ENVIRONMENTAL MANAGEMENT IN TOURISM AND HOSPITALITY

Textbook

UDC 338.486.1(075.8)

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Environmental management in tourism and hospitality: textbook.
E 45 /M. Bieloborodova, L. Bezuhla, O. Kamushkov, T. Herasymenko/; Ministry of Education and Science of Ukraine, Dnipro University of Technology. – Dnipro: Jurfond, 2025. – 184 p.

The textbook is designed for full-time and part-time master's students of specialties 241 Hotel and restaurant business (J2 Hotel, restaurants and catering) and 242 Tourism and Recreation (J3 Tourism and recreation). The textbook includes theoretical materials, practical case studies, and the best examples of international and domestic practices in environmental management within the hospitality sector.

The textbook contains open-ended questions and tests to check the level of mastery of the material presented and can be used to organize independent work of students.

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CONTENT

There is a path to sustainability. It is a path that could lead to a better future for all life on Earth.
David Attenborough

INTRODUCTION

The global tourism and hospitality industry faces significant challenges and opportunities as it strives to align its operations with the principles of environmental sustainability. The increasing awareness of climate change, biodiversity loss, and resource scarcity demands a concerted effort to transition toward sustainable practices. The textbook "Environmental Management in Tourism and Hospitality" has been meticulously crafted to address these critical issues, offering master's level students the theoretical knowledge and practical tools necessary for implementing effective environmental management systems in their professional practice.

This textbook provides a comprehensive exploration of environmental management, focusing on its application within the tourism and hospitality sectors. It delves into the intricate relationship between tourism and sustainability, addressing fundamental components of sustainable development and corporate social responsibility (CSR) while highlighting critical environmental challenges. The circular economy, a transformative approach to resource management, is examined as a framework for advancing sustainability in the pan-European region and beyond. Subsequent chapters provide a step-by-step guide to developing and implementing environmental management systems, showcasing international best practices and proven methodologies, such as ISO 14001 certification and the Plan-Do-Check-Act model.

To ensure practical applicability, the textbook includes case studies, real-world examples, and insights into environmental management in transportation and the HoReCa (hotel, restaurant, and catering) sector. From zero-waste strategies to marketing ecological

products and services, the text integrates cutting-edge initiatives with actionable recommendations.

This textbook is intended not only as a guide to theoretical understanding but also as a resource for developing skills that can drive change in the industry. By incorporating questions and tests at the end of each chapter, the book fosters critical thinking and enables learners to assess their grasp of key concepts.

Visual elements such as graphs, charts and tables placed in the textbook, help to remember information better. It can serve as a basis for systematic repetition of the theoretical material. Students can use it to create a plan to prepare for exams and tests. It can also be useful when doing homework and preparing for practical classes.

We extend our heartfelt gratitude to the reviewers whose expertise and insightful feedback have significantly enhanced the quality and scope of this textbook. Their invaluable contributions have helped ensure that the material meets the highest academic standards while addressing the practical needs of students and professionals alike.

The journey toward sustainability in tourism and hospitality is a shared responsibility. It is our hope that this textbook will empower students to contribute meaningfully to this global effort, equipping them with the knowledge and tools necessary to lead with purpose and responsibility.

The following symbols are used in the textbook:

Case study

Term definition

Take a note

CHAPTER 1
Tourism and its impact on aspects of sustainability

Questions

1.1 Three fundamental components of sustainable tourism development

1.2 Sustainable development and CSR in tourism and hospitality – environmental issues

1.3 Environmental safety in the service sector: international experience

1.1 Three fundamental components of sustainable tourism development

The study of sustainable development in tourism is closely related to sociology because it is through understanding people's behavior, needs, and motivations that strategies can be created that reduce the negative impact on the environment and society. Sociology helps study how tourists interact with local communities, their travel expectations, and how cultural, economic, and environmental factors influence their decisions. This knowledge allows for the creation of tourism that supports local culture, promotes economic growth, and, at the same time, conserves natural resources.

Eric Cohen [1] is a well-known sociologist who has significantly contributed to the study of tourism, especially its socio-cultural aspects. He is among the first scientists to propose theoretical models for classifying tourists based on their motivations and travel experiences. In his work, Cohen proposed four types of tourists, which characterize different approaches to travel.

☝ *Types of Tourists by Eric Cohen*

Drifter – authentic tourism experience, novelty over the familiar types of recreation and adventures. This type of tourist prefers only local

food, shopping and accommodation.

Explorer – adventures, novelty over the familiar types of recreation, more interaction with tourist infrastructure, mix of local and tourist services.

Individual Mass Tourist– familiar rather than new; they prefer solo travel over the group tour.

Organized Mass Tourist – does seek the familiar, they always have a plan made for their group.

Stanley Plog [2] is an American sociologist and researcher in the field of tourism, known for his theory of tourist psychographic. His research focused on analyzing the motivations and behavior of tourists, which helped create a model for understanding different types of tourists based on their psychological characteristics. Plog's central idea was that the behavior of tourists is the result of their psychographic characteristics, and he divided them into three main groups.

☝ *Types of Tourists by Stanley Plog*

Allocentric – are interested in destinations that are underdeveloped or undeveloped.

Psychocentric – well- or overdeveloped destinations.

Midcentric – some adventures + some comfort.

Nevertheless, no matter what type of tourism you prefer, you MUST be a sustainable tourist! Sustainable tourism is often referred to as responsible tourism, and it relies on three pillars: taking care of the economy, society, and environment (fig. 1.1). Popular types of tourism that are closely related to sustainable one – are ethical, eco-, and agritourism.

In a 2013 interview with the Radio Times, David Attenborough [3], British naturalist, TV presenter, and documentarian known for his outstanding series about nature and the fight to protect the environment, described humans as a "plague on the Earth." If we continue to act in the way we have been, humanity will not survive.

In the short term, if we continue to holiday as we used to, then tourism will not survive. 53% of travelers say that they want to travel more sustainably.

🗁 The earliest definition of the term **"sustainability" says that sustainable development is a type of development that meets the needs of the present generations without compromising the ability of future generations to meet their own needs (fig. 1.1).**
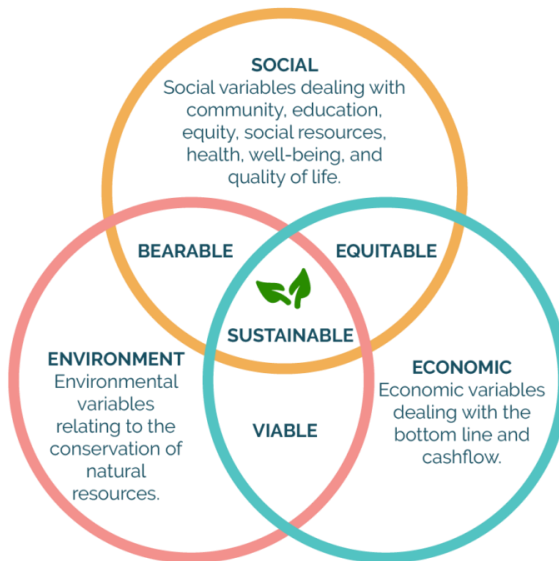
Figure 1.1 – Three pillars of sustainable development [4]

To say briefly, if the litter is dropped on the beach and it needs to be cleared up, then future tourists will not want to visit that beach if economic leakage is not controlled (i.e., when the money spent by tourists leaves the country as the result of foreign-owned business, imported produce, etc.) than locals will not see any benefits of tourism.

The UNWTO defines sustainable tourism as **fully considering its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities [5].**

☝*The main factor is that sustainable tourism should:*

- Make optimal use of environmental resources that constitute a crucial element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.
- Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to intercultural understanding and tolerance.
- Ensure viable, long-term economic operations, providing socio-economic benefits are fairly distributed among all stakeholders. It includes stable employment, income-earning opportunities, social services to host communities, and contributing to poverty alleviation.

☝*Ten principles of sustainable tourism by WWF (World Wildlife Fund and Tourism Concern) [6]:*

- Using resources sustainably (Conserving and using natural, social, and cultural resources is crucial and makes long-term business sense).
- Reducing overconsumption and waste.
- Maintaining biodiversity.
- Integrating tourism into planning (integrating tourism into national, regional, and local strategy planning network, which undertakes environmental impact assessments and increases the long-term viability of tourism).
- Supporting local economies (e.g., voluntourism and philantourism) helps protect them and avoid environmental damage.

- Involving local communities (it improves the quality of the tourism experience).
- Consulting stakeholders and the public (because of the potential conflict of interest).
- Training staff, which integrates sustainable tourism into working practices.
- Marketing responsible tourism.
- Undertaking research (effective data collection and analysis).

1.2 Sustainable development and CSR in tourism and hospitality: environmental issues

During the last decades, we moved from package tours based on 3S (sun, sea, sand) to more experiential travel involving responsibility.

📂 **Responsible tourism is tourism that exhibits responsible behavior (also in terms of industry and HOW the sector is managed)**

While many academics and industry practitioners have attempted to define the term responsible tourism, the most popular reference source when it comes to describing it is a definition by The Cape Town Declaration.

☝ *According to The Cape Town declaration, responsible tourism is characterized in terms of the following (fig. 1.2):*

- Minimizing impacts that generate economic benefits for host communities.
  - Involving local people in decision-making.
  - Conserving natural and cultural heritage.
  - Providing meaningful connections between tourists and locals.
  - Being accessible and culturally sensitive.

Many people will ask about the difference between responsible and sustainable tourism. The terms are often used interchangeably, but they are two different things. Although the term responsible tourism

does share much in common with sustainable tourism, eco-tourism, ethical tourism, and other socially conscious tourism, it is different. Oftentimes the terms are used interchangeably, but they shouldn't be.

Figure 1.2 – Responsible tourism priorities [7]

There are three pillars: the environment, society, and the economy, and the UNWTO says that to be a sustainable tourist, you should make optimal use of the environmental resources that constitute a key element in tourism development.

☞ *Unambiguous guidelines or protocols determine whether something is sustainable tourism; therefore, that differs from responsible tourism, which is much harder to determine.*

Responsible tourism might encompass some of those pillars that have just been mentioned, or it might not. The growth of responsible tourism is in the public mind more now than ever before, but it is not new. The vision of a more responsible form of tourism was discussed

at length back in the 1980s

It was noted that the industry would have to adopt more environmentally orientated and socially responsible practices, yet this has only become prominent in the past decade. The companies and many other industry professionals expect to see a more eco-conscious mindset in future years.

A study undertaken in 2019 [8] shows that tour operators are almost five times as likely to use responsible tourism as any similar label, such as eco-tourism, sustainable tourism, or ethical tourism.

Sadly, the term's subjectivity allows the term to be exploited and for greenwashing to occur. So, why is responsible tourism important? Responsible tourism is so vital that the UN World Tourism Organization secretary-general quite rightly said that sustainability must no longer be a niche part of tourism but a new form for every part of our sector. That means an opportunity to create an industry that is more resilient and aligned with the sustainable development goals.

Many argue that the tourism industry is the most significant industry in the world, and it's been proliferating over the last few decades. Ultimately, if we want to preserve the very things that we will see – the beach, the mountain, the wildlife, etc. for future generations, then we must behave responsibly and sustainably, and that's why responsible tourism is not important – it's imperative! There's no choice about it.

How can the tourism industry be more responsible? A key aspect to ensuring sustainable tourism is achieved is through careful planning and managing the tourism industry. Stakeholders at all levels, ranging from taxi drivers and hotel staff at the grassroots level to international organizations and national governments, are obligated to facilitate responsible tourism.

There are many examples of responsible behavior in the tourism industry and what this might look like in practice, but to give you an idea, here are a few:

- Hire local staff.

- Use local products and services to minimize economic leakage.
- Use ethical marketing and promotion.
- Involve the local community in decision-making.
- Recycle.
- Have a strong sense of corporate social responsibility.
- Use environmentally friendly products and services.
- Educate workers by offering training and development opportunities for staff.
- Work together with other industries.

