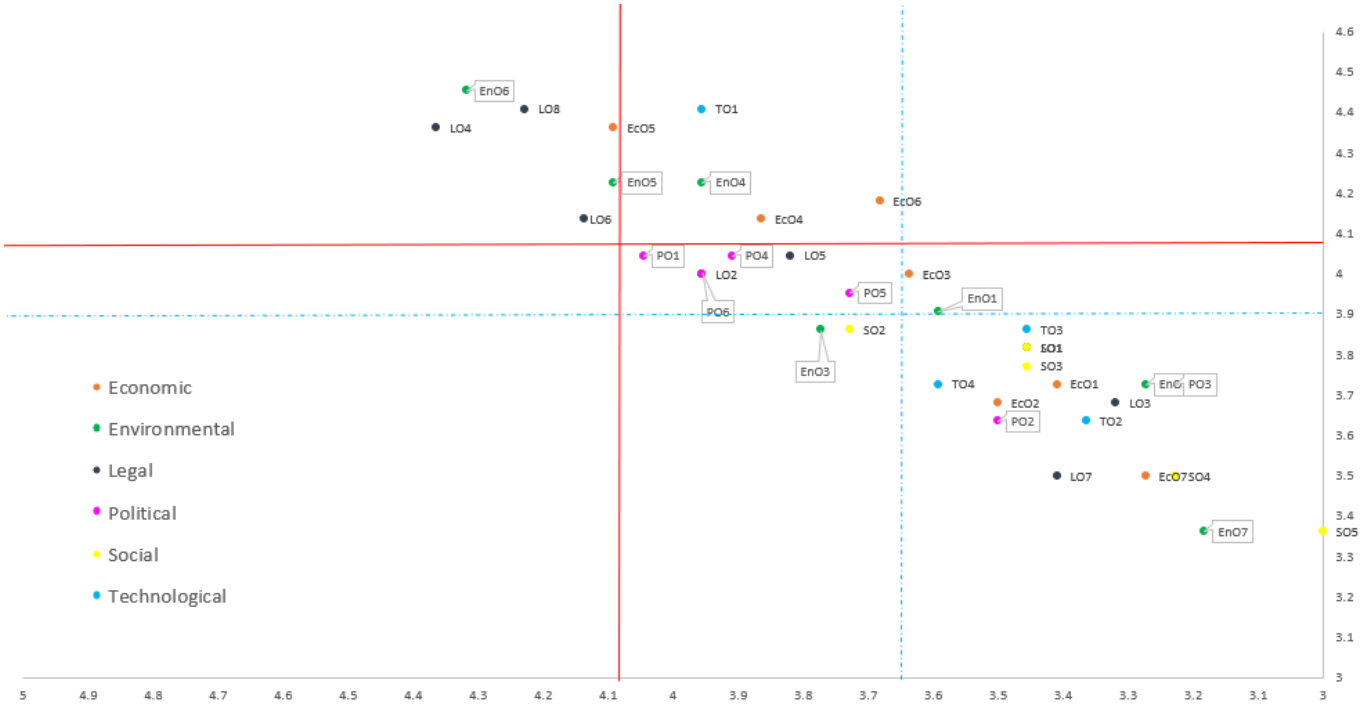


Figure 8: Malta Scoring distribution of the OPPORTUNITIES – A Zoom in on Top Left Quadrant (Important and Urgent) with Red Line Delimiting Top Six Points

WEAKNESSES

Similarly, the WEAKNESSES were analysed and the top six were identified as follows:

Table 17: Key weaknesses by importance and urgency Malta

Ranking	Action	Issue	Importance	Urgency
1st	SW2	The high population density in relation to available resources and infrastructure could pose a challenge to decarbonisation efforts within the tourism sector. Increased strain on these resources due to population pressure may lead to decreased quality of life for residents, triggering potential resistance to sustainable tourism initiatives.	4.5	4.36
2nd	PW2	Synchronisation of policies falling under the responsibility of different ministries and authorities is not always evident and effective. For example, increased bed capacity is supported, while no sufficient support is provided to shift to green energy to counterbalance the increase in tourists.	4.45	4.36

3rd	EnW4	Infrastructural bottlenecks such as traffic, sewage, power, water, and waste management could hinder the implementation of sustainable practices in the tourism sector.	4.36	4.32
4th	PW3	There is a noticeable gap in comprehensive data regarding Malta's current standing in decarbonisation efforts, in terms of hotels and major contributors within the tourism sector. The absence of a defined baseline for Malta hinders the establishment of clear and measurable decarbonisation targets. It is crucial to assess and understand the major contributors to carbon emissions within the sector to devise an effective and strategic plan for carbon reduction.	4.36	4.27
5th	PW1	Insufficient corporate support to accelerate the implementation of policy goals to reduce carbon emissions and to achieve decarbonisation.	4.32	4.14
6th	EnW5	Lack of public transport options (eg. Some routes not served, frequency of bus serving the route) leads to increase the use of individual private or rented cars or taxis for tourists visiting the island contributing to increasing congestion and emissions	4.27	4.14

Data source: own questionnaire survey

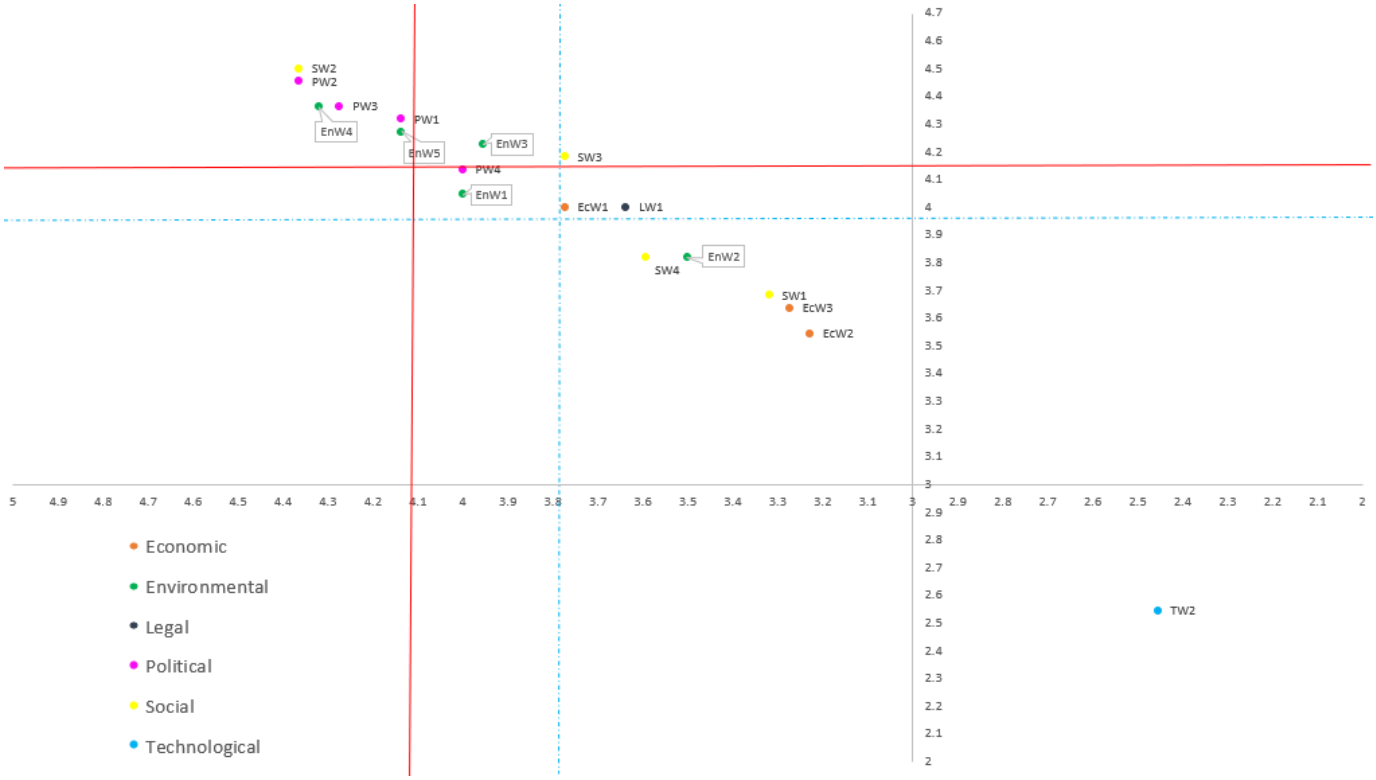


Figure 9: Malta Scoring distribution of the WEAKNESSES – A Zoom in on Top Left Quadrant (Important and Urgent) with Red Line Delimiting Top Six Points

3.6 Crete, Greece

The SWOT and PESTEL analysis have been developed by the two Greek partners, CIHEAM-MAICh and the Region of Crete based on the information obtained from the local stakeholder group.