You can often come across the term "ecolodge" when talking about sustainable tourism. These are eco-friendly accommodations (hotels or other tourist facilities) that minimize negative impacts on the environment by applying environmentally friendly practices. They use energy-efficient technologies, contribute to the conservation of natural resources, and support the sustainable use of materials. Such establishments are aimed at creating a harmonious environment for visitors while at the same time taking care of reducing their carbon footprint and implementing the principles of responsible tourism.

📂 **Ecolodge is a place for people to stay on holiday that is designed not to harm the natural environment where it has been built [9].**

Cambridge Dictionary

"Footsteps Ecolodge" in the Gambia.

The founder of "Footsteps Ecolodge", David, tells how when he took a relatively cheap trip to the Gambia, he discovered that the staff at his booked hotel were only earning an average of one pound per day. David felt guilty for enjoying a holiday, knowing that the locals were receiving little or no economic benefits from hosting him. Then David went on to develop "Footsteps Ecolodge" with a mission to improve the Gambia's trade through responsible tourism, and therefore he encourages sustainable development.

In fact, one of his goals has led to employing only from the local village and buying only local produce. "Footsteps Ecolodge" has many environmentally friendly initiatives ranging from solar-powered electricity to composting toilets. It's far from the main tourist areas and provides a unique and authentic holiday experience.

Ecobnb

Ecobnb (fig. 1.3) is a community dedicated to sustainable tourism, which offers travelers from all over the world the opportunity to find and book a vacation in harmony with nature.

It is a marketplace where you can book environmentally friendly accommodations, with a quick search system integrated with social media and developed for smartphones. It clearly highlights the sustainability requirements of each hotel, farmhouse, bed & breakfast, or apartment.

Figure 1.3 – Ecobnb logo [10]

On Ecobnb.com, one can find every type of eco-friendly accommodation, such as organic houses surrounded by nature, Bed & Breakfast in historical villages, tree houses, ice-igloos, hotels with a small impact on the environment, chalets and mountain retreats

without CO2 emissions.

"The Eden Project" in Cornwall

The "Eden Project" is another fantastic example of sustainable tourism. It was built to demonstrate the importance of plants to people and to promote the understanding of vital relationships between plants and people. It's a huge complex that welcomes a wide range of tourists from the UK and overseas, and generally, the project attracts more than a million visitors each year. The project, in fact, has annual sustainability reports, too, which monitor its sustainable impact year by year.

"Dolphin Discovery Centre" in Western Australia

"Dolphin Discovery Centre" began when Mrs. Evelyn Smith started to feed a group of dolphins near her home. A few years later, the "Dolphin Discovery Centre" allowed tourists and community members to interact with these dolphins in the hope that they would understand and enjoy the marine animals. In brief, the "Dolphin Discovery Centre" adopts a Dolphin Program that supports the conservation of dolphins and the broader marine environment. To date, the Dolphin Discovery Center conserves not only dolphins but turtles, too.

1.3 Environmental safety in the service sector: international experience

Climate change is central to promoting circularity and sustainability in the tourism sector. According to the UN World Tourism Organization (UNWTO) and the International Transport Forum (ITF), emissions from tourism activities may increase by at least 25% by 2030.

The UNEP/UNWTO report on the green economy states that under the usual development scenario, by 2050, energy consumption in tourism will increase by 154%, greenhouse gas emissions by 131%, and water consumption by 152%.

For example, tourism is very vulnerable to climate change, as extreme weather events, loss of biodiversity, and damage to assets can lead to increased insurance costs and security issues. The Paris Agreement and the Sustainable Development Agenda for the period up to 2030 serve as a guide for countering the consequences of climate change.

Given the high population density, the nature of Europe has undergone the most noticeable changes because of anthropogenic activity. Therefore, the European Union member states actively promote ecotourism development in their territories. Let's consider several cases.

Portugal. In January 2019, the Portuguese government expanded the conditions of investment visas for foreigners. This program existed before and provided for granting residence permits to citizens of non-EU countries for investments in specific sectors of the economy. However, this time, changes were made to the program, which has already received the unofficial name "green visas." Now, Portugal provides a residence permit in exchange for investing 500,000 euros in environmental projects. They can include organic agriculture, renewable energy, any project that reduces carbon emissions, and, most importantly, ecotourism.

Several environmental initiatives have already been implemented in the country. Any tourist who cares about the environment can join them. In Lisbon, the local non-governmental organization Brigada Do Mar (from port. - sea brigade) is successfully operating, and it has removed 901 tons of garbage from the beaches of Portugal over the past few years. In this way, every tourist can not only help with the cleaning of the coast but also learn a lot about the garbage pollution from commercial fishing vessels in the area and how to fight it.

There are currently many eco-facilities for accommodation in Portugal. Among the most successful, Monte Velho Eco Retreat can be singled out in one of the coastal areas of the Algarve. At one time, Monte Velho began with the idea of reforesting 30 hectares of land. It

is now a full-fledged retreat center that grows its own fruit and vegetables and uses renewable energy sources.

Denmark. Copenhagen plans to become the best cycling city in the world by 2025. This goal is also integral to the city's health and environmental protection plan – to make the city CO_2-neutral by 2025 and increase its livability.

The success of Denmark and Copenhagen is that the bicycle is seen as a full-fledged urban transport, not just as a pastime. In 12 years, 14 new bridges have been built in the capital region, making it possible to closely integrate bicycle routes into a single transport system. The city ensures people can easily take their bikes to the railway station and board a train. This encourages tourists to travel on bicycle routes in Copenhagen and throughout Denmark. There are even specialized cycling guides, which list all the routes around the country and indicate free campsites.

Finland. In the Arctic region of the country, the climate is warming three times faster than in the rest of the world. Many of Finland's tourism products and services depend on weather conditions, making them highly vulnerable to climate change. Protection of the country's main asset makes sense from a financial point of view.

Therefore, the Finnish government focused on sustainable tourism principles, which were recorded in the National Development Strategy for 2019-2028 and in the STF program - Sustainable Travel Finland.

In the framework of the STF, information activities are carried out among potential consumers of the tourism product, in which people are encouraged to use rail or sea transport for travel, to use bicycle routes and walking tours, explain the advantages of hospitality establishments that have eco-certificates, emphasize the need to use local and seasonal food products, etc. The development of tourism sustainability indicators is also ongoing, among which a pilot project – a carbon footprint calculator – can be highlighted.

France. The country's government also strives to reduce its carbon footprint by developing a model of environmentally conscious

tourism. Thus, in April 2021, a new climate bill was approved to support the ecological transition, helping France reach the target level of emissions of 40% by 2030.

A few changes related to travel and leisure have been initiated to achieve such ambitious goals. For example, an agreement in principle was reached regarding the prohibition of short domestic flights between cities connected by rail (journeys lasting less than 2.5 hours). Initially, this will only apply to the routes between Paris (Orly) and Nantes, Lyon, and Bordeaux, and the geography of such bans will be expanded later.

Mid-2022 a new procedure for assigning stars to hotels and other accommodation facilities was introduced. Among the 243 criteria by which hotels have been evaluated, special attention is paid to sustainable development, with the mandatory requirements: training staff in energy-saving management, measures to conserve water resources and waste disposal, sorting garbage for guests, environmentally friendly cleaning products, informing guests about transport with a low impact on the environment, measures to reduce the amount of laundry, etc.

Slow tourism is gaining popularity in France, which calls for taking one's time during the trip but getting aesthetic pleasure from contemplating the scenery while walking from the window of a train or from aboard a boat if river transport is being used.

As one of the elements of such tourism, bicycles are actively developing because about 20,000 km of bicycle paths have already been arranged in the country. The effectiveness of French projects in sustainable tourism is confirmed by the fact that in 2022 the city of Grenoble became the green capital of Europe. That achievement brings Europe closer to 2030 ambitious green goal.

📂 **Slow tourism is based on the concept of speed. It involves traveling for a prolonged period at a slow pace, allowing the tourist a deep, authentic, and cultural experience.**

An alternative form of tourism, slow travel is typically associated with sustainable practices, considering the impacts of travel on the environment, society, and the economy. Slow travel can be undertaken in any destination, but it is particularly popular amongst traditional backpacking routes in Southeast Asia, Central America, and Australia (fig. 1.4).

Figure 1.4 – Slow tourism benefits for travelers [11]

So where did this concept of slow tourism come from? The notion of slow tourism derives from the food tourism industry. The slow food movement developed in Italy during the late 1980s. The aim of slow food is to prevent local food cultures and traditions from disappearing, to counteract the rise of fast life, and to raise public interest in the food that we eat

📂 **To be a slow tourist, you should do things at the right speed, change your attitude towards speed, and seek quality over quantity**.

Slow tourism involves staying longer in one place and getting to know the area and community. Slow tourism involves tourists slowing down and often doing less to better understand their surroundings – the community and the authentic culture.

Backpacking is usually a form of slow tourism because of its speed. Backpacking trips do not always demonstrate the sustainable mindset associated with slow travel. Young backpackers tend to travel to party destinations in Thailand or Australia.

Using a car or a motorhome (caravan) isn't always the most environmentally friendly mode of transport, but a road trip will allow a tourist to have that slow local experience.

Volunteer tourism is the act of visiting a destination to undertake voluntary work. Volunteer tourists can participate in many projects, including those that work with the environment or the local community. Volunteer tourism projects typically last for a month or more and involve significant integration with the host community.

Europe - inter-rail passes have given slow travel a big boost in Europe. These affordable train travel passes have encouraged many people to travel throughout the continent and have helped boost tourism in the areas. Not to mention that train travel is more environmentally friendly than many other forms of transport, so there we have it.

As for environmental security in the modern context, it is worth mentioning the humanitarian aspects of the issue in its various dimensions (spiritual, cultural, moral, etc.). As a rule, they are determined by the level of environmental consciousness of the society, which is formed under the influence of many factors and primarily through upbringing, education, and traditions. Under the impact of these and other factors, the nation's environmental mentality is gradually formed, which enables society to develop through sustainability.

Questions and tests for Chapter 1

1. What is sustainable tourism?
2. What is the difference between sustainable, slow, and responsible tourism?
3. Name WWF's main principles of sustainable tourism (World Wildlife Fund and Tourism Concern).
4. What type of tourism is regulated by The Cape Town declaration?
5. What is ecolodge? Give some examples.
6. Give examples of promoting sustainable tourism at the national level.

Test 1

1. The type of tourist activity in which the main motivation of the visitor is the study, discovery, experience, and consumption of tangible and intangible cultural monuments/products in a tourist destination is:
   a) responsible tourism.
   b) cultural tourism.
   c) ecotourism.
   d) sustainable tourism.

2. Slow tourism is:
   a) a type of tourism that satisfies all existing needs but simultaneously develops in such a way that it provides similar opportunities for future generations.
   b) a trip that combines volunteering and recreation.
   c) a form of tourism that involves traveling over a more extended period at a slower pace, which allows the tourist to get a deep, authentic, and cultural experience.
   d) a form of tourism that minimizes negative social and environmental impact, increases the well-being of the host and

improves service in the tourism industry.

3. *Responsible tourism is:*

  a) a type of tourism that satisfies all existing needs but simultaneously develops in such a way that it provides similar opportunities for future generations.

  b) a trip that combines volunteering and recreation.

  c) a form of tourism that involves traveling over a more extended period at a slower pace, which allows the tourist to get a deep, authentic, and cultural experience.

  d) a form of tourism that minimizes negative social and environmental impact, increases the well-being of the host, and improves service in the tourism industry.

4. *The most popular direction for slow tourism:*

  a) Southeast Asia, Central America, and Australia.

  b) Western Europe: France, Belgium, Denmark.

  c) North America and Caribbean countries.

  d) island countries of Oceania and Indonesia.

5. *Macro trends that will have a significant impact and relevance for the development of the tourism sector soon do NOT include:*

  a) change in demand from visitors.

  b) reduction of tourist flows.

  c) innovative technologies.

  d) mobility of travelers.

6. *Which of the following is an example of promoting sustainable tourism at the national level?*

  a) developing large-scale resort areas with minimal environmental regulations.

  b) encouraging the use of renewable energy in hotels and tourism infrastructure.

  c) offering subsidies for mass tourism projects with high resource consumption.

  d) promoting discounted flights to encourage increased travel.

CHAPTER 2
Principles and opportunities of the circular economy in tourism and hospitality

Questions
2.1 Trends in the development of sustainable infrastructure in the pan-European region
2.2 Current circular economy and tourism initiatives
2.3 Challenges and problems of applying the principles of circularity in the pan-European region

2.1 Trends in the development of sustainable infrastructure in the pan-European region

More and more destinations today are opening their economies and investing in tourism development, turning local industry into a key driver of socio-economic progress through job and business creation, infrastructure development, and export earnings. When making decisions, large investors, mainly private tourism investors, do not pay much attention to environmental and social sustainability issues. In fact, the criteria and models traditionally used in decision-making are still based on conventional quantitative indicators (e.g., rate of return) and linear business models that do not consider sustainability factors. However, due to various environmental, economic, and social aspects, sustainability in the tourism sector and the general shift from linear to circular models are becoming increasingly important for governments and companies.

From an environmental point of view, some of the main motivations for such a transition are nature conservation, pollution reduction, and climate goals. Resource efficiency is also an important economic driver for adopting circular production principles, while new consumer trends and challenges are social incentives for more sustainable approaches.

☝ *According to the OECD [12], four megatrends are likely to impact and be relevance for tourism significantly:*
– *changing visitor demand;*
– *sustainable tourism growth;*
– *innovative technology;*
– *traveler mobility.*

When shaping future tourism policy and practice, it is important to examine the impact of circularity on these megatrends

Linear and circular economic models in tourism differ in their approach to resource use, waste management, and environmental impact (fig. 2.1).
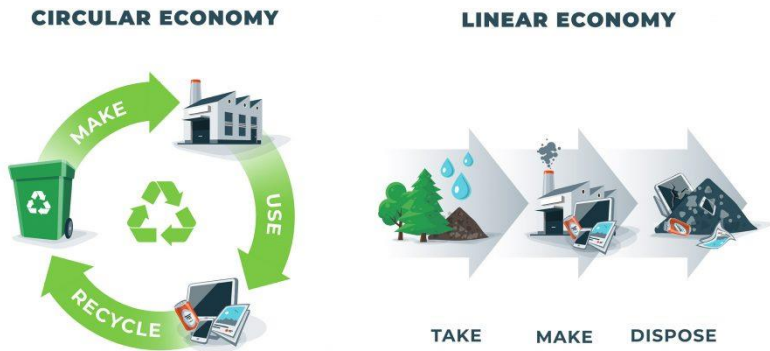
Figure 2.1 – Comparison of linear and circular models of the economy in tourism [13]

📁 **Linear model of the economy in tourism:**

This model is based on the principle of Єtake - use - throw away" and often leads to over-expenditure of natural resources and pollution of the environment. The tourism industry in such a system uses resources once, regardless of their possible reuse.

Resource consumption: tourism businesses use significant amounts of energy, water, plastic, and other materials without a strategy for

their further recycling.

Waste: a significant amount of waste, particularly plastic, is rarely recycled.

Carbon footprint: high levels of CO2 emissions, especially from air travel, cruises, large hotels and resorts.

Limited life cycle of products: products and services have a short useful life, after which they become waste.

📂 **Circular economy model in tourism**

The circular (or closed loop) model aims to reduce the environmental impact, use resources to the maximum, and reuse them to avoid waste. This is a closed-loop economy, where products and services are created with minimal damage to the ecosystem.

Conservation of resources: emphasis on using renewable resources (solar energy, secondary raw materials), water reduction, and energy consumption.

Recycling and reuse: travel companies implement technologies for recycling waste, minimizing the use of disposable materials.

Minimizing the carbon footprint: implementing green technologies such as electric vehicles, green building materials, and energy-efficient buildings.

Attention to the duration of the life cycle of products: products and services are designed to be easily repaired or upgraded rather than replaced

with new ones.

In any case, the tourism and hospitality sector significantly impact society's socio-cultural and economic life. Let's consider it in more detail.

✋ *Economic pressure from tourism and hospitality*

Before the pandemic, the travel and tourism industry (including its direct, indirect, and induced impacts) accounted for 1 in 4 of all new jobs created globally, 10.6% of all jobs (334 million), and 10.4% of global GDP (9.2 trillion US dollars). Meanwhile, spending by

international tourists in 2019 was $1.7 trillion (6.8% of total exports, 27.4% of global services exports). International tourist arrivals fell from nearly 1.5 billion in 2019 to around 380 million in 2020, a 74% decline. That's a loss of approximately $1.3 trillion in international tourism spending.

☝ *Environmental pressure from tourism and hospitality*

Greenhouse gas emissions directly or indirectly affect marine and coastal ecosystems by increasing water temperatures (resulting in coral bleaching), ocean acidification, and rising sea levels. Other issues include high water consumption rates in tourism, discharge of untreated sewage, solid waste generation, plastic pollution, land-use change, the spread of invasive species and disease outbreaks, pressure on marine and terrestrial ecosystems, and biodiversity loss.

This negative trend is further exacerbated when tourism activities occur only during one season, such as winter or summer. For example, seasonal peaks in tourist demand strain waste disposal systems, as the mass and volumetric flow of solid waste generated entirely depends on the season. The availability of resources for local communities (such as water or energy) also depends on the concentration of tourism during peak seasons.

Coastal and beach tourism is one of the three primary sources of marine litter in the North, Mediterranean, and Baltic Seas. Marine plastic also directly affects tourism activities, as it spoils recreation areas. However, there are fewer examples of tourism businesses involving all relevant stakeholders in value-chain activities critical to environmental protection. For instance, in the case of plastics, it is essential to engage plastic manufacturers, retailers, packaging and transport companies, and recyclers to reduce plastic waste throughout the value chain.

Value chain approaches allow for identifying and evaluating innovative sustainable life-cycle solutions, such as extended producer responsibility or deposit return schemes. These creative solutions

contribute to replacing single-use plastic products and other products that contain plastic, such as construction materials, food packaging, electrical appliances, and furniture.

Nevertheless, tourism can contribute to environmental protection and solve ecological problems while supporting economic activity. This can be achieved by using natural resources and biodiversity to increase visitor appreciation and spreading information about nature conservation's benefits. In addition, due to their high tourism potential, incentives for legal protection of many natural areas have increased significantly.

☝ *Social and cultural pressure of tourism and hospitality*

Culture is a central aspect of tourism development in both urban and rural areas. Some of the socio-cultural benefits of tourism can include poverty reduction, integration, empowerment, and income generation for women, rural communities, indigenous peoples, and many other historically marginalized populations. In addition, the socio-cultural value of tourism may include a significant sense of community identity, a heightened sense of engagement with the local environment, and increased social capital following increased tourist numbers. On the contrary, tourism development can have negative consequences such as changing the values of local communities, damage to world heritage sites, and, in some cases, social welfare problems and demographic changes that can lead to job losses.

Cultural tourism in the pan-European region is a crucial aspect of leisure and social development but has been adversely affected by the pandemic due to travel restrictions. For example, Europe's 7 million cultural and creative jobs are at risk due to the crisis.

Table 2.1 shows examples of projects both governments and businesses implemented to implement the principles of circularity in tourism-related industries. These closure principles are implied in business ideas, programs, strategies, and solutions. These examples can be a source of inspiration for potential circular initiatives.

Table 2.1 – Examples of circularity in various industries

Country	Direction	Activities
Georgia	Waste management	In Georgia, a comprehensive mapping of activities related to municipal and industrial waste was carried out, during which the primary attention was paid to the life cycle of industrial waste from the moment it appeared on the production site to its final disposal. Industrial waste activity mapping quantifies and demonstrates the distribution of industrial waste and its disposal within a particular geographic area. Waste mapping aims to identify and assess local manufacturing enterprises' waste streams. The main goal is to develop options for increasing resource use efficiency and introducing the principles and practices of the circular economy.
EU (Austria, Belgium, Netherlands and Germany)	Transportation	SUSTAINair — is an EU-funded research project that aims to make the entire supply chain ecosystem greener in line with the Circular Economy Action Plan and set new standards for aerospace manufacturing, allowing for increased cross-industry synergies. The expected impact of these standards is to reduce costs (for example, 3-10% in fuel consumption, 75% in replacement of parts) and 100 percent recycling of thermoset and thermoplastic fiberglass.
EU countries	Food consumption	The European Commission has implemented the actions provided for in the Circular Economy Action Plan, which include the development of a standard EU methodology for measuring food waste; the creation of the EU platform on food loss and food waste; measurements to clarify EU waste, food, and feed legislation; facilitating the distribution of food products, etc.

Source: formed by author based on [14]

The summary highlights efforts across various regions toward sustainability and circular economy practices. EU-wide initiatives target food consumption and mobility.

2.2 Current circular economy and tourism initiatives

Another opportunity to reduce the environmental consequences of tourism and services, in general, is the popularization of eco trends in business. Let's analyze the most significant ones. Let's start with global ecological problems, which worsen yearly. I'm not very worried about the planet, it didn't worry about, but humanity will most likely die, or people will have to live in much less comfortable conditions.

Let me remind you that in 2015, the UN approved a resolution containing 17 sustainable development goals and ways to achieve each [15]. These global goals, in one way or another, are related to the changes in society and business that we are now observing and in which we live, as well as to the trends that are just emerging.

Let's highlight goals that are maximally aimed at preserving and improving the environment - these will be our global eco trends. Clean water, clean energy, responsible consumption and production, fight against climate change, preservation of marine and terrestrial ecosystems...in fact, all the goals of sustainable development are interconnected and, in one way or another, aim to create a comfortable living environment.

Let's first understand how business becomes eco-friendlier and more responsible. Firstly, there is a desire to become a cleaner production in the paradigm of cleaner production. Secondly, due to green investments. Thirdly, due to the development of corporate environmental responsibility. Fourthly, due to the creation of green products and the provision of green services.

📂**The concept of clean production is now the primary ecological trend in business.**

Is it realistic in our time to create a mass ecologically clean production that does not pollute the environment but makes it better? Any production can gradually and continuously reduce the negative

impact on the environment during the entire life cycle - that is, extraction of raw materials to the final utilization of production due to increased energy efficiency, recycling, resource-saving, and optimization of processes.

We see that the approach to environmental protection is gradually changing in enterprises worldwide. We see a transition from end-of-pipe technology, which uses cleaning equipment at the end of the production cycle to protect against emissions and discharges, to measures to reduce the formation of pollutants in the production process, that is, to cleaner production technology.

Green investments

We see growth invested in enterprises that develop sustainably. Moreover, large investors, banks, venture funds, and small private investors invest. On the wave of sustainable development, new norms of the civilized market are formed - the company's reputation becomes essential.

Corporate environmental responsibility

1. Proactive environmental measures

2. Formation of informational openness about the company's emissions, waste disposal, and environmental protection measures. For this, it will be necessary to create ecological monitoring systems and visualize all environmental data to integrate them into city and state ecological monitoring systems.

3. Expanded responsibility of the manufacturer for the disposal of manufactured products and packaging at the end of its life cycle after the loss of consumer properties.

4. Ecological culture. The company gradually forms an interest in the ecological quality of products, raw materials, and services among consumers, partners, contractors, and investors, thus expanding the environmental environment around it.

5. Investing in developing resource-saving, energy-efficient, and low-waste technologies in production.

Green products. What product can we call green?

• A product that, when used, does not harm the environment, one that is entirely natural. For example, vegetables are grown without the use of pesticides and agrochemicals.