A total of 38 points are reported, with 10 strengths, 12 weaknesses, 10 opportunities and 6 threats, as detailed below in the PESTEL analysis.

Table 18: SWOT/PESTEL Analysis – Crete Greece

	Strength	Weakness	Opportunity	Threat
POLITICAL	PS1. National strategies and policies (KENAK, ESEK, PESPKA, etc.) encourage decarbonisation in the tourism sector. PS2. Strengthening the tourist product of Crete, as well as the development of alternative tourism, serves as an incentive for the decarbonisation of the tourism sector.	PW1. The seasonality of tourism in Crete is a deterrent factor for investments related to the decarbonisation of the tourism sector.	PO1. Extending the tourist season intensifies the need for the energy transition of the tourism industry. PO2. Shifting towards sustainable and alternative tourism will increase Crete's attractiveness as a tourist destination, especially for environmentally conscious tourists.	PT1. International political and economic instability may affect the energy transition of the tourism sector. PT2. Instability in national energy policy and fluctuations in electricity and fuel prices hinder investments for the energy transition in the tourism sector.
ECONOMIC	EcS1. The existence of locally	EcW1. Tourism businesses with limited financial	EcO1. Direct activation of financial tools at	EcT1. The increase in short term

	produced products, services, and technologies is an advantage for the energy transition of tourism in Crete. EcS2. The existence of financial incentives at national and regional levels (ESPA, Operational Program of Crete, etc.) motivates stakeholders for decarbonisation in the tourism sector.	resources face difficulties in finding funding for their energy transition. EcW2. The insular nature of Crete, which entails increased transportation costs for products and goods, is a deterrent for investments in energy transition. EcW3. Increasing hot days in Crete due to climate change increase the need for cooling in hotel units, thereby increasing their energy costs.	national and regional levels will facilitate investments for the decarbonisation of the tourism sector.	rental properties at the national level, as well as the creation of new tourist destinations at the international level, inhibits investments towards energy transition in hotels.
SOCIAL	SS1. The energy transition of the tourism sector will create new job opportunities. SS2.The energy transition of the tourism sector will attract more visitors and agencies seeking	SW1. Insufficient information among professionals in the tourism sector about the benefits of energy transition is a deterrent for investments in their businesses. SW2.The lack of specialised and trained personnel to manage new	SO1. Creation of new job positions through the implementation and operation of investments for energy transition in the tourism sector. SO2. Visitor attitudes towards the environmental footprint of their holidays are expected to influence the	ST1. Rising temperatures and extreme weather events create insecurity for visitors and businesses, hindering investments for the energy transition of the tourism sector.

	sustainable tourism.	energy technologies in tourism infrastructure hinders tourism development.	energy transition of the tourism sector.	
TECHNOLOGICAL	TS1. The climatic conditions of Crete, combined with existing mature technologies, favor the decarbonisation of the tourism sector. TS2. The presence of specialised professionals, along with economically accessible energy saving solutions, favors the decarbonisation of the tourism sector in Crete.	TW1. Insufficient information among professionals in the tourism sector about new technologies and smart energy management systems is a deterrent for investments in their businesses. TW2.The existing electrical grid in Crete, as well as the limited available electrical space for installing new RES units, hinder the decarbonisation of the tourism sector.	TO1. The electrical interconnection of Crete with the mainland will boost investments in the tourism sector. TO 2. Regional financing opportunities for collaboration between research institutions and tourism enterprises favor the development and implementation of new innovative energy technologies.	TT1. Extreme weather events reduce the efficiency of energy technologies and act as a deterrent for future investments.
LEGAL	LS1. The current legal framework facilitates the energy transition in the	LW1. The absence of a legislative framework that would enforce, control, and monitor businesses'	LO1. The new Climate Law mandates tourist businesses from 2025 to record their emissions with the aim of	Improper building tied in with near zero energy building code leads to mouldy and unhealthy buildings. (LT1)

	tourism sector.	adaptation to energy transition. LW2. The bureaucracy required for the implementation of new energy-saving technologies discourages entrepreneurs from new energy investments.	reducing them by 30% by 2030.	Changes to work force legislation lead to long strikes (LT2)
ENVIRONMENTAL	EnS1. The energy transition of the tourism sector will add value to Crete's existing brand name, increasing the number of tourists.	EnW1. The tourism sector has not understood its significant contribution to the green transition, ranking relevant actions as low priority. EnW2.Mass tourism burdens the use of already limited natural resources.	EnO1. The continuously increasing trends in alternative and sustainable tourism necessitate the reduction of the carbon footprint of tourism infrastructure. EnO2.Crete's great potential in renewable energy strengthens the installation of RES systems in tourism infrastructure.	EnT1. The continuously increasing number of visitors burdens natural resources, ecosystems, and protected areas of the island.

Feedback was obtained from various stakeholders in Crete who completed the online questionnaire provided to them. The questionnaire was discussed during second stakeholders meeting held in Chania, Crete on 23 February 2024.

At this meeting, the Eisenhower Matrix was introduced to stakeholders. The SWOT/PESTEL analysis was also discussed and it was decided that the 38 points listed above would be included in the questionnaire.

A Google Form was prepared with these 38 points. The questionnaire was sent to stakeholders in Greek. Stakeholders were asked to rank each point on a scale of 1 to 5 with 1 being "least" and 5 being "most" urgent or important. For the WEAKNESSES and OPPORTUNITIES categories, stakeholders were also asked to rank the feasibility of implementation.

WEAKNESSES

Focusing on the most urgent and important weaknesses, the top four weaknesses are presented in Table 19.

Table 19: Key weaknesses by importance and urgency Crete Greece

Ranking	Action	Issue	Importance	Urgency
1st	EnW2	Mass tourism has negative impacts on the limited natural resources in Crete	4.43	4.55
2nd	EcW3	The increase of the mean daily temperature in Crete due to climate change requires more cooling in hotels increasing their operating costs	4.33	4.2
3rd	TW1	The lack of awareness among hotel owners and managers regarding the benefits of the clean energy technologies does not facilitate their adoption in hotels	4.14	4.15
4th	EcW1	Hotels with limited financial resources have difficulties in financing clean energy investments in their enterprises	4.14	4.05

Data source: own questionnaire survey

The highest-ranking weakness identified in Crete concerns related to mass tourism's detrimental effects on the region's limited natural resources.

OPPORTUNITIES

Zooming on urgent and important opportunities, the top four opportunities are presented in Table 20.

Table 20: Key opportunities by importance and urgency Crete Greece

Ranking	Action	Issue	Importance	Urgency
1st	PO2	The promotion of sustainable tourism will increase the attractiveness of the local tourism industry to environmentally conscious tourists	4.76	4.65

2nd	EcO1	The simplification of the procedures related with thefinancial supportfrom national and regional sources in clean energy investments in hotels will facilitate their implementation	4.62	4.65
3rd	PO1	The increase of the tourism period in Crete will make necessary the implementation of clean energy investments in hotels	4.29	4.4
4th	EnO2	The high potential of renewable energyin Crete facilitates the use of renewable energyin hotels	4.45	4.23

Data source: own questionnaire survey

The most significant opportunity identified in Crete is that promoting sustainable tourism will increase the attractiveness of the local tourism product to environmentally conscious visitors.

3.7 Molise, Italy

This table summarises the feedback obtained from the stakeholders and the representatives of the municipalities in the vast Campobasso area regarding the priorities for intervention regarding the decarbonisation of the tourism sector.