• an energy-efficient product, which, like its packaging, is easily disposed of.

• ethical products, such as vegetable meat or meat made in a laboratory.

• the product and its packaging are made of recycled materials.

The demand for green products is growing. To be competitive, manufacturers must produce environmentally friendly products.

📁 However, some unscrupulous manufacturers engage in so-called **greenwashing or green camouflage. This marketing technique makes consumers perceive a product as environmentally friendly, although it is not (fig. 2.2).**

Figure 2.2 – Popular greenwashing marketing labels [16]

Techniques used by manufacturers to mislead the buyer: eco and bio labels, green packaging, use of the phrases "based on herbs," "vegetable origin," "living cosmetics," use of non-existent eco-labels, and pseudo-ecological packaging.

☞ *Examples:* eco-friendly paper bags and paper cups that cannot be recycled because of the polymer coating; biodegradable plastic that does not decompose but breaks down into microplastics.

Green services
- car sharing
- digital document management
- ecotourism
- green development
- green offices
- second-hand services

Public eco trends
- eco-education
- conscious consumption, that is, a transformation of habits, transition to minimalism, rejection of disposables
- self-waste management
- environmental protest
- public environmental monitoring is when citizens measure the quality of the environment.
- 🗁 **Plogging (This event combined a jog, jogga in Swedish, with picking up litter, plocka up. Plogga is an association and popular movement where the activity itself is about picking up rubbish while jogging).**

2.3 Challenges and problems of applying the principles of circularity in the pan-European region

A bottleneck analysis can help understand value chain interdependencies and identify priority issues, the proper life cycle

stages, and the right actors and resources. Transport is generally the primary determinant of the climate outcomes of tourism activities, followed by accommodation.

The global initiative on plastics in tourism was developed as part of the One Planet Network Sustainable Tourism Program - a multilateral partnership for implementing SDG 12 (Sustainable Development Goals 12) [17], "Sustainable consumption and production." The United Nations Environment Program and the World Tourism Organization lead it. The initiative sets out concrete and actionable commitments by 2025, including, among others, value chain engagement to ensure 100% of plastic packaging is reusable, recyclable, or compostable, investment to increase recycling rates, and public reporting on targets. Some of the problems described above are summarized in the table. 2.2. A complete list is given in Annex 1.

Table 2.2 – Problems of applying the principles of circularity

Problem	Description	Implications
Fragmented supply chains	Circular models require close coordination of suppliers, producers, and consumers, complicated by complex and disparate supply chains.	We are reducing the efficiency of processes of processing and reuse of materials in various industries.
Lack of data and metrics	Lack of standardized indicators for evaluating circular practices in different countries and sectors.	Monitoring the success of implementing circular decisions, planning, and making informed decisions is becoming more complex.
Global competition and supply chain dependence	Many European companies depend on materials and products from countries that do not support circular principles, for example, on cheap resources in Asia.	Limited opportunities for regional circularity due to dependence on external suppliers and global markets.

Source: formed by author

The European Commission encourages a holistic and comprehensive approach to the consolidation of EU initiatives, which is why it has developed the Agenda for a Sustainable and Competitive European Tourism in addition to the European Tourism Indicators System (ETIS), which is a management and information tool, as well as a system for monitoring the sustainability of tourist destinations. Based on ETIS, the Croatian Observatory of Sustainable Tourism (CROSTO) was established in Croatia. The observatory provides regular and timely monitoring of sustainable tourism in the Adriatic region of Croatia, contributing to the assessment of possible potential positive or negative effects of tourism development in the area.

✋ *Digitization: cases*

The Visit Valencia project took action to transform the region into a zero-carbon region by 2025 as a strategic response to COVID-19, using the SDG compass, which includes an indicator panel. The area is also implementing a road map for the decarbonization of tourism, which consists of three main stages: the initial calculation of the "footprint" of the tourist object and its participants, the implementation of a digital management system, and the development of compensation projects in this area.

The "Portugal Tourism Innovation Center" is a major project aimed at promoting the participation of the private sector in the transition of the Portuguese tourism sector to the digital economy while stimulating innovation and entrepreneurship. The center was created as a private association in 2019 with founding partners, including Airports of Portugal, BPI Bank, Portugal Highways, Google, Microsoft Portugal, Millennium BCP, NOS (Telecom), and Turismo de Portugal.

✋ *Circularity indicators related to tourism and hospitality*

indicators are vital in measuring circular approaches in different value chains in different sectors. To this end, the Platform for Accelerating the Circular Economy (PACE) [18], comprising a global community

of business, government, and civil society leaders, has developed a framework for cross-sector business indicators that can be applied to tourism, particularly for priority sub-sectors (e.g., waste, food, transport). In this concept, transformation stages from linear to circular business models are considered to require multiple indicators (including the desired state of circularity, performance parameters in the value chain, and process-level indicators to achieve the desired state).

World Business Council for Sustainable Development (WBCSD) [19] also developed a business structure-oriented Circular Transition Indicators tool applicable to all industries, sizes, value chain positions, and geographies. From a country perspective, the European Commission has also developed a standard circular economy indicator system for monitoring and benchmarking across EU countries across four main categories: production and consumption (EU self-sufficiency in raw materials); waste disposal (for example, the level of municipal waste processing); secondary raw materials (for example, the level of use of circular materials); competitiveness and innovation (e.g., private investment, jobs, and gross value added related to circular economy sectors). There is still no consensus on circular indicators focused exclusively on the tourism sector. However, these charts provide interesting examples of cross-industry circularity metrics that can be applied to tourism from a business and country perspective.

Solving the problem of circularity in the pan-European region and at the global level requires solving the problem of the complexity of value chains in tourism and the fragmentation of the sector. The following key issues were identified:

- Lack of policy integration and coordination between countries at the national and sub-national levels, especially in relation to sectoral and territorial aspects of governance.
- Lack of data on sustainable infrastructure statistics, policies, and initiatives for regional decision-making.

- Management complexity due to the systemic nature and interdependence of tourism with other sectors (for example, energy, transport, construction, etc.); activities in the production and sales chain (for example, food and drink); or functional services (for example, water supply management).

The tourism sector includes many activities along the entire value chain. The "One Planet" [20] sustainable tourism program has already begun to identify connections with the anthropogenic environment and supply chains as priorities at the global level. To more accurately determine the priorities of actions in the pan-European region, it would be possible to carry out a comprehensive mapping using the approaches of "weak places".

☝ *Waste disposal*

While tourism contributes to economic prosperity, it can also cause negative externalities, such as high levels of inefficient resource consumption and waste production. This is especially relevant for urban areas. For example, European tourist cities must face additional waste prevention and management challenges due to their geographical and climatic conditions and the seasonality of tourist flows. to diseases and negative environmental and aesthetic consequences. The only economically viable and long-term approach to preventing the generation of environmentally harmful waste is to prevent its generation. However, solid waste, although diverse in nature, is often a renewable resource and can be profitable if efficient waste management practices are used. Waste management options include reuse, recycling, recovery, and waste disposal. An example of such an approach is the European Horizon 2020 project entitled "Urban Waste," [20] which aims to help policymakers develop strategies to reduce municipal waste production and further support recycling, collection, and waste disposal in tourist cities.

☝ *Water and wastewater*

Water distribution problems are increasingly emerging in several

transboundary river basins. Furthermore, irrigation, excessive fencing, and heavily polluted return streams threaten groundwater supplies, especially in Asia. The "EEC Convention on the Protection and Use of Transboundary Watercourses and International Lakes" [21] and the "European Union Water Framework Directive" [22] are the most important instruments, along with bilateral and multilateral conventions on transboundary river, lake, and underground basins such as the Danube. Improved coordination between energy, agriculture, biodiversity, and water policies can contribute to water quality and quantity progress and the necessary actions to mitigate and adapt to climate change. In addition, many coastal cities do not have sewage treatment plants and instead discharge their sewage directly into the oceans in densely populated areas (such as the Mediterranean Sea). Oil tankers, industry, and agriculture also pollute European waters with waste and toxic substances. MSOS) in the Mediterranean.

☞ *Food and drink*

Food is a key element of the tourism experience and a differentiator for destinations, while at the same time, it is the starting point for circularity and the transformation of tourism value chains through sustainable procurement (local and organic suppliers, market procurement) surplus or collective procurement); environmentally friendly menus (including healthy and rich dishes), as well as reduction and management of food waste and loss. Food waste is becoming an increasingly expensive problem in the hospitality industry. European restaurants face rising operating costs due to food waste. In this context, Switzerland has developed an automated food waste management solution called "KITRO" to measure and reduce food waste to reach a market of 1.3 million points of sale in Europe. However, further action is needed to change patterns of consumption and governance more broadly.

Questions and tests for Chapter 2

1. Describe the main eco-trends common today in the service sector.

2. What are the key barriers to large-scale adoption of the circular economy in hospitality?

3. How can the concept of responsible tourism be exploited for greenwashing?

4. What is the European Green Deal, and what implications does it have for developing the tourism industry?

5. How can implementing the circular economy affect the reduction of operating costs in tourism enterprises?

6. What opportunities for innovation do the circular economy open in hospitality and tourism?

Test 2

1. The negative socio-cultural consequences of tourism are:
   a) cross-cultural exchange.
   b) commercialization of human relations.
   c) loss of cultural identity.
   d) correct answers B, C.

2. The socio-cultural effects of tourism development do NOT include:
   a) preservation and use of natural and climatic resources.
   b) raising the standard of living of the population.
   c) support of cultural and historical heritage.
   d) provision of opportunities for intercultural exchange.

4. The mission of the Global Tourism Code of Ethics is to:
   a) establishes a set of guidelines for the responsible and sustainable development of world tourism.
   b) ensures the inclusivity of buildings and sports.
   c) determines requirements for accommodation facilities in the field of compliance with social responsibility.
   d) regulates the use of exhaustible natural resources.

4. The Cape Town Declaration of 2002 contains the most widespread definition:

    a) ecotourism.

    b) sustainable tourism.

    c) slow tourism.

    d) responsible tourism.

5. Green services do NOT include:

    a) green office.

    b) sharing.

    c) greenwashing.

    d) electronic document management.

6. An initiative that sets concrete and actionable commitments by 2025, including, among others, engaging the value chain to ensure that 100% of plastic packaging is reusable, recyclable, or compostable is:

    a) Roadmap for reducing food waste in the tourism sector.

    b) European Green Deal.

    c) Global Tourism Code of Ethics.

    d) Global Initiative on Plastics in Tourism.

7. The standard system of circular economy indicators for monitoring and comparative analysis in EU countries does NOT include the following category:

    a) self-sufficiency of the EU in raw materials.

    b) waste disposal.

    c) competitiveness and innovation.

    d) the percentage of protected territories.

8. A central aspect of promoting circularity in the tourism sector is:

    a) population aging.

    b) climate change.

    c) the need to control plastic waste.

    d) spreading the principles of sustainable development to all spheres of life.

CHAPTER 3
The essence and meaning of environmental management

Questions

3.1 Ecomanagement system as a tool for development

3.2 Advantages for organizations after certification of the eco-management system by the requirements of the ISO 14001

3.3 Plan-Do-Check-Act system, operational planning and control of current activities

3.1 Ecomanagement system as a tool for development

During the last decades, there have been significant changes in the mentality and attitude of society towards the environment. The result of the global community's efforts to prevent and control environmental pollution, implement environmental protection measures, and use environmentally friendly technologies was the adoption of the Declaration on the Environment in 1992 at the UN conference in Rio de Janeiro.

In 1993, the International Organization for Standardization ISO created the Technical Committee TC 207 "Environmental Management," whose task was to develop a system of standards for environmental management (Table 3.1).

Table 3.1 – Comparison of traditional environmental administration and ecomanagement

Traditional environmental administration	Environmental management
Focus on reducing the negative impact of the production of products and services on the environment	
Public authorities and business entities	Primarily private business

Traditional environmental administration	Environmental management
Often only environmental legislation requirement	Environmental legislation requirement + environmental responsibility + economic profits
Obligatory	Unconstrained
Carried out within the framework of job duties and instructions	Based on the manager's own interest, qualifications, experience, and skills
The management process is over the result	the result is over the management process
Formalization, conservatism	Search for new opportunities and ways, creative aspects.
High risk of greenwashing	Lower risk of greenwashing

Source: formed by author based on [23; 24]

An important result of TC 207 was the adoption of five ISO standards of the 14000 series in 1996, which contained the composition and description of the elements of the environmental management system, guidelines for their application, and guidelines for implementing ecological audits.

In 1996, five standards of the ISO 14000 series were adopted, which contained the composition and description of the elements of the environmental management system. The ISO 14000 series standards have already been revised twice by the ISO international organization: in 2004, 2015, and 2020 (figure 3.1).

☞ *The purpose of the ISO 14001 is to provide organizations with a general scheme of activities for environmental protection and response to changes in environmental conditions in a balanced combination with socio-economic needs. The standard establishes requirements that enable the organization to achieve the planned results it has determined for its environmental management system [25].*

Figure 3.1 – History of ISO 14001 [26]

📂 **The ISO 14001 standard applies to all organizations, regardless of their type, size, products or services, level of environmental risk, and existing level of ecological training. This applies to various branches of industry, both public and private sector, manufacturing enterprises and organizations, service areas, and authorities.**

By implementing the ISO 14001:2015 standard in the organization, you can easily create an effective working environmental management system and confirm your responsibility in ecological protection.

Implementing the ISO 14001 standard in the organization requires a management decision since the certification of the standard requires

financial investments, resources, and time.

A systems approach to ecomanagement can provide top management with information that will be useful for achieving long-term success and acquiring opportunities that promote sustainable development by:

• Preserving the state of the environment by preventing or mitigating adverse effects on it.

• Mitigation of the potential adverse impact of environmental conditions on the organization.

• Assistance to the organization in fulfilling mandatory compliance requirements.

• Increasing environmental efficiency.

• Controlling (or influencing) the methods of development of the organization's products and services, their manufacture, distribution, consumption, and disposal, considering aspects of the expected life cycle, which will contribute to the prevention of environmental impact from an unpredictable transition from one stage of the life cycle to another during the entire life cycle.

• Achieving financial advantages and advantages in functioning, which may be a consequence of introducing environmentally sound alternative approaches that strengthen the organization's position in the market.

• Exchange of environmental information with relevant stakeholders.

Also, the environmental management system is a tool that enables the organization to:

• Determine the environmental aspects of its activities, products, or services.

• Assess their impact on the environment.

• Develop and implement actions to prevent pollution.

• Establish impact control and apply corrective measures.

• Determine the applicable environmental legislative and regulatory requirements.

• Ensure activities are in accordance with Ukraine's environmental legislation.
• Define and achieve environmental goals.
• Improve environmental characteristics.
• Balance and integrate economic and environmental interests.
• Timely adapt to constantly changing conditions.

3.2 Advantages for organizations after certification of the eco-management system by the requirements of the ISO 14001

Certification of the environmental management system by the requirements of ISO 14001 provides organizations with several significant advantages. One of the key benefits is improved environmental performance. Through standardized ecological management processes, organizations can better control their environmental impacts, reducing waste, air emissions, and use of natural resources. This leads to more efficient use of resources, lowering production costs and improving overall operational efficiency.

Another important advantage is compliance with current environmental regulations and legal requirements. Certification helps organizations create mechanisms for regular monitoring and compliance with regulatory standards, reducing the risk of fines, sanctions, or other legal consequences. Proactive management of environmental aspects makes it possible to anticipate changes in legislation and adapt to new requirements in a timely manner.

From a financial efficiency perspective, implementing ISO 14001 often results in significant cost savings. By optimizing the use of energy, raw materials, and water, businesses can reduce costs associated with waste disposal and resource consumption. In addition, implementing such changes has a long-term economic effect, contributing to reducing operating costs.

Certification also positively affects the company's reputation, which is especially important in the context of the growing awareness of consumers and partners regarding environmental responsibility. The organization, which received the ISO 14001 certificate, demonstrates a serious approach to environmental issues to its customers and investors. This increases the company's credibility, attracts new customers, and opens opportunities for expansion in markets where environmental responsibility is becoming one of the main criteria for selecting suppliers.

An important advantage is also the reduction of environmental risks. An environmental management system built per ISO 14001 allows one to identify potential threats and implement measures to eliminate or minimize them. This reduces the probability of incidents related to the negative environmental impact and allows the organization to avoid financial and reputational losses.

In addition, certification helps increase the level of employee engagement. In implementing the environmental management system, employees receive additional training that increases their awareness of environmental issues. This creates a culture of responsible attitude towards the environment within the organization, which, in turn, positively affects work efficiency and staff motivation.

Finally, ISO 14001 certification contributes to the continuous improvement of the environmental aspects of the activity. Organizations certifying their environmental management system are obliged to regularly review their ecological goals, evaluate achievements, and implement measures for further improvement. This ensures that the company remains at the forefront of environmental standards and meets the growing demands of society and the market.

☝ *The potential benefits associated with the implementation of an effective environmental management system include:*

• *improvement of the organization's reputation in the eyes of the public, state authorities, and investors.*

• *Improvement of interaction with suppliers and consumers.*

• *Conclusion of insurance contracts with acceptable contributions.*

• *Improvement of cost management.*

• *Reducing the number of incidents leading to legal liability.*

• *Saving of raw materials, materials, and energy.*

After certification of the environmental management system by the requirements of the ISO 14001 standard, your organization will have the following advantages (figure 3.2):

Figure 3.2 –ISO 14001 certification benefits [27]

• It acquires a positive image, showing its commitment and concern for environmental protection.

• Due to the acquired positive image, loyal consumers and new business partners increase, and the sales market expands.

• The flow of investments increases, and obtaining loans becomes

easier and takes place on more favorable terms due to reducing environmental risks.

• The organization's competitiveness increases thanks to a certificate recognized in international markets.

• The ISO 14001 certificate provides advantages when participating in tenders and lays the foundation for successful cooperation.

In addition, an environmental management system that works effectively makes it possible to increase the effectiveness of the organization's management in environmental protection issues, increase intangible assets, reduce waste management costs, increase raw material and energy savings, and reduce the risks of environmental accidents and disasters.

ISO 14001 is important because it provides a structured framework for organizations to manage their environmental responsibilities effectively. By implementing this standard, organizations can reduce their environmental impact, improve resource efficiency, and enhance compliance with regulations. It helps organizations identify and mitigate environmental risks, leading to cost savings, better operational performance, and a stronger reputation.

Additionally, ISO 14001 fosters a culture of sustainability, encouraging continuous improvement in environmental practices and enabling businesses to meet growing market demands for environmentally responsible operations. This benefits the organization and contributes to broader environmental and social goals.

✠ *Although ISO 14001 certification can bring significant benefits, there are certain reasons why some organizations may choose to avoid implementing it*. One of the main reasons is the high cost of certification and maintenance of the environmental management system. Implementing ISO 14001 requires significant financial investments at the initial stages, including the involvement of specialists, the development of relevant documentation, and personnel

training. Small and medium-sized businesses may not have sufficient resources to cover these costs.

Another reason is the complexity and time-consuming implementation process. ISO 14001 requires developing and maintaining a large volume of documentation, continuous monitoring of environmental indicators, analysis of risks and opportunities, and regular audits. This can become overly complex for some organizations and distract from core business. In addition, not all companies may see an obvious commercial benefit from certification. For example, in cases where environmental responsibility is not a key criterion for customers or partners, the cost and effort associated with implementing ISO 14001 may not bring significant benefits in terms of reputation or market advantages.

Some organizations may also believe that existing internal processes already regulate the environmental aspects of their operations well enough. If a company implements its own ecological responsibility standards that meet its needs, it may not see the need for ISO 14001 certification. There is also the risk of excessive bureaucracy, as certification may require an additional administrative burden on staff. This can lead to a loss of flexibility and a slowdown in internal processes due to the need to constantly meet the standard's requirements.

Thus, some organizations choose to avoid ISO 14001 certification due to the high cost, complexity of the implementation process, lack of direct benefit or need, and the risk of unnecessary bureaucracy.

3.3 Plan-Do-Check-Act system, operational planning and control of current activities

The latest version of the ISO 14001 standard makes it possible to use it with other international management systems standards, such as ISO 9001, 45001, and others. These systems can be used independently of each other or integrated.

📂 **The "Plan - Do - Check – Act" model (further - PDCA) is the basis for the approach underlying the environmental management system. The PDCA model shows organizations' iterative process to achieve continuous improvement.** It can be applied to the ecological management system and its individual elements (figure 3.3).

Figure 3.3 – The "Plan - Do - Check – Act" model [28]

This model can be briefly described as follows:
  • Plan: establish environmental goals and processes needed to achieve results that are consistent with the organization's environmental policy.
  • Do: implement the processes as planned.
  • Check: monitor and measure processes against environmental policies, including your commitments, ecological goals and

performance criteria, and report results.

• Act: Take action to improve continuously.

ISO 14001 contains a systematic framework that defines the requirements for creating and implementing an environmental management system (EMS). This structure consists of different sections (clauses), each covering certain management aspects. Below is an overview of the main clauses of the ISO 14001 system (fig. 3.4).
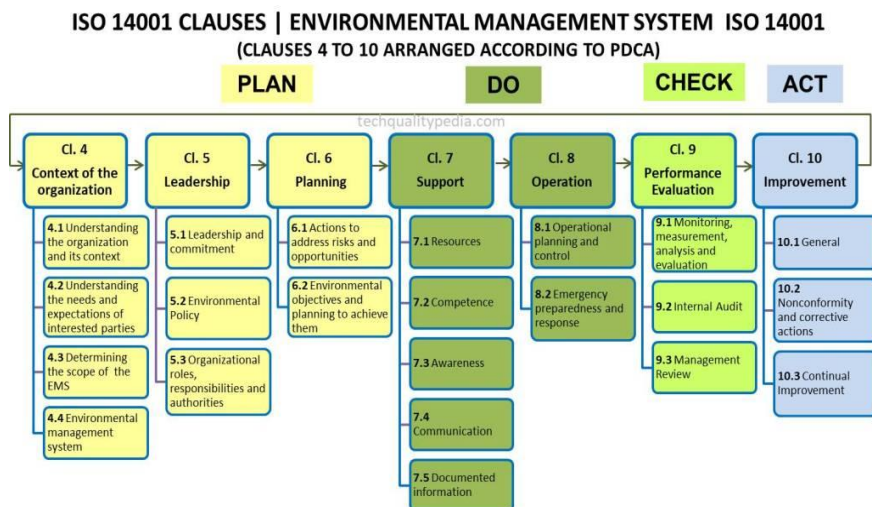
Figure 3.4 – Connection between PDCA and ISO 14001 Clauses [29]

Scope. This section defines which aspects of the organization's activities are covered by the environmental management system. It describes the general boundaries and purpose of EMS.

Regulatory References. This part refers to standards and other regulatory documents used to develop and operate an EMS.

Terms and definitions. The clause explains the main terms and definitions used in ISO 14001, ensuring a general understanding of the standard.

Context of the organization. The organization must determine which internal and external factors can affect achieving its environmental goals. This includes understanding stakeholder expectations and ecological commitments.

Leadership. Senior management must take responsibility for the effectiveness of the EMS. This includes demonstrating leadership in implementing environmental policies and supporting and ensuring compliance with the standard.

Planning. This clause concerns the analysis of environmental risks and opportunities and identifying environmental aspects of the organization's activities that may significantly impact the environment. The organization must set goals for reducing the negative environmental impact and define measures to achieve these goals.