Table 21: SWOT/PESTEL Analysis – Molise Italy

	Strength	Weakness	Opportunity	Threat
POLITICAL	PS1: In various national strategies, Italy shows a strong commitment towards decarbonisation useful for supporting the energy transition of the tourism sector PS2: There are "measurable" targets for decarbonisation that provide clear and quantifiable indicators potentially useful in guiding targeted and concerted efforts towards sustainability. For	PW1: Insufficient corporate support to accelerate the implementation of policy objectives to reduce carbon emissions and achieve decarbonisation PW2: The synchronization of policies under the responsibility of different ministries and authorities is not always evident and effective. For example, increasing bed capacity is supported, while	PO1: The transition to sustainable tourism will put Molise and the greater Campobasso area on par with other leading tourist destinations, attracting tourists aware of their environmental impact PO2: In the EU there are several rural areas and inland areas that can cooperate together to harmonise their policies towards sustainable tourism (e.g. the LAG initiative on	PT1: A change in administration could lead to the prioritization of several initiatives, potentially impacting the continuity and effectiveness of the sustainability initiatives launched PT2: International political instability can have a direct or indirect effect on the priority given to sustainability initiatives to

	example, Italy's low-carbon development strategy for 2050 includes a series of objectives covering all sectors. PS3: The regional development strategy for the municipality of Campobasso not only outlines a roadmap for holistic growth, but also integrates	not providing sufficient support for the transition to green energy to offset the increase in tourists PW3: There is a notable lack of comprehensive data regarding the current position of Molise and the greater Campobasso area within decarbonisation efforts, in terms of hotels and key contributors within the tourism sector. The absence of a defined reference base for Molise hinders the definition of clear and measurable decarbonisation objectives. It is critical to evaluate and understand the major sources of carbon emissions within the sector to develop an effective and strategic plan for reducing carbon emissions PW4: With the exception of most large non-SME hospitality operators, there	EU territory to encourage sustainable development in rural areas) PO3: Initiate collaborations with organizations such as the LAGs of other Italian and European regions in rural and inland areas, to benefit from knowledge sharing and promote sustainable practices PO4: Strengthen collaboration with the private sector to promote and leverage skills and resources, fostering a joint effort that can accelerate the transition towards a decarbonised tourism industry PO5: Implement specific hospitality policies guided by incentives aimed at directing investments, where necessary. For example, provide incentives for the renovation of existing tourist facilities rather than new construction	decarbonise the tourism sector

		is insufficient interest from small tourism operators to invest in decarbonisation	PO6: Implement policies rooted in strong sustainability principles and introduce mitigation measures that address the most impactful elements of emissions in the sector, taking into account the existing capacities of the tourism industry	
ECONOMIC		EcW1: The low dependence on the tourism sector makes the economy of the greater Campobasso area equally vulnerable to global events such as the COVID-19 pandemic or economic recessions, which could impact the resources available for sustainability initiatives EcW2: Some stakeholders have difficulty finding information at the start of ongoing projects benefiting from grants, as	EcO1: The growing global trend towards sustainable tourism represents an opportunity for Molise and the greater Campobasso area to attract environmentally conscious tourists who can drive economic growth and support the shift to low-carbon tourism practices EcO2: Following the COVID period, there are several financial instruments that can be adapted to the challenges to achieve greater sustainability in the tourism sector	EcT1: Economic instability or recessions could lead to a reduction in investment in sustainability initiatives in the tourism Sector EcT2: possible increases in fuel and energy costs, as well as basic supplies and commodities, would put pressure on the tourism industry and affect its ability to invest in sustainable practices EcT3: Address issues related to free riders, who benefit from collective efforts

		project implementers mostly promote results late in the project duration, when all results have already been achieved EcW3: Historic buildings are expensive to renovate and this may limit the feasibility of some decarbonisation measures	EcO3: Encourage the private sector to adopt long-term planning through incentives and rewards. This can facilitate the development and implementation of sustainable and decarbonised business models within the tourism industry EcO4: Increase funding for research and development of clean technologies and sustainable solutions, particularly in building design EcO5: Conducting a cost-benefit analysis of the tourism industry could provide valuable insights into the economic feasibility and potential impacts of decarbonisation efforts and can be seen as an opportunity to inform and refine policy and decision-making processes. cost-benefit of the tourism industry could provide valuable insights into the economic	to decarbonise without contributing themselves, which can disrupt fair economic practices and slow overall progress towards sustainable tourism EcT4: Tourism operators do not sufficiently think to all the risks related to this sector and tend to place the burden of resolving operational shocks on the government. For example, a hotel builds additional floors but then expects the government to adopt policies and measures to increase the influx of tourists to fill the additional beds

			feasibility and potential impacts of decarbonisation efforts and can be seen as an opportunity to inform and refine policies and decision-making processes EcO6: The transition to a greener and more sustainable model presents significant economic opportunities. By demonstrating to stakeholders and entrepreneurs, through studies and concrete evidence, that "being green pays", we can promote a positive attitude towards environmental initiatives. The economic benefit can derive from a reduction in management costs, from greater reputation and customer loyalty or from access to new markets. Additionally, offering economic incentives, such as tax breaks, grants or preferential loans, can stimulate businesses	

			and individuals to invest in decarbonisation efforts EcO7: The list of approved operations is communicated through the Fondi.eu website, as required by the relevant legislation. Therefore ongoing projects are known to the public. Once implementation is complete, the impact of operations on the outcomes approved in the program can be assessed	
SOCIAL	SS1: Molise's cultural heritage and hospitality can attract visitors and support the tourism sector, driving the decarbonisation of sustainable tourism SS2: High levels of English proficiency among the population can facilitate communication with tourists and stakeholders from different countries,	SW1: Potential social resistance to changes associated with the decarbonisation of sustainable tourism, such as changes in traditional practices or work roles, could pose a challenge SW2: Low population density and the scarcity of available resources and infrastructure could pose a challenge to	SO1: The growing global trend towards sustainable and responsible tourism represents an opportunity to attract tourists who value sustainability, which can foster social support for decarbonisation initiatives SO2: Education and awareness campaigns can increase public understanding and acceptance of sustainable tourism	ST1: Changes in social trends or tourist preferences could impact the attractiveness of Molise as a tourist destination, potentially impacting the resources available for the decarbonisation of sustainable tourism ST2: Insufficient measurement of key performance indicators for

	implementing international collaboration for sustainable tourism	decarbonisation efforts in the tourism sector. Increased pressure on these already scarce resources can lead to a decrease in the quality of life for residents, triggering potential resistance to sustainable tourism initiatives SW3: The growth trajectory of tourism in Molise and the greater Campobasso area must be formulated based on a combination of maximization of incremental economic returns, visitor satisfaction and host population reaction. Limits are set when there is a risk of generating diminishing or negative returns. The challenges of managing carrying capacity without negatively impacting sustainable energy and best practices are not fully understood	practices, fostering a social environment conducive to decarbonisation SO3: Initiate a cultural change that gives citizens the opportunity to actively participate in dialogues and decision-making processes. Greater public participation can lead to wider acceptance and adoption of low-carbon lifestyle choices, directly influencing the carbon footprint of tourism activities SO4: Improve society's attitude towards cyclists by initiating comprehensive education campaigns. These campaigns could focus on the importance of sharing the road and promoting mutual respect between drivers and cyclists. Given that switching from cars to bicycles can significantly contribute to decarbonisation efforts, such	tourism may not be useful to effectively support the formulation of energy policies or social measures to ensure the sustainability of the tourism sector. (For example, indicators could include average days spent by tourists and average spending per night by tourists, rather than just the number of tourists) ST3: Increasing the capacity of hotels and tourism services requires a greater quantity of labor, which may be of limited quality or require the importation of skilled personnel. This has an impact on other aspects (such as traffic, infrastructure, social conflicts), with negative repercussions on the tourist experience and

		and are not sufficiently mitigated SW4: There appears to be social resistance towards implementing sustainable transport solutions. A notable example is the public reaction against the construction of a cycle path in Campobasso. Despite the municipality's commitments, the new proposal has been met with disappointment, indicating a reluctance from society to embrace change, particularly when it comes to new, more sustainable practices. This may hinder progress towards decarbonising the tourism industry	initiatives could help reduce resistance and foster acceptance of cycling infrastructure, thus promoting more sustainable modes of transport SO5: We need to promote new tourism niches that tend to attract more environmentally conscious tourists. For example, tourists who go trekking and hiking in the mountains can contribute to improving sustainable tourism behaviors	the local population
TECHNOLOGICAL	TS1: Molise's ICT infrastructure can support the implementation of digital solutions for sustainable tourism, such as energy	TW2: The small size of the region and the vast area of Campobasso make direct knowledge and access to innovative	TO1: Technological advances in renewable energy and energy efficiency offer opportunities to improve the sustainability of	TT1: Rapid technological change could make it difficult for the tourism sector to keep up with the latest sustainable

	management systems, online booking platforms for eco-tours and virtual tourism experiences TS2: The city's commitment to technological innovation, demonstrated by initiatives such as the House of Technologies, can encourage the adoption of new technologies for sustainable tourism	technologies more difficult	tourism decarbonisation. For example, new technologies can make it more feasible to install solar panels on buildings or improve the energy efficiency of hotels TO2: The rise of digital technologies such as AI, IoT and blockchain could be harnessed to improve various aspects of sustainable tourism, from energy management to customer experience TO3: Promote an innovation-friendly environment that not only encourages deviations from the status quo, but also mitigates the risks and costs associated with innovation. Such an environment can stimulate the development of zero carbon technologies and practices in the tourism sector	technologies, potentially leading to missed opportunities or inefficient investments TT2: Cybersecurity risks associated with digital technologies could pose a threat to the tourism sector, with potential repercussions on operations and customer trust