Support. This includes resource requirements, staff training, employee awareness, and internal and external communications. It also covers record-keeping and controlled information-sharing processes.

Operational management. The organization must implement process controls to achieve environmental objectives, minimize risks, and manage environmental aspects. This applies to the planning of operational activities that may have a significant environmental impact, including supply chain management and emergency response.

Performance evaluation includes monitoring, measuring, and analyzing EMS performance. It also covers internal audits and system performance reviews by senior management to ensure compliance.

Improvement. This section is aimed at continuous improvement of the environmental management system. The organization must identify opportunities for improvement, prevent and correct non-conformities, and take action to improve its environmental performance.

Thus, the system of ISO 14001 clauses provides structured requirements for creating, implementing, and maintaining an

environmental management system focused on reducing the negative impact on the environment and ensuring compliance with regulatory requirements.

Let's consider some of the most essential clauses in detail.

☝ *Leadership*

The standard stipulates that top management must demonstrate leadership and commitment to the environmental management system by taking responsibility for the effectiveness of the environmental management system and ensuring the development of environmental policies and environmental goals, as well as their alignment with the organization's strategic direction and environment.

The success of the environmental management system depends on the involvement of personnel at all levels and divisions of the organization, led by top management. Organizations can use opportunities to prevent or mitigate adverse impacts and enhance favorable impacts on the environment, including those that cause strategic consequences and consequences for the organization's competitiveness. The top management can effectively consider risks and opportunities regarding integrating environmental management into business processes in the organization, its strategic orientation and decision-making, combining them with other business priorities, and covering ecological management principles in the overall management system. Demonstration of the successful implementation of this standard can be used to convince interested parties of the effectiveness of the existing environmental management system.

For effective management, it is necessary to form an environmental policy and goals. Develop a program to achieve objectives and a register of environmental aspects of impact that assess the importance of environmental impacts and methods or tools for managing aspects. Thanks to this registry, no aspect of impact is left unaddressed.

☝ *Mandatory compliance requirements*

The ISO 14001: 2015 standard defines that the organization must:

• define regulatory obligations related to environmental aspects and ensure access to them.

• determine how these regulatory obligations apply to the organization.

• consider these regulatory obligations when developing, implementing, maintaining, and continuously improving the environmental management system.

Regulatory obligations are environmental legislation that must be implemented, and other documents of external origin that govern organizations in implementing economic activities in ecology. The organization determines which documents must be executed when carrying out its business activities, compiles the list, and constantly monitors the legislation to ensure its relevance. Creating a list of legislative and regulatory acts of Ukraine and other documents to which the organization is obliged to comply makes it possible to easily track changes and comply with the requirements of the legislation. These obligations must be related to environmental aspects.

☞ *Emergency preparedness and response*

The organization shall develop, implement, and maintain the process (es) required to prepare for and respond to potential emergencies.

The environmental management system provides for the creation of action plans in emergency situations (hazardous waste management, chemical spills, dam breaches, explosion hazards, etc.), conducting training exercises, which enables the organization to be ready for such situations and confidently respond to them, while minimizing the impact for the health of workers and the environment.

☞ *Monitoring, measurement, analysis, and evaluation*

The organization must monitor, measure, analyze, and evaluate its environmental activities. Such a norm is also established by legislation, but not for all aspects. Therefore, the standard regulates

the organization to establish what needs monitoring and measuring.

☞ *Internal audit*

Internal audit is a systematic, independent, documented process of obtaining and objectively evaluating audit evidence to establish audit criteria. Internal audit is conducted by the organization itself or by an external party. It is an independent view from the side that allows you to evaluate the system for effectiveness, identify weaknesses, and implement measures for continuous improvement. The process of conducting an internal audit creates a system of self-control and preparation for conducting inspections by environmental control bodies not only for a specialist — an ecologist but also for the organization.

☞ *Continuous improvement*

The organization must identify opportunities for improvement and take the necessary actions to achieve the planned results of its environmental management system. Continuous improvement contributes to the development of the organization, the progress of the management system, and its perfection. The PDCA (Plan-Do-Check-Act) model is mainly used for continuous improvement. Also, there are many models of constant improvement, such as Kaizen philosophy, Lean processes, etc. (fig. 3.5).

☞ *As part of implementing the ISO 14001: 2015 standard, it is possible to follow the life cycle concept.* For example, the transfer of production waste to disposal, processing, destruction, or burial. The organization establishes requirements for organizations that provide services for providing information on methods, technologies of utilization, processing, destruction, or disposal of production waste, the last stage of the life cycle of production waste.

This makes it possible to monitor the full life cycle of products or services provided by the organization and effectively manage the environmental aspects of the impact on the surrounding natural environment (see Annex 2).

Figure 3.5 – Requirements according to ISO 14001 clauses [31]

The implementation of an environmental management system in an organization or enterprise is the implementation of a clear algorithm of actions related to the implementation of economic activity in the field of ecology in the legal field.

The type and degree of operational control depend on the specifics of operations, risks and opportunities, significant environmental aspects, and mandatory compliance requirements. The organization can select the type of operational control methods, applied alone or in combination, that are necessary to ensure the effectiveness of the process(es) and to achieve the desired results.

When a process is outsourced or products and services are provided by the external supplier(s), the organization's ability to control or influence may vary from direct control to limited or no impact. In some cases, an outsourced and on-site process may be

under the organization's direct control; in other cases, the organization's ability to influence the outsourced process or external supplier may be limited.

In determining the type and extent of operational controls related to external suppliers, including contractors, an organization may consider one or more of the following factors:

• ecological aspects and related impacts on the environment.

• risks and opportunities associated with the production of its products or its services.

• mandatory compliance requirements for the organization.

📁 **An outsourced process is a process that:**

• is covered by the scope of application of the EMS.

• is an integral part of the functioning of the organization.

• is necessary for the environmental management system to achieve the planned result.

• is the responsibility for compliance with the requirements remains with the organization.

Environmental requirements are related to the organization's needs and expectations regarding the environment it establishes regarding its stakeholders and the information exchange with them (e.g., internal function, including procurement, customer, and external supplier).

Some of an organization's significant environmental impacts may occur during the transportation, supply, use, end-of-life processing, or final disposal of its products or services. An organization can potentially prevent or mitigate adverse environmental impacts during these life cycle stages by providing information.

☝ *It is the responsibility of every organization to be prepared for and respond to emergencies in a way that meets its specific needs.*

Questions and tests for Chapter 3

1. What are the main principles of environmental management?

2. What are the environmental and socio-economic results of compliance with the environmental management system for the company, community, environment, and other interested parties?

3. What advantages does the company receive from introducing environmental management?

4. What stages does the Plan-Do-Check-Act model contain? What is her task?

5. What is the difference between the traditional environmental administration and ecomanagement?

6. Describe the basic principles of environmental management.

Test 3

1. What is the main purpose of the ISO 14001 standard?

    a) increasing the profitability of the organization.

    b) product quality management.

    c) systematic management of environmental aspects of activity.

    d) implementation of information security.

2. Which of the stages of the PDCA model involves the implementation of planned activities?

    a) Plan.

    b) Do.

    c) Check.

    d) Act.

3. Why can ISO 14001 certification be important for a business?

    a) to increase the number of production capacities.

    b) to facilitate the development of new products.

    c) to improve environmental reputation and reduce environmental risks.

    d) to obtain new patents.

4. Which of the following points is an advantage of ISO 14001?

   a) reduction of labor costs.

   b) reduction of marketing costs.

   c) improving compliance with legislative environmental requirements.

   d) optimization of the process of development of new products.

5. How does ISO 14001 certification affect regulatory compliance?

   a) allows to avoid paying taxes.

   b) helps to comply with environmental standards and requirements.

   c) exempt from environmental inspections.

   d) increases the number of inspections.

6. Which type of organization most often benefits from ISO 14001 certification?

   a) only large corporations.

   b) only IT companies.

   c) any organization, regardless of size and field of activity.

   d) only state institutions.

7. Which phase of the PDCA model is responsible for analyzing and evaluating the effectiveness of measures?

   a) Plan.

   b) Do.

   c) Check.

   d) Act.

8. Which of the following aspects results from implementing ISO 14001?

   a) improvement of working conditions.

   b) reducing the number of working hours.

   c) optimize the use of resources and reduce waste.

   d) growth in product sales.

CHAPTER 4
Development and implementation of the environmental management system: general recommendations

Questions
4.1 General provisions on the introduction of ISO 14001
4.2 Determination of the environment (context) of the organization
4.3 Understanding the needs and expectations of stakeholders
4.4 The program for achieving goals and the register of environmental aspects of impact

4.1 General provisions on the introduction of ISO 14001

📁 **An Environmental Management System (EMS) is a structured framework that helps organizations manage their environmental impacts, improve efficiency, and ensure regulatory compliance. The performance of an EMS is usually evaluated through various indicators that provide insight into the system's effectiveness.** These indicators are grouped into several categories, typically focusing on operational performance, regulatory compliance, and environmental impact reduction.

Any organization should start developing and implementing an environmental management system (hereinafter EMS) by taking the following actions (figure 4.1):

1. Managerial decision on developing and implementing an environmental management system.

2. Training specialists in the environmental management system according to ISO 14001.

3. Assessment of the initial situation.

4. Creation of a group to develop an EMS.

5. Development of a plan for implementing the environmental management system, including necessary resources, responsible persons, and deadlines.

Figure 4.1 – Main aspects for EMS implementation [32]

☝ *The main steps that should be included in the implementation plan/transition to ISO 14001:2015:*

• Defining the context of the organization.

• Determination of needs and expectations of the interested parties.

• Definition/review of the application of the environmental management system.

• Definition/actualization of environmental aspects.

• Definition/updating of mandatory requirements.

• Identification and processing of risks and opportunities.

• Formation/review of the environmental policy.

• Establishment of environmental goals.

• Definition/review of responsibilities and authorities of personnel.

• Compilation/review of documented information on the EMS.

• Ensuring preparation and awareness of the interested parties.
• Definition/review of operational control methods.
• Determination/review of environmental indicators.
• Internal audit of the EMS.
• Analysis of the EMS by top management.
• Corrective actions.

See the algorithm of indicators and performance of environmental management system use in Annex 3. The implementation of an Environmental Management System (EMS) based on ISO 14001:2015 involves a structured process to ensure that environmental performance is systematically improved and compliance with the standard is achieved. Transitioning to or implementing ISO 14001:2015 requires careful planning, organization-wide commitment, and a clear understanding of the standard's key requirements (Table 4.1).

Table 4.1 – Steps to implementing ISO14001:2015

Step	Objective	Actions
Initial Gap Analysis	Assess the current state of the organization's environmental practices	1. Review existing environmental management processes, documentation, and controls. 2. Identify gaps in compliance with ISO 14001:2015 requirements. 3. Develop a report outlining areas that require improvement or new implementation.
Obtain Leadership Commitment	Ensure top management understands and supports the EMS implementation.	1. Communicate the importance of environmental management to top management. 2. Secure leadership commitment to allocate necessary resources. 3. Define the roles and responsibilities.
Define Env. Policy Objectives	Establish the organization's environmental policy, reflecting its commitment to sustainability and compliance.	1. Draft an environmental policy that aligns with ISO 14001:2015's principles. 2. Develop specific, measurable environmental objectives (e.g., waste reduction, energy efficiency, pollution control). 3. Ensure the policy is communicated and understood by employees.

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Step	Objective	Actions
Identify Env. Aspects and Impacts	Identify the organization's environmental aspects and assess the associated impacts.	1. Conduct an environmental review to identify activities, products, and services that interact with the environment. 2. Evaluate the significance of environmental impacts (e.g., air emissions, waste, resource consumption) for each aspect. 3. Use the results to prioritize aspects that need control measures or objectives.
Determine Legal and Other Requirements	Identify applicable environmental laws, regulations, and other requirements.	1. Compile a list of all relevant environmental legislation (local, national, international) and industry standards. 2. Ensure that the EMS is designed to comply with these requirements. 3. Develop a compliance matrix or register to track legal and regulatory requirements
Develop and Implement EMS Documentation	Create the necessary documents and records to support the EMS framework.	1. Develop required procedures for managing environmental aspects, emergency preparedness, operational control, and internal audits. 2. Create a system for document control to ensure that all EMS documents are up-to-date and accessible. 3. Ensure that documentation is aligned with ISO 14001:2015's clause structure.
Define Roles, Responsibilities, and Resources	Establish clear roles for EMS implementation and assign adequate resources.	1. Appoint an environmental management representative or EMS coordinator. 2. Assign roles and responsibilities for environmental performance across different departments. 3. Provide adequate resources (e.g., human, technical, financial) for the successful implementation of the EMS.
Competence, Training, and Awareness	Ensure that employees are competent and aware of their roles in environmental management	1. Identify training needs related to the EMS and environmental responsibilities. 2. Provide training programs for employees at all levels, focusing on specific EMS procedures, awareness of environmental impacts, and legal compliance. 3. Establish a process for ongoing competency evaluation and training updates.

Step	Objective	Actions
Operational Control and Risk Management	Implement controls to manage significant environmental aspects and reduce associated risks.	1. Develop operational control procedures for managing significant environmental aspects. 2. Implement risk-based thinking, incorporating environmental risk identification and mitigation strategies. 3. Set controls for outsourced processes or suppliers.
Emergency Preparedness and Response	Prepare the organization to respond to potential environmental emergencies.	1. Identify potential environmental emergencies (e.g., chemical spills, fires) and develop response plans. 2. Implement procedures for responding to and mitigating environmental incidents. 3. Conduct drills and simulations.
Monitor and Evaluate Performance	Track the EMS's performance against environmental objectives and compliance requirements.	1. Define key performance indicators (KPIs) to monitor progress (e.g., energy consumption, waste reduction). 2. Implement monitoring and measurement procedures (e.g., energy audits, waste audits). 3. Establish a process for evaluating compliance with legal and other requirements.
Internal Audits	Regularly assess the effectiveness of the EMS through internal audits.	1. Develop an internal audit schedule based on risk and significance of environmental aspects. 2. Train internal auditors to assess conformance with ISO 14001:2015. 3. Ensure audit findings are documented, and corrective actions are implemented.
Management Review	Ensure leadership reviews the EMS performance and makes informed decisions for continual improvement.	1. Conduct regular management reviews to assess the adequacy and effectiveness of the EMS. 2. Include evaluations of environmental objectives, audit findings, compliance status, and non-conformances. 3. Take decisions on corrective and preventive actions and adjust the EMS as necessary.
Continual Improvement	Drive continual improvement in environmental performance and EMS effectiveness.	1. Set up a process to evaluate and improve environmental objectives and performance based on data and audit results. 2. Encourage innovation and adoption of new technologies to reduce environmental impacts. 3. Regularly update the EMS documentation, policies, and practices.

Certification Process (if applicable)	Obtain formal certification of compliance with ISO 14001:2015.	1. Engage a third-party certification body to conduct an external audit of the EMS. 2. Address any non-conformities or opportunities for improvement identified during the audit. 3. Complete the certification process and maintain certification through regular surveillance audits.

Source: formed by author based on [34; 35]

These steps for implementation are critical because they help ensure compliance, improve environmental performance, and create a culture of sustainability. Each step in the implementation process has specific importance in ensuring the system's effectiveness and long-term success.

4.2 Determination of the environment (context) of the organization

🗀 **Defining the organization's environment (context) means that organizations must assess their unique situation and determine how the environment affects their business.** For this, it is necessary to consider internal and external factors affecting the organization's approach to developing and achieving its goals, including the EMS. This involves considering the following factors: climate variability, adaptation to changes in the environment, and availability of resources.

The concept of "environment" also means that organizations must consider other issues that are not necessarily related to narrowly focused concerns about the state of the environment but that may have detrimental consequences for the business. These factors may include the competitive environment in which they operate, technology, and even cultural factors. Focusing on internal and external aspects can help organizations take advantage of existing opportunities, which can

benefit both the organization and the environment.

Organizations should focus only on the factors affecting the environmental management system and its results. Managers are always aware of the context because they constantly think about it. However, it is not documented in every organization. For example, effective leaders keep their finger on the pulse of the organization's context every day. It can be organized through a series of specialized meetings based on areas of activity. The structure of the context and sources of information are reflected in the agenda of the meeting. The order and decisions made during the meeting are recorded in many organizations. However, not every organization has someone keeping the overall context of the organization.

Organizing all this information can be very valuable and show where the company is now. The best way to gather this information is to brainstorm. ISO 14001:2015 does not address how organizations should collect and analyze data about their context. There are many ways to do this, including the involvement of external experts (consultants, specialists, marketing companies). A SWOT analysis is one of the most common methods that evaluate the internal and external factors affecting the organization's development in a complex.

☝ *When conducting a SWOT analysis, one should not forget about other effective tools for determining the context of the organization, such as SNW analysis, Porter's five forces analysis, PEST analysis (or STEP) and its variants (SLEPT analysis, PESTLE analysis, STEEPLE analysis), etc.* Organizations can use one or more of the listed tools or choose other methods (figure 4.2).

The data collected during the analysis must be documented, although the standard does not explicitly say so. To do this, you can create a new document or, for example, include it in the existing guideline of the EMS. Since there is no universal guide on how to present the results of the analysis, organizations can describe the

context in any acceptable form - text, table, graphic, etc. As a rule, context does not exist in small volumes. It is necessary to remember that one cannot comprehend the immeasurable. Logic, common sense, and practical benefit should serve as the criteria for "it's time to stop"
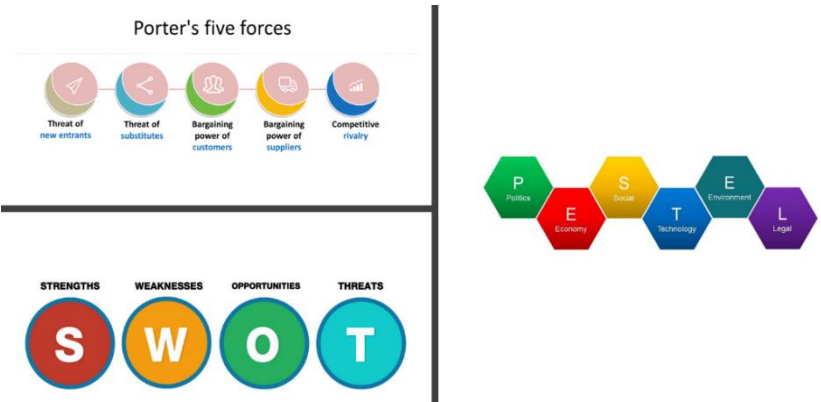
in the decomposition, in the depth and scope of the description.

Figure 4.2 – Some methods of determining the organization's environment [37]

The information gathered during the context determination is very useful for identifying risks and opportunities. Knowing the context of an organization can help improve it, so companies need to keep it up to date through regular monitoring and analysis. It will be useful if the organization's context is reflected in the environmental policy.

Scoping is a vital function of any management system. The effectiveness of the system and the trust of consumers and other interested parties directly depend on how correctly the scope of the application and its parameters are defined at the stage of the EMS development.

In addition, organizations may have problems during management systems audits if they cannot demonstrate that the scope has been properly considered, studied, defined, and documented.

The scope of the EMS is a clarification of the physical and organizational boundaries in which the EMS is applied, especially if the organization is part of a corporation or carries out different types of activities. The organization has the freedom and broad opportunities to determine its boundaries. It can choose to implement ISO 14001 throughout the organization or only in its specific parts if the top management of those parts has the appropriate authority to implement and maintain the EMS.

According to the standard, when determining the scope of the EMS, the organization must consider its context, mandatory requirements, activities, products and services, structural units, functions, and physical boundaries, as well as the degree of control or influence it can exercise on all the mentioned aspects. After the scope is determined, all activities, products, and services of the organization included in this scope must be included in the EMS.

Information about the scope of EMS must be designed and documented, kept in working condition, and accessible to interested parties. The importance of this is emphasized even more than in the previous version of ISO 14001:2015.

Documentation of the scope of the EMS application can be done in the manual or in any other document describing the environmental management system. It is a good practice to display the scope of application of the environmental management system in the form of a diagram, picture, etc. so that the physical and organizational boundaries of the system are clearly presented.

☞ *Environmental policy*

An environmental policy is a set of principles set out in commitments in which top management expresses the organization's intentions to maintain and improve environmental performance. So, the environmental policy describes in a general way the main goals and directions of the organization's activities in the field of environmental protection.

An environmental policy enables an organization to establish its environmental goals, apply actions to achieve the planned results in the EMS and ensure continuous improvement. The standard puts the responsibility for forming, implementing, and updating the environmental policy on top management.

The top management should briefly and clearly formulate the commitments made in the environmental policy. In the manual for the EMS or in another document, it is necessary to write down the organization's top management.

☝ *The standard establishes the following requirements for environmental policy:*

Compliance with the purpose and context of the organization, in particular, the nature, scale, and environmental impacts of its actions, products, and services. Environmental policy should be developed after identifying and assessing the importance of the organization's environmental aspects. The policy must be reviewed after planned or unplanned actualization of aspects and/or their reassessment.

The basis for establishing environmental goals. To fulfill this requirement, environmental goals can be implicitly or generalized in the policy text as a direction for setting specific, measurable goals. It is not recommended to include quantified environmental targets in the policy, as the policy is a long-term document and is not subject to frequent change.

Therefore, the environmental policy should reflect the impact of the organization's activities, products, and services (positive or negative) on the environment. It should be clear from the policy text which environmental impacts the organization causes the most and, therefore, which are the most significant environmental aspects of the organization. As a rule, auditors compare the list of the most significant aspects with the policy's provisions.

➤ CASE 4.1: *a significant environmental aspect: "Consumption of paper".*

Excerpt from the environmental policy: "We strive to reduce the environmental impact of our activities by minimizing the consumption of hard-to-renew natural resources."

Environmental goal for 2024: "Reduce paper consumption in 2024 by 3 times compared to 2023."

Excerpt from the program of measures to achieve environmental goals for 2024: "Implement an electronic document management system in the company by the end of the 1st quarter of 2024."

Environmental policy and environmental goals are established, considering the significant environmental aspects of the organization. Therefore, when developing an environmental policy and then setting environmental objectives and measures to achieve them, it is necessary to ensure the connection between them and significant environmental aspects. The logical chain should be easily traced: significant environmental aspect - environmental policy - environmental objectives - measures to achieve environmental objectives.

The presence of obligations regarding environmental protection, the prevention of pollution, and other specific obligations appropriate in the environment of the organization (for example, may relate to the balanced use of natural resources, mitigation of the consequences of climate change, and adaptation to them, protection of biodiversity and ecosystems, etc.).

Care must be taken when making statements about preventing environmental pollution in the environmental policy. You should not take on unnecessary obligations, including those that the organization will not be able to fulfill. An environmental policy is like a law, so everything written in the law must be followed (this applies to all statements of any organization's policy).

For example, no organization can completely prevent the negative impact of its activities and products on the environment. For example, in the activities of any organization, electricity is consumed and/or waste is generated, etc. It is necessary to approach such claims as

"waste-free production," "environmentally friendly production," etc., with caution.

☝ *There are obligations regarding the continuous improvement of the EMS to increase environmental effectiveness.*

📂 **Environmental policy should be:**
• **updated in the form of documented information;**
• **distributed within the organization;**
• **accessible to the interested parties.**

The environmental policy is drawn up on letterhead or blank paper but must be approved by top management. For all employees to clearly understand the policy, it should be written in simple and understandable language that does not allow for different interpretations. If necessary, the policy text is translated into other languages the organization uses.