			TO4: The transition towards digital solutions such as paperless systems in the tourism sector. This step not only reduces the industry's waste and carbon footprint, but also promotes digital innovation, improving the overall tourism experience and sustainability	
LEGAL	LS1: Existing laws and regulations in Molise and the Vast area of Campobasso that support environmental conservation and sustainable development can provide a legal framework for the decarbonisation of sustainable tourism. For example, building codes requiring energy efficiency can encourage the adoption of sustainable practices in the tourism sector	LW1: Bureaucratic obstacles could prevent the integration of solar photovoltaic systems into buildings, limiting the use of renewable energy in the tourism industry	LO1: Italy's commitment to EU directives and international agreements on climate change and sustainability can provide legal support for decarbonisation initiatives in the tourism sector LO2: The development and implementation of new laws and regulations that specifically support the decarbonisation of sustainable tourism could represent a significant opportunity. This could include incentives for the use of renewable energy, energy efficiency measures or	LT1: Changes in energy regulations can impact the viability of renewable energy projects LT2: Disputes or legal challenges related to sustainable tourism initiatives could potentially delay or derail decarbonisation efforts. For example, disputes over land use or building permits could impact the development of sustainable tourism infrastructure LT3: Low-quality Energy Performance

			sustainable building practices in the tourism sector LO3: Legal frameworks that support public-private partnerships could facilitate collaboration and investment in sustainable tourism infrastructure LO4: Maximise appropriate implementation of existing building codes that promote sustainability LO5: Promote more sustainable alternatives to reduce waste in the tourism industry and contribute to environmental sustainability by protecting health and safety LO6: Strengthening the requirements, application and quality control of the Energetic Performance Contract process is critical to ensuring its role in promoting sustainable and	Contracts have the potential to mislead building owners when it comes to renovations LT4: Reliance on self-regulation, as in the case of mandated clients, operators, engineers and architects, can give the impression that regulations are not necessary and therefore there is a risk that they will not be complied with. To address this issue, effective measures must be taken to monitor compliance LT5: An increasing number of tourists are making use of short-term rental accommodation which does not necessarily apply high standards of energy efficiency and sustainability LT6: Failure to apply existing

			energy efficient practices in the industry. This is addressed through independent control systems run by the Building and Construction Authority LO7: Review the legal requirements for minimum amenities to be provided in rooms (e.g., is the minibar still popular among tourists and is it used? If not, eliminating it would reduce energy consumption). Likewise, some services may no longer be trendy or in high demand and may be eliminated from the list of mandatory requirements for hotel operating conditions. LO8: Introduction of deadlines for hotels and tourism facilities to achieve more efficient energy performance levels within specific deadlines. In Spain, for example, strict deadlines are applied for hotels	regulations relating to decarbonisation could compromise their effectiveness in achieving sustainable tourism objectives

			to meet the criteria to obtain certain sustainability labels	
ENVIRONMENTAL	EnS1: Molise's abundant water, solar and wind resources offer a significant opportunity for the development of renewable energy, which can be exploited to make the tourism sector sustainable. This can significantly contribute to the decarbonisation of the tourism sector EnS2: There are several innovative territorial policies that take into account the aspect of decarbonisation of buildings, including tourist facilities, such as the Creation of Energy Communities policy and incentives for the installation of solar panels EnS3: Water loss caused by bad systems in Molise increased between 2020	EnW1: In practice, many new and renovated projects do not always fully implement existing national policies to achieve near-zero energy status and a better environment EnW2: The small size of Molise and the vast area of the region of Molise and the low population density may limit the implementation possibilities for large-scale renewable energy projects. This could represent a challenge for the decarbonisation of the tourism sector EnW3: The low density and concentration of human activities in Molise and in the vast Campobasso area	EnO1: There is already a solid knowledge base that could be leveraged to improve sustainability in the decarbonisation of tourism. For example, the Erasmus Eco-Hosting project proposed a training course to improve the management of water, energy, waste and mobility in the tourism sector EnO2: The growing global awareness of climate change and environmental conservation represents an opportunity to promote Molise and the wider Campobasso area as a sustainable tourist destination. This can attract environmentally conscious tourists and encourage a shift towards low-carbon tourism practices	EnT1: Climate change represents a significant threat to Molise and Campobasso, with potential impacts such as coastal erosion and the increase in the frequency of extreme meteorological events with damage to agriculture and food and wine tourism in inland areas. These could have direct impacts on the tourism sector, such as damage to infrastructure or a decrease in the attractiveness of the destination EnT2: Climate change represents a direct threat to tourism due to rising temperatures, rising sea levels, extreme weather

	and 2022, to a higher level than any other Italian region (ISTAT). Making these systems more efficient can positively influence the use of water in other tourist facilities	increases the need for a sustainable approach to development. This could put a strain on resources and infrastructure, making it more difficult to achieve sustainability in the decarbonisation of tourism EnW4: Infrastructural limitations such as traffic, sewerage, electricity, water and waste management could hinder the implementation of sustainable practices in the tourism sector EnW5: The lack of public transport options (e.g. some routes not served, frequency of buses serving the route) leads to an increase in the use of private or rental cars or taxis for tourists visiting the region and the city, contributing to increased congestion and emissions	EnO3: Encouraging the use of electric vehicles for daily operations and transfer services could significantly reduce carbon emissions associated with the tourism sector EnO4: The hospitality sector may have the opportunity to review its energy management optimization initiatives through the support of expert recommendations and further assistance from support programs EnO5: Address the waste-intensive nature of the tourism industry by seeking strategies to reduce waste generation and promote recycling and other sustainable practices, essential for the decarbonisation of the sector EnO6: Transition towards better waste separation, higher recycling rates and lower energy	events, desertification and water availability. For example, for high-altitude tourist sites, which require financing or loans, it will be more difficult to obtain such funds due to the higher risk of snow shortages during the winter period EnT3: Air emissions due to traffic imply a greater need for energy for indoor air treatment, increasing the carbon footprint of the tourism sector EnT4: Different levels of commitment towards circularity objectives could represent a challenge for achieving sustainability in the decarbonisation of tourism EnT5: There is insufficient attention and reflection on the adaptation of existing and new

			consumption for treating waste produced in the hospitality sector EnO7: Drawing on the experience of destinations such as the Abruzzo coast in attracting cycling tourism, Molise and the greater Campobasso area have the opportunity to promote a more cycling-friendly environment for both tourists and locals. This initiative not only reduces the carbon footprint by promoting a non-polluting mode of transport, but also enriches the tourism experience by offering a healthier and more engaging way of exploring the local landscape. Furthermore, encouraging cycling can help alleviate traffic congestion and reduce noise and air pollution, contributing to the overall quality of life of residents	infrastructures to future climate conditions. For example, violent weather events could ruin crops, discouraging tourists accustomed to "good food". Furthermore, sea level rise could have an impact on some tourist facilities located in coastal areas in Molise EnT6: The growing number of restaurants in the greater Campobasso area can create waste management problems, increased energy consumption and potential degradation of natural and cultural landscapes, undermining the sustainability and attractiveness of the tourism industry EnT7: Water scarcity and drought are increasingly

				frequent and widespread in the EU" (EU Commission). In Campobasso in 2022 during the summer due to water scarcity the municipality limited the use of water for purposes not priorities: The priority of moving to an efficient and water-saving economy has a direct impact on the decarbonisation of the economy

Questions were sent to the project partners and their responses were analysed using the Eisenhower matrix methodology. The results for the key weaknesses and opportunities are summarised in the following tables.

Table 22: Key opportunities by importance and urgency Molise Italy

Ranking	Action	Issue	Importance	Urgency
1st	PO5	Implement specific hospitality policies guided by incentives aimed at directing investments, where necessary. For example, provide incentives for the renovation of existing tourist facilities rather than new construction	4.33	4.27
2nd	SO5	We need to promote new tourism niches that tend to attract more environmentally conscious tourists. For example, tourists who go trekking and hiking in the mountains can contribute to improving sustainable tourism behaviors	4.33	4.27
3rd	PO2	In the EU, there are several rural areas and inland areas that can cooperate together to harmonize their policies towards sustainable tourism (e.g. the LAG initiative on EU territory to encourage sustainable development in rural areas)	4.33	4.13

4th	PO3	Initiate collaborations with organizations such as the LAGs of other Italian and European regions in rural and inland areas, to benefit from knowledge sharing and promote sustainable practices	4.27	4.27
5th	PO4	Strengthen collaboration with the private sector to promote and leverage skills and resources, fostering a joint effort that can accelerate the transition towards a decarbonised tourism industry	4.27	4.20
6th	EnO6	Transition towards better waste separation, higher recycling rates and lower energy consumption for treating waste produced in the hospitality sector	4.20	4.27

Table 23: Key weaknesses by importance and urgency Molise Italy

Ranking	Action	Issue	Importance	Urgency
1st	EnW5	The lack of public transport options (e.g. some routes not served, frequency of buses serving the route) leads to an increase in the use of private or rental cars or taxis for tourists visiting the region and the city, contributing to increased congestion and emissions	4.20	4.07
2nd	LW1	Bureaucratic obstacles could prevent the integration of solar photovoltaic systems into buildings, limiting the use of renewable energy in the tourism industry	4.13	4.07
3rd	EnW4	Infrastructural limitations such as traffic, sewerage, electricity, water and waste management could hinder the implementation of sustainable practices in the tourism sector	4.07	4.07
4th	SW1	Potential social resistance to changes associated with the decarbonisation of sustainable tourism, such as changes in traditional practices or work roles, could pose a challenge	4.00	4.00
5th	PW3	There is a notable lack of comprehensive data regarding the current position of Molise and the greater Campobasso area within decarbonisation efforts, in terms of hotels and key contributors within the tourism sector. The absence of a defined reference base for Molise hinders the definition of clear and measurable decarbonisation objectives. It is critical to evaluate and understand the major sources of carbon emissions within the sector to develop an effective and strategic plan for reducing carbon emissions	3.93	3.93

6th	EcW3	Historic buildings are expensive to renovate and this may limit the feasibility of some decarbonisation measures	3.80	4.00

3.8 Municipality of Middelburg, Netherlands

The Municipality of Middelburg began with the identification of key stakeholders involved Interreg Europe Project DETOCS, that form part of the tourism supply chain, including agencies responsible for energy efficiency. Representatives from local government, tourism agencies, businesses, community organisations, were brought together to contribute to the process. These stakeholders provided valuable insights and perspectives on the various aspects of tourism carbon reduction and sustainability in Middelburg.

Data related to the tourism, energy efficiency and overall sustainability in Middelburg were then gathered, covering political, economic, social, technological, legal, and environmental factors, the PESTLE analysis. This data served as the foundation for identifying challenges, opportunities, strengths, and weaknesses associated with tourism in the region, the SWOT analysis. Brainstorming sessions were conducted to facilitate discussions and prioritise factors relevant to Middelburg's tourism and energy efficiency infrastructure goals.

Table 24: SWOT/PESTEL Analysis – Municipality of Middelburg

	Strength	Weakness	Opportunity	Threat
POLITICAL	Strong commitment to decarbonisation in national strategies. Vraag 1	Changes in management priorities affecting sustainability initiatives. Vraag 11.1	The shift to sustainable tourism will position Middelburg alongside leading tourist destinations and attract environmentally conscious tourists. Vraag 22	International political instability can affect the prioritization of sustainable initiatives to decarbonise the tourism sector. Vraag 11.2
		Insufficient corporate support for policy implementation. Vraag 31	Policy changes to support renewable energy projects, including energy efficiency. Vraag 23	
ECONOMIC		Availability of financial instruments	Digital and virtual tourism can lower travel	Potential increases in fuel and

		post-COVID for sustainability. Vraag 24	costs and provide access to otherwise unreachable destinations, contributing to reduced CO2 emissions. Vraag 3	energy costs impacting investment. Vraag 12
		Digital and virtual tourism can compete with traditional tourism and physical attractions, causing shifts in demand. Vraag 13	Balancing regional and local touristic development with economic growth is crucial for reducing CO2 emissions. Vraag 2	
			Digital and virtual tourism as marketing tools. Vraag 25	
			Difficulty in accessing information on grant projects. Vraag 32	
SOCIAL		Digital and virtual tourism cannot replicate the sensory experiences of traditional travel. Vraag 15	Growing global trend towards sustainable tourism. Vraag 26	Rich cultural heritage attracting tourists. Vraag 4
		Changes in social trends		Digital and virtual tourism

		affecting tourist preferences. Vraag 14		platforms offer convenient travel experiences from home, especially benefiting people with mobility limitations. Vraag 5
		Potential social resistance to changes in tourism practices. Vraag 33		Digital and virtual tourism lack the authentic experience of physical travel. Vraag 16 2,44 2,22
TECHNOLOGICAL	Stable internet connections are essential for virtual tours but are not available in all areas. Vraag 19 4,44 3,89	Limited access to and familiarity with technologies required for digital and virtual tourism can lead to exclusion. Vraag 18	Rapid technological changes making it difficult to keep up. Vraag 17	Strong ICT infrastructure supporting sustainable solutions. Vraag 6
		Limited access to innovative technologies for small businesses. Vraag 34	Advancements in AI, IoT, and blockchain for sustainable tourism. Vraag 27	The development of digital and virtual tourism can significantly contribute to the sustainability of the tourism sector. Vraag 7

		Digital and virtual tourism offers opportunities for new technologies that can be further developed, creating new experiences. Vraag 28		Digital and virtual tourism provide opportunities for the development of new technologies and experiences. Vraag 28
LEGAL			Existing laws and regulations supporting environmental conservation. Vraag 8	Changes in energy regulations affecting renewable energy projects, including energy efficiency. Vraag 20
			Development of new laws supporting sustainable tourism. Vraag 29	
			Bureaucratic barriers hindering integration of renewable energy. Vraag 35	
ENVIRONMENTAL	Abundance of sunshine for solar energy in summer months. Vraag 9		Digital and virtual tourism can reduce physical travel, thereby decreasing	Bottlenecks in transport and waste management affecting sustainability.

			environmental impacts such as CO2 emissions. Vraag 10	Vraag 36
	Insufficient focus on adapting infrastructure to future climate conditions. Vraag 21			
	Transition to better environmental management practices. Vraag 30			

Each identified factor was evaluated based on its importance and urgency in achieving Middelburg's objectives, for improving energy efficiency in tourism infrastructure. Stakeholders determined the significance of each factor and how soon action needed to be taken to address them, this was completed via an online analysis. Using the Eisenhower Matrix framework, factors were categorised into one of the four quadrants to prioritise actions and allocate resources effectively.

The initial matrix was reviewed and validated by stakeholders to ensure accuracy and comprehensiveness. Stakeholder feedback was incorporated to refine the matrix as needed. Middelburg will use this matrix as a strategic tool to guide decision-making and prioritise actions. The Top Weaknesses and Opportunities identified through the matrix are listed below.

Table 25: Key weaknesses Municipality of Middelburg

Action	Issue	Importance	Urgency
Question 11.1	A change in management could lead to the prioritization of different initiatives, which could affect the continuity and effectiveness of sustainability initiatives that have been launched.	3.0	2.89
Question 34	The small size of the businesses makes direct acquisition of knowledge and access to innovative technologies difficult.	3.89	3.44

Table 26: Key opportunities Municipality of Middelburg

Action	Issue	Importance	Urgency
Question 25	Digital and virtual tours can be used as a marketing tool to attract (potential) visitors.	4.33	4.00
Question 27	The rise of digital technologies such as AI, IoT, and Blockchain could be used to improve various aspects of sustainable tourism, from energy management to user experience.	3.67	2.89
Question 32	The development and implementation of new laws and regulations that specifically support the sustainable decarbonisation of tourism could provide a significant opportunity. This could include incentives for the use of renewable energy, energy efficiency measures or sustainable building practices in the tourism sector.	3.11	3.00
Question 34	The growing global trend towards sustainable and responsible tourism presents an opportunity to attract tourists who value sustainability, which can foster social support for decarbonisation initiatives.	3.89	3.44

4. COMMON PROBLEMS AND CHALLENGES

Based on the above description of current situation in each region involved in the DETOCS project, the common problems and challenges related to decarbonising the tourism industry have been identified and are detailed in the following sections.

4.1 Common Challenges with Financing Instruments/Mechanisms and Policy-Driven Incentives

A common theme across the studied regions is the availability of financial incentives aimed at promoting sustainable practices within the tourism sector. This includes opportunities to enhance and improve existing incentives as well as areas where incentives are lacking or where additional incentives could be introduced. A prevalent weakness/challenge is the complexity and bureaucratic nature of accessing these funds. In Hungary, this complexity is considered a top weakness, complicating the management of projects eligible for funding under different operational programs (Central Danube, Hungary, **PW1**). Similarly, in Bulgaria, the grant application process is noted for its complexity and bureaucracy, resulting in low uptake by the private sector in tourism, and posing significant hurdles to effective fund utilization (Burgas, Bulgaria, **EcW1**). Greece faces significant financial barriers that hinder the widespread adoption of sustainable practices within its tourism sector. Small businesses, in particular, struggle to access the necessary capital for energy transitions, indicating a gap in the financial support mechanisms required for broader sustainability initiatives (Crete, Greece, **EcW1**). This issue is also echoed in Hungary, where the low capital strength of mainly small accommodation and spas presents a similar barrier to sustainable development (Central Danube, Hungary, **EcW2**).

Policy incentives play a critical role in shaping the opportunities within the tourism sectors of these countries. However, the implementation of these policies is not without challenges. Issues such as delayed dissemination of project information (Malta, **EcW2**; Molise, Italy, **EcW2**) and lack of transparency in funding decisions (Central Danube, Hungary, **PW4**) are prevalent weaknesses that undermine the effectiveness of these policy-driven initiatives. In Hungary, the issue of transparency and coordination in funding is particularly pronounced, marking a significant area of concern.

Table 27: Identified Weaknesses and Challenges with Financing Instruments/Mechanisms and Policy-Driven Incentives across Partner Regions

Country	SWOT	Action	Issue	Importance	Urgency
Hungary	Weakness	PW1	Complex management of projects made up of investments eligible under different operational programmes is difficult, lack of coordination makes it difficult to implement complex projects	4.33	4.53

Hungary	Weakness	EcW2	Low capital strength of mainly small accommodation and spas	4.67	4.2
Hungary	Weakness	TW3	Due to the scarcity of development funds, in the vast majority of cases, non-complex renovations are carried out, which reduces the efficiency of the system as a whole (e.g. the mechanical system is oversized in relation to the heat demand, if the thermal insulation is carried out after the mechanical renovation)	4.47	4.27
Hungary	Weakness	TW2	A significant, but not predominant, proportion of accommodation is in listed or locally protected buildings, where energy efficiency upgrades can only be achieved at significant additional cost	4.47	4.2
Hungary	Weakness	PW4	Many individual funding decisions which reduce the transparency of the support scheme	4.07	4.13
Hungary	Weakness	EcW3	Investors are uncertain about financing the tourism sector due to developments in recent years (e.g. COVID, decline in domestic solvent demand due to high inflation)	3.93	3.67
Bulgaria	Weakness	EcW1	Grant programs are complex, hard, and bureaucratic, which makes the number of applications from the private touristic sector quite low, and the adoption of funds is low.	4.15	4.15
Malta	Weakness	EcW2	Some stakeholders have difficulty finding information at the start of ongoing projects benefitting from grants, given that the project implementers mostly promote results late in the project's lifetime when all outcomes have already been achieved.	3.55	3.23
Italy	Weakness	EcW2	Some stakeholders have difficulty finding information at the start of ongoing projects benefiting from grants, as project implementers mostly promote results late in the project	3.47	3.47

			duration, when all results have already been achieved.		
Greece	Weakness	EcW1	Tourist businesses with limited financial resources face difficulty in finding funding for their energy transition.	4.14	4.05

4.2. Common Challenges with Political Commitment and Strategies

Comparing all partner regions reveals a diverse yet unified approach toward decarbonisation and sustainability within the tourism sector. Across these regions, a common threat is the varying levels of awareness and integration of circular economy principles, which are critical for enhancing sustainability in tourism decarbonisation. This was notably observed in Malta and Italy, (Malta, **EnT4**; Molise, Italy, **EnT4**), where limited focus on circularity could hinder the full realization of sustainability objectives.

In Greece, the absence of a legislative framework to oversee and compel businesses' adaptation to sustainable approaches is seen as a weakness (Crete, Greece, **LW1**), suggesting room for legislative enhancement to ensure compliance and effective implementation. However, this is a challenge faced in also Malta, Slovenia and Italy, since they all acknowledged the opportunity for their region to develop new regulations to further support sustainable tourism (Matla, **LO2**; Ptuj, Slovenia, **PO2**; Molise, Italy, **LO2**). This could include incentives for the use of renewable energy, measures for energy efficiency, or sustainable building practices in the tourism sector. Maltese stakeholders suggested that this should be complemented by new legal frameworks aimed at facilitating public-private partnerships (Malta, **LO3**).

These concerns are echoed in Bulgaria, where commitments to decarbonisation are evident, including plans to increase renewable energy sources by 2030 (Burgas, Bulgaria, **PS1**, **EnS1**). However, a gap exists in the integration of tourism legislation and municipal strategies with sustainable energy initiatives (Burgas, Bulgaria, **PW2**, **PW1**). The tourism industry currently lacks incentives to adopt sustainable energy practices (Burgas, Bulgaria, **PW2**), and there is an absence of a cohesive strategic framework that unites the critical sectors of tourism and energy (Burgas, Bulgaria, **PW1**).

Additionally, in the Netherlands, there is a concern that a change in management could lead to the prioritization of different initiatives, potentially affecting the continuity and effectiveness of sustainability initiatives that have been launched (Middelburg, Netherlands, **Q11.1**).

Table 28: Identified Political Commitment and Strategic Challenges in Tourism Decarbonisation across Partner Regions

Country	SWOT	Action	Issue	Importance	Urgency
Bulgaria	Weakness	PW2	Need to link the tourism legislation and municipal strategies more closely to the introduction of EE and RES measures and practices, i.e. lack of incentives for the tourism industry that implements such measures and practices.	3.8	3.6
Bulgaria	Weakness	PW1	Lack of strategic document which combines both strategic sectors: tourism and energy for tourism development.	3.75	3.35
Malta	Threat	EnT4	The varying levels of commitment towards circularity goals could pose a challenge to achieving sustainability in tourism decarbonisation.	3.82	3.59
Greece	Weakness	LW1	Absence of a legislative framework that would compel, monitor, and oversee businesses' adaptation to the energy transition.	4.05	4
Italy	Threat	EnT4	Different levels of commitment towards circularity objectives could represent a challenge for achieving sustainability in the decarbonisation of tourism.	3.80	3.80
Netherlands	Weakness	Q 11.1	A change in management could lead to prioritization of different initiatives, which could affect the continuity and effectiveness of sustainability initiatives that have been launched	3.00	3.29

4.3 Common Challenges with Implementation of Green Technologies

While each country presents strong initiatives leveraging green technology to enhance sustainability in tourism, they also face similar challenges. A significant challenge identified among the regions is the threat posed by the rapid pace of technological development, which emphasises the constant need to stay updated with the latest sustainable technologies to remain competitive. Finland (**TT1**), Malta (**TT1**), Italy (**TT1**), and Slovenia (**TT1**) all highlighted this threat, underscoring the necessity for continual adaptation and investment.

Other issues were also identified. Malta faces spatial limitations due to its small size and high population density (Malta, **EnW2**), which could constrain large-scale renewable projects. This geographic constraint is compounded by the rapid technological changes that could make it challenging for the tourism sector to keep up with the latest sustainable technologies, potentially leading to missed opportunities or inefficient investments.

In Burgas, Bulgaria, challenges exist in promoting the transfer of best practices (Burgas, Bulgaria, **TW2**) and increasing awareness about the importance of implementing sustainable energy technologies at touristic sites (Burgas, Bulgaria, **EnW4**). The lack of initiatives aimed at raising awareness and understanding the importance of using local and sustainable renewable energy sources (RES) by touristic sites is a significant hurdle.

Crete faces unique challenges due to the seasonality of tourism (Crete, Greece, **PW1**) and gaps in professional knowledge about new technologies and smart energy management systems (Crete, Greece, **TW1**). These factors discourage investments related to energy efficiency and smart technology adoption. Additionally, the limited capacity of the existing electrical grid (Crete, Greece, **TW2**), as well as extreme weather conditions reduce the efficiency of energy technologies, constituting a deterrent factor for future investments.

In the Municipality of Middelburg, in the Netherlands, the small size of businesses makes direct acquisition of knowledge and access to innovative technologies difficult (Middelburg, Netherlands, **Q34**). This limitation hinders the ability of small enterprises to keep pace with technological advancements and integrate new, sustainable practices effectively.

The central Danube region of Hungary echoes similar issues, where the low capital strength of mainly small accommodations and spas presents a barrier to sustainable development (Central Danube, Hungary, **EcW2**). Furthermore, the uptake of renewable energy is complicated by the requirement to match renewable electricity generation and own consumption (Central Danube, Hungary, **LW1**).

Each region acknowledges these hurdles and the need for targeted strategies to overcome them. For example, Malta's stakeholders suggest that new legal frameworks aimed at facilitating public-private partnerships could help address some of these challenges (**LO3**). Similarly, addressing gaps in the workforce and enhancing professional knowledge about new technologies and smart energy management systems are crucial steps toward overcoming these hurdles, as discussed further in section 4.6.

Table 29: Identified Challenges and Weaknesses in Implementing Green Technologies across partner regions

Country	SWOT	Action	Issue	Importance	Urgency
Finland	Threat	TT1	The development of technology is fast paced and there is a great possibility to fall behind	4.13	4
Hungary	Weakness	LW1	The uptake of renewable energy is made more difficult by the need to match electricity generation and consumption sites for own use	4	3.93
Bulgaria	Weakness	EnW4	Lack of initiatives which aim at increasing awareness and understanding the importance of using local and sustainable RES by touristic sites.	4.2	4
Bulgaria	Weakness	TW2	The transfer of best practices in the area of contemporary technologies is not promoted enough. This could be a challenge to the tourist sector.	3.75	3.65
Malta	Threat	TT1	Rapid technological change could make it challenging for the tourism sector to keep up with the latest sustainable technologies, potentially leading to missed opportunities or inefficient investments.	3.59	3.36
Malta	Weakness	EnW2	Malta's small size and high population density may limit the available space for large-scale renewable energy projects. This could pose a challenge for the decarbonisation of the tourism sector.	3.82	3.50
Greece	Weakness	PW1	The seasonality of tourism in Crete discourages investments related to the energy efficiency of the tourism sector.	3.19	3.25
Greece	Weakness	TW1	Inadequate information among tourism professionals about new technologies and smart energy management systems is a deterrent factor for their investments.	4.14	4.15

Greece	Weakness	TW2	The existing electrical grid in Crete, as well as the limited available electrical space for installing new RES units, hinder the decarbonisation of the tourism sector.	4	4.19
Greece	Threat	TT1	Extreme weather conditions reduce the efficiency of energy technologies and constitute a deterrent factor for future investments.	2.90	2.90
Italy	Threat	TT1	Rapid technological change could make it difficult for the tourism sector to keep up with the latest sustainable technologies, potentially leading to missed opportunities or inefficient investments.	3.73	3.67
Slovenia	Threat	TT1	Rapid technological changes could make it difficult for the tourism sector to keep up with the latest sustainable technologies, potentially resulting in missed opportunities or inefficient investments.	4.17	4.17
Finland	Threat	TT1	The development of technology is fast paced and there is a great possibility to fall behind.	4.13	4
Netherlands	Weakness	Q 34	The small size of the businesses makes direct acquisition of knowledge and access to innovate technologies difficult	3.89	3.67

4.4 Common Challenges with Energy Renovation and Zero Energy Buildings

All regions exhibit a commitment to energy efficiency with building code and legislation that mandate new constructions to be near zero energy. However, Finland highlighted that a significant threat arises from the improper implementation of this code, potentially leading to health issues like mould in buildings (South Ostrobothnia, Finland, **LT1**), indicating a gap between regulatory standards and practical execution. This concern is echoed in other regions.

In Malta, challenges such as low-quality Energy Performance Certificates (EPCs) (Malta, **LT3**), insufficient regulation of short-term rentals from an energy efficiency and sustainability perspective (Malta, **LT5**), and insufficient enforcement of regulations (Malta, **LT6**) highlight

vulnerabilities in the regulatory framework. Additional concerns include the high costs associated with renovating heritage buildings (Malta, **EcW3**), and inadequate compliance with zero energy standards in new projects (Malta, **EnW1**).

Molise, Italy mirrors Malta's concerns with the high costs of renovating historic buildings (Molise, Italy, **EcW3**) and the inadequacy of zero energy compliance in practice (Molise, Italy, **EnW1**). The Central Danube region of Hungary also highlights the high cost of complex renovations (Central Danube, Hungary, **EcW1**) and outdated building services in older buildings (Central Danube, Hungary, **TW1**) as weaknesses. In Hungary opportunities for comprehensive building energy renovations are evident (Central Danube, Hungary, **EnO1**), although the absence of a detailed building stock database for the tourism sector (Central Danube, Hungary, **PW5**) and less stringent requirements for smaller accommodations (Central Danube, Hungary, **LW3**) complicate these efforts.

The region of Burgas in Bulgaria faces challenges related to its aging touristic infrastructure, which requires significant refurbishment to enhance energy performance (Burgas, Bulgaria, **EnW2**). Similarly to what is happening in other partner regions, more tourists are making use of short-term rental accommodation which do not necessarily apply high energy efficiency standards and their operations are not sufficiently regulated in terms of energy efficiency and sustainability (Burgas, Bulgaria, **LT3**).

The Municipality of Ptuj, Slovenia identifies significant weaknesses with older buildings that lack compatibility with modern energy-efficient technologies (Ptuj, Slovenia**, TW1**), posing substantial retrofitting challenges.

Table 30: Identified Challenges and Weaknesses in Energy Renovation & Zero Energy Buildings across partner regions

Country	SWOT	Action	Issue	Importance	Urgency
Finland	Threat	LT1	Improper building tied in with near zero energy building code leads to mouldy and unhealthy buildings	3.13	2.75
Hungary	Weakness	TW1	In the operation of outdated building services older buildings are overrepresented	4.47	4.47
Hungary	Weakness	EcW1	High cost of complex renovations and of advanced technological solutions	4.6	4.27
Hungary	Weakness	PW5	There is no comprehensive database on the building stock of the tourism sector that could	4	4

			form the basis for a comprehensive building energy support programme focusing on accommodation		
Hungary	Weakness	LW3	In the case of smaller accommodation facilities, energy upgrades may be counteracted by the fact that under the new provisions, energy performance certificates are no longer a compulsory part of sales contracts	3.07	3.27
Bulgaria	Weakness	EnW2	Some touristic sites need to undergo refurbishment measures as they have been built a long time ago which leads to poor energy performance.	4	3.95
Bulgaria	Threat	LT3	More tourists are making use of short-term rental accommodation which do not necessarily apply high energy efficiency standards and their operations are not sufficiently regulated in terms of energy efficiency and sustainability.	3.3	3.05
Malta	Threat	LT3	Low quality EPCs may potentially mislead building owners when it comes to building renovation options.	3.45	3.55
Malta	Threat	LT5	More tourists are making use of short-term rental accommodation which do not necessarily apply high energy efficiency standards and their operations are not sufficiently regulated in terms of energy efficiency and sustainability.	3.41	3.41
Malta	Threat	LT6	Insufficient enforcement of existing regulations could undermine their effectiveness in achieving sustainable tourism decarbonisation goals since part of decarbonisation measures are incorporated in regulations.	4.36	4.18
Malta	Weakness	EcW3	Heritage buildings are costly to renovate which may limit the feasibility of certain decarbonisation measures.	3.64	3.27
Malta	Weakness	EnW1	In practice, many new and renovated projects do not always fully apply the existing national	4.05	4.00

			policies to achieve near zero energy status and better environment.		
Italy	Weakness	EcW3	Historic buildings are expensive to renovate and this may limit the feasibility of some decarbonisation measures	3.80	4.00
Italy	Threat	LT5	An increasing number of tourists are making use of short-term rental accommodation which does not necessarily apply high standards of energy efficiency and sustainability	3.73	3.80
Italy	Threat	LT3	Low-quality Energy Performance Contracts have the potential to mislead building owners when it comes to renovations	3.71	3.57
Italy	Weakness	EnW1	In practice, many new and renovated projects do not always fully implement existing national policies to achieve near-zero energy status and a better environment	3.67	3.53
Slovenia	Weakness	TW1	Older buildings and infrastructure in the tourist sector may lack compatibility with modern energy-efficient technologies, making it challenging and costly to retrofit existing structures.	4.7	4

4.5 Common Challenges with Bureaucratic Barriers to Decarbonisation

Across the regions, bureaucratic inefficiencies emerged as a significant impediment to the adoption of renewable energy technologies and the broader goals of decarbonisation within the tourism sector. These barriers not only delay the implementation of sustainable practices but also discourage investment in energy-efficient technologies.

The Central Danube Region of Hungary encounters significant administrative burdens that can stifle efficiency and responsiveness (Central Danube, Hungary, **PW3**). These administrative requirements can deter new investments and slow down the progress towards more sustainable energy practices.

Burgas, Bulgaria faces bureaucratic hurdles specifically in the context of introducing renewable energy systems (RES) in touristic buildings and sites (Burgas, Bulgaria, **LW2**). These procedures significantly delay the decarbonisation efforts within the tourism sector, posing a substantial challenge to achieving environmental targets. Malta shares similar challenges with bureaucratic hurdles that impede the integration of solar photovoltaic (PV) systems into buildings (Malta, **LW1**). These barriers hinder the widespread adoption of renewable energy within the tourism industry, limiting Malta's ability to fully leverage its solar energy potential.

Both Crete, Greece and Molise, Italy highlight the discouraging effect of bureaucracy on the implementation of new energy-saving technologies. In Greece, significant bureaucratic processes not only impede the introduction of these technologies but also discourage entrepreneurs from investing in new energy solutions (Crete, Greece, **LW2**). Italy faces similar bureaucratic obstacles that prevent the effective integration of solar PV systems into buildings (Molise, Italy, **LW1**), echoing the challenges seen in Malta and Greece.

The Municipality of Ptuj, Slovenia identifies a specific aspect of bureaucratic barriers related to the accessibility of financial support for sustainable projects (Ptuj, Slovenia, **PW1**). The complex and lengthy administrative procedures required to receive support are too burdensome and challenging for applicants, which can deter potential investments in sustainability. Additionally, complex regulations and permitting processes related to renewable energy installations and virtual tourism activities leads to delays and bureaucratic challenges (Ptuj, Slovenia, **LW1**).

Table 31: Identified Challenges and Weaknesses Related to Bureaucratic Barriers for Decarbonisation and Sustainability Project and Technology Implementation within the Tourism Sector Across Partner Regions

Country	SWOT	Action	Issue	Importance	Urgency
Hungary	Weakness	PW3	Excessive administrative burdens	4.27	4.33
Bulgaria	Weakness	LW2	Bureaucratic and sluggish procedure to introduce RES installations in touristic buildings and sites can significantly delay the decarbonisation of the touristic sector.	4.2	4.05
Malta	Weakness	LW1	Bureaucratic hurdles might impede the integration of solar PV systems into buildings, hindering the use of renewable energy within the tourism industry.	4.00	3.64

Greece	Weakness	LW2	The implementation of new energy-saving technologies faces bureaucracy, discouraging entrepreneurs from new energy investments.	4	4
Italy	Weakness	LW1	Bureaucratic obstacles could prevent the integration of solar photovoltaic systems into buildings, limiting the use of renewable energy in the tourism industry	4.13	4.07
Slovenia	Weakness	PW1	Long and difficult administrative procedure (bureaucracy burden due to lot of documents needed for receiving support is sometimes to exhaustive and difficult for applicants)	4.2	4.33
Slovenia	Weakness	LW1	Complex regulations and permitting processes related to renewable energy installations and virtual tourism activities, leading to delays and bureaucratic challenges at the local level.	4	4

4.6 Common Challenges with Workforce Shortages and Training

Workforce-related challenges emerge as a critical barrier to successfully implementing sustainable practices and decarbonisation within the tourism sector across the regions. These challenges include labour shortages, training deficiencies and social resistance to changes aimed at promoting more sustainable practices.

South Ostrobothnia, Finland faces significant challenges related to workforce availability (South Ostrobothnia, Finland, **LW3**) and labour shortages (South Ostrobothnia, Finland, **EcT1**), both rated as top issues affecting the tourism sector. These challenges are exacerbated by the high costs associated with Sunday allowances (South Ostrobothnia, Finland, **LW2**), which further strain tourism operations.

The Central Danube of Hungary identifies training as a crucial area for development. A gap exists in training staff on newly installed systems post-refurbishment, which often leads to underutilization and inefficiencies (Central Danube, Hungary, **TW4**).

Burgas, Bulgaria highlights the seasonal competition from countries with longer summer seasons like Italy, Greece, and Turkey, which attracts its skilled workforce (Burgas, Bulgaria, **ST2)**. A general lack of trained staff in tourism (Burgas, Bulgaria, **ST1**) exacerbates the sector's challenges, coupled with a need for more training in sustainable and environmental tourism (Burgas, Bulgaria, **SW**1). Additionally, local resistance to changes towards sustainable practices presents a significant barrier (Burgas, Bulgaria, **SW2**).

Both Malta and Italy face challenges from increased tourist service capacities, which demand more labour, potentially affecting local infrastructure and social dynamics (Malta, **ST3**; Molise, Italy, **ST3**). Each country also acknowledges the resistance to sustainable changes in tourism practices, which could hinder decarbonisation efforts (Malta, **SW1**; Molise, Italy, **SW1**).

Similar to the Central Danube region in Hungary, the Cretan stakeholders recognise a notable lack of specialized and adequately trained personnel to manage new energy technologies (Crete, Greece, **SW2**), which discourages investments and could slow progress towards sustainability goals. While the Municipality of Ptuj, Slovenia also notes an issue with general employment within the tourism sector post pandemic (Ptuj, Slovenia, **EcW1**).

The Municipality of Middelburg in the Netherlands also identifies potential social resistance to changes related to sustainable decarbonisation of tourism, such as changes to traditional practices or work roles, as a weakness (Middelburg, Netherlands, **Q33**).

Table 32: Identified Challenges and Weaknesses related to Workforce Training Needs in Sustainable Tourism and Decarbonisation of the sector across partner regions

Country	SWOT	Action	Issue	Importance	Urgency
Finland	Weakness	LW3	The availability of work force	4.38	4.13
Finland	Threat	EcT1	Labour shortages	4.25	4.13
Finland	Weakness	LW2	Sunday allowance are a heavy burden for the tourism sector	3.63	3.13
Hungary	Weakness	TW4	Following refurbishment, staff are often not trained on the operation of the installed equipment, and on the possible need to modify settings, which can reduce the efficiency of the whole system	4	4.07
Bulgaria	Threat	ST2	High competition from countries with a longer summer season (Italy, Greece, Turkey). Skilful and trained staff prefer to go there to work.	4.3	4.25
Bulgaria	Threat	ST1	Lack of trained and skilful staff in the touristic sector can negatively impact this branch.	4.25	4.3
Bulgaria	Weakness	SW1	The sector needs more training and capacity building activities. Professional guides and tour guides should be trained in the field of environmental and sustainable tourism.	4	3.95

Bulgaria	Weakness	SW2	Existing of negative perception to changes towards sustainable environmental tourism, such as changes in traditional practices or behavioural change, could be a significant challenge at local level.	3.85	3.8
Malta	Threat	ST3	Increased capacity in hotels and tourist services requires more labour which may be limited in quality or require additional importation of skilled personnel. This impacts other aspects (such as traffic, infrastructure, social conflicts), which negatively affects tourist experience and locals.	4.14	4.18
Malta	Weakness	SW1	Potential social resistance to changes associated with sustainable tourism decarbonisation, such as changes in traditional practices or job roles, could pose a challenge.	3.68	3.32
Greece	Weakness	SW2	The lack of specialized and adequately trained personnel to manage new energy technologies in tourist infrastructure discourages energy investments.	3.71	3.8
Italy	Weakness	SW1	Potential social resistance to changes associated with the decarbonisation of sustainable tourism, such as changes in traditional practices or work roles, could pose a challenge	4.00	4.00
Italy	Threat	ST3	Increasing the capacity of hotels and tourism services requires a greater quantity of labor, which may be of limited quality or require the importation of skilled personnel. This has an impact on other aspects (such as traffic, infrastructure, social conflicts), with negative repercussions on the tourist experience and the local population	3.60	3.71
Slovenia	Weakness	EcW1	The pandemic has had an impact on employment, environmental sustainability, the quality and added value	3	3

			of Slovenia's accommodation infrastructure, public and shared tourism infrastructure, and the development of cultural heritage		
Netherlands	Weakness	Q 33	Potential social resistance to changes related to sustainable decarbonisation of tourism, such as changes to traditional practices or work roles, could be a challenge	3.67	3.22

5. CONCLUSION AND FURTHER WORK

This report outlines the territorial challenges faced by the partner regions. Utilising the Eisenhower Matrix methodology, the regions have ranked their top strengths, weaknesses, opportunities, and threats. Detailed rankings are available in each country report, while this report highlights the priority weaknesses and opportunities for each region.

In the coming months, the prioritised list of weaknesses, based on feasibility of achieving change within the next two years, will be further discussed to identify the best solutions and strive for their implementation. Simultaneously, the most feasible opportunities will be discussed, and efforts will be made to implement them as good practices throughout the project's duration, which extends until February 2026. In this first 18 months, the DETOCS project served as an eye opener, highlighting the diverse challenges and opportunities faced by different regions in advancing sustainability within the tourism sector, and a rich learning experience, where different regions have supported one another in sharing solutions to some of their challenges. For example, some regions, like South Ostrobothnia in Finland and Molise in Italy, have relatively low tourism activity. These regions have the opportunity to develop long-term sustainable tourism practices from inception to maturity, as they grow in an environmentally responsible manner. On the other hand, regions such as Malta and Crete are struggling with the pressures of mass tourism. These areas need to focus more on short-term and effective sustainable practices to mitigate the environmental impacts of high visitor numbers.

Malta presents a unique case study. As a small island nation, it faces distinct challenges related to space and resource constraints. However, it shares similarities with Crete, another island experiencing high tourism volumes. Both regions can benefit from each other's strategies for managing tourism sustainably, using their island status to implement innovative solutions tailored to their specific needs.

The strength of the Interreg Europe project lies in its collaborative approach. By bringing together diverse regions with varying levels of tourism activity, it fosters the exchange of best practices and innovative solutions. This cooperation accelerates progress towards achieving the EU's

decarbonisation targets by 2025. Through shared learning and mutual support, the regions involved in the DETOCS project are better equipped to overcome their unique challenges and contribute to a more sustainable tourism industry across Europe.

By harnessing the collective knowledge and experiences of all participating regions, the DETOCS project will encourage regions to adopt policy change, which is often difficult to implement alone. Moreover, the project demonstrates that even the most diverse areas can work together towards common sustainability goals. This collaborative effort not only benefits the individual regions but also contributes to the broader EU objectives of reducing carbon emissions and promoting sustainable development in the tourism sector.