The environmental policy can be published on the organization's website or in the social media. To ensure the availability of the policy for the public, it can be placed on information stands on the premises and the organization's territory, in all areas of activity, and copies of the policy can be sent to third parties upon request. The commitment to environmental policy must also be reflected in the organization's processes that it develops to meet the specific requirements of this standard to have a well-established, credible, and reliable environmental management system.

4.3 Understanding the needs and expectations of stakeholders

☝ *The standard requires the organization to determine the following:*

a) interested parties related to the EMS;

b) relevant needs and expectations (i.e., requirements) of these interested parties;

c) which of these needs and expectations may become mandatory

for compliance.

Therefore, the organization must identify the internal and external stakeholders that relate to its environmental management system. Next, the organization and the stakeholders must gain a common understanding of the needs and expectations expressed. The organization considers the data obtained through the definition of needs and expectations that it must or wants to meet, that is, its mandatory compliance requirements.

When an interested party believes that it will be affected by the organization's decisions or activities related to environmental performance, the organization must consider relevant needs and expectations known to it or communicated to it by the interested party. Stakeholder requirements are not mandatory requirements for the organization. However, some requirements may be required. For example, the requirements of regulatory acts, permits, licenses, etc. Requirements with which the organization has agreed or accepted them voluntarily (for example, by entering contractual relations by joining voluntary undertakings) also become mandatory. Once accepted by the organization, they become mandatory compliance requirements and are considered when planning the environmental management system.

Information about interested parties, their needs and expectations are of great importance for planning, operation, monitoring and improvement of the management system and its processes. This information provides great help in determining the context of the organization and managing its risks and opportunities. Feedback from stakeholders can help an organization determine what and how to improve about the organization.

☞ *Why is Stakeholder Mapping Important for ISO 14001:2015?*

It helps identify regulatory bodies and legal requirements, ensuring the EMS complies with all applicable environmental laws and standards (see Annex 4).

☞ *The standard does not contain recommendations for identifying interested parties, their needs and expectations.* The "Stakeholder analysis" method is common (figure 4.3).

Interested parties (stakeholders):
- Customers and clients
- Distributors and retailers
- Owners and shareholders
- Employees and contractors
- Supply chain
- Regulators and auditors

Stakeholder needs and expectations:
- Price, reliability and value
- Quality, price and logistics
- Profitability and growth
- Shared values, job security
- Beneficial payment terms
- Compliance and reporting

Act — Identify, analyze, monitor, and review the needs and expectations (requirements) of our customers and stakeholders.

Plan — Assess the relevance and achievability of the needs and expectations.

Do — Document and review the relevant needs and expectations.

Check — Prioritize relevant needs or expectations, convert these into requirements for input to EMSMS planning and design.

Customer focus — 4.2 Interested Parties — Relationship management

Figure 4.3 – The example of stakeholder mapping [39]

It improves performance by involving employees, suppliers, and other internal stakeholders and fosters better implementation of environmental initiatives, leading to improved environmental performance.

It enhances reputation. Engagement with external stakeholders like customers, local communities, and NGOs improves the organization's reputation as a socially and environmentally responsible entity.

Identifying key stakeholders such as investors and local communities helps the organization anticipate environmental risks and reduce potential conflicts, legal actions, or reputational damage. Stakeholders, especially internal ones like employees and suppliers, provide valuable feedback that can be used to drive continual improvement of the EMS.

By mapping and actively engaging stakeholders, organizations implementing ISO 14001:2015 can ensure their EMS is effective,

aligns with stakeholder expectations, and contributes to long-term sustainability goals.

To meet this standard requirement, the organization must demonstrate that stakeholders' views have been considered and appropriate action taken. For this, the organization needs to compile a list of its stakeholders (persons and companies that can influence or be influenced by the EMS) and their requirements. Stakeholder opinion must be considered when identifying risks and opportunities for improvement. The organization must keep such information up to date through regular monitoring and analysis.

4.4 The program for achieving goals and the register of environmental aspects of impact

One of the key elements of the EMS, according to ISO 14001, is environmental aspects assessment. Ecological aspects and their environmental impact largely determine the organization's EMS.

Even though some organizations' activities cause less environmental damage than industrial enterprises in the extractive or processing sectors, the organization's impact on the environment can be much more serious than it seems at first glance. Organizations can also have indirect environmental aspects that can significantly affect the environment.

🗁 **According to Clause 3.2.2 of ISO 14001, an environmental aspect is an element of an organization's activity or its products or services that interacts or can interact with the environment. The environmental aspect may have an impact(s) on the environment. A significant environmental aspect is an environmental aspect that causes or may cause a significant impact (or several significant impacts) on the environment.**

Changes in the environment, whether favorable or unfavorable, which are caused in whole or in part by ecological aspects, are called environmental impacts. By its characteristics, the environmental

impact can be local, regional, and global and can also be direct, indirect, or cumulative. The relationships between environmental aspects and environmental impacts are cause-and-effect relationships.

The environmental impact assessment (EIA) cannot be considered significant unless it is evaluated considering the ecological criterion.

However, it may reach or exceed the defined materiality threshold according to other criteria. These and other criteria may include organizational factors such as legal requirements or stakeholder concerns. These and other criteria are not intended to be used to downgrade an aspect whose significance is determined by its impact on the environment.

Identifying ecological aspects is better to be carried out on individual sites. Such areas can be subdivisions, processes, certain operations, territories, etc., within the established scope of application of the environmental management system. It is necessary to identify all activities and operations (including ancillary services and services of third-party organizations) carried out at each allocated site that may affect the environment.

For this, you need to analyze documents related to activities and operations on the site and conduct site inspection and/or personnel survey.(fig. 4.4).

✍ *When determining its environmental aspects, an organization can consider:*

- *emissions into atmospheric air;*
- *emissions into water bodies;*
- *pollution of land plots;*
- *use of raw materials and natural resources;*
- *energy consumption;*
- *release of energy (for example, heat, radiation, vibration (noise), light);*
- *generation of waste and/or by-products;*
- *use of space.*

Environmental Impact Assessment

Screening and Scoping
Is an Environmental Impact Assessment required and to what scale?

Assessment of Environmental Risk
What data will be collected to determine environmental risk?

Mitigation
What measures will be followed to minimize assessed environmental impacts?

Decision Making
Regulatory agency will make the final decision on the permit issuance

Monitoring
How will environmental parameters be regularly monitored for possible impacts?

Stakeholder Engagement

Figure 4.4 – Main steps of the EIA process [40]

In addition to the environmental aspects that the organization can directly control (direct environmental aspects), the organization determines the presence of environmental aspects that it can influence (indirect ecological aspects) and the associated environmental impacts. These aspects may relate to the products and services used by the organization and supplied by other organizations, as well as the products and services it supplies to different customers, including those related to an outsourced process. An organization may have limited influence on the use and end-of-life treatment of products and

services it supplies to other consumers. In all cases, the organization independently determines the degree of control it can provide, the environmental aspects it can influence, and the extent to which it will exercise such influence.

The organization must consider the environmental aspects related to the following of its operations, products, and services:

• designing and developing its objects, processes, products and services;

• purchase of raw materials, in particular, their extraction;

• work or production processes, storage in particular;

• operation and maintenance of objects, resources of the organization, and infrastructure;

• environmental efficiency and practical activities of external suppliers;

• transportation of products and provision of services, packaging in particular;

• storage, use and end-of-life treatment of the products.

The results of identifying environmental aspects should be documented, for example, in the form of an approved register of environmental aspects. This information is then used by the organization to assess environmental aspects and identify the most significant of them, environmental risks and opportunities, and, accordingly, the development, maintenance, and improvement of the EMS.

The organization must establish environmental objectives for the relevant subdivisions and levels, considering its significant environmental aspects and relevant compliance requirements, as well as risks and opportunities.

It is necessary that environmental goals:

• were agreed with the environmental policy;

• were measurable (if possible);

• were covered by monitoring;

- were informed about;
- were updated.

The organization must keep documented information on environmental objectives up to date. Top management can develop environmental goals at a strategic, tactical, or operational level. The strategic level covers the highest levels of the organization, and environmental goals can apply to the entire organization. Objectives at the tactical and operational level may include environmental objectives for specific structural divisions within the organization, so they need to be aligned with the strategic direction.

Environmental goals must be brought to the attention of persons who work under the organization's control and can influence the achievement of environmental goals. The requirement to "take into account significant environmental aspects" does not mean that the environmental objective must be developed for each significant environmental aspect. Still, such aspects are of primary importance when developing environmental objectives. "According to the environmental policy" means that the environmental objectives are directly linked and harmonized with the commitments made by the top management in the environmental policy, particularly the commitment to continuous improvement.

Indicators are chosen to assess the achievement of measurable environmental goals. "Measurable" means that quantitative or qualitative methods can be used, depending on the established gradation, to determine whether the environmental objective has been achieved. The expression "if practicable" indicates that there may be situations where it is not possible to measure the environmental objective. Still, it is essential that the organization can determine whether the environmental objective has been achieved.

CASE 4.2: *The organization has set itself an environmental goal - to cut paper consumption in half by using double-sided printing and drafts.*

This goal can be easily achieved without additional costs. However, the goal of minimizing paper consumption by introducing electronic document management in the organization can potentially be more beneficial for the environment and the organization itself. In this case, the environmental damage will be much less, and the costs of introducing electronic document management are justified by a significant reduction in paper consumption and the use of office equipment. Reducing the cost of consumables and increasing the speed of documents in the organization can help increase profits. Therefore, even though the first objective corresponds to the environmental aspects of the organization and other ISO 14001 criteria, the second objective may be more environmentally and economically beneficial. In addition, this goal may be more aligned with the organization's strategic goals.

☞ *Recourses*

Resources are needed for effective functioning and improvement of the EMS, as well as for increasing environmental efficiency. The top management should provide the persons responsible for the functioning of the EMS with the necessary resources. External suppliers can supplement internal resources.

☞ *Competences*

The requirements of the standard on competence apply to persons who perform work under the control of the organization and who affect its environmental performance, in particular to those whose work may cause a significant impact on the environment or who are responsible for the functioning of the environmental management system.

☞ *Awareness*

Awareness of an environmental policy does not mean that it must be memorized or that individuals performing work under the organization's control must have copies of the documented environmental policy. It is sufficient for these individuals to be aware

of the organization's existence, objectives, and functional responsibilities for compliance, particularly how their work may affect its ability to meet compliance requirements.

☝ *Information*

Information sharing enables an organization to provide and receive information relevant to its EMS, including information related to its material environmental aspects, environmental performance, compliance requirements, and recommendations for continuous improvement. Information exchange is a two-way process to and from the organization.

When designing the information-sharing process(es), the organization's internal structure should be considered to cover the most appropriate levels and functions. A single method may be appropriate to meet the needs of various stakeholders, or multiple methods may be appropriate to meet the specific needs of individual stakeholders.

☝ *Documented information*

The organization must develop and maintain documented information in volumes sufficient to ensure a suitable, adequate, and effective EMS. The focus should be on implementing the environmental management system and on the achievement of environmental efficiency, and not on a complex system of control over documented information.

Documented information originally developed for purposes other than the EMS may be used. Documented information related to the EMS can be integrated into other information management systems implemented in the organization. It does not need to be in the form of instructions.

The standard contains flexible requirements for organizations to document the EMS. This allows the organization to independently determine the amount of documented information necessary to demonstrate effective planning, operation, and management.

Questions and tests for Chapter 4

1. What risks can you name when introducing an environmental management system in hospitality establishments?

2. What are the approaches to evaluating the organization's external environment?

3. Describe possible prospects for introducing an environmental management system in the organization (give 2-3 examples).

4. What impact does implementing the environmental management system in the organization have on internal and external stakeholders?

5. Describe the basic requirements for setting environmental goals.

6. What are the requirements for documentation in the field of environmental management?

Test 4

1. ISO 14001:2015 follows which management approach?
   a) lean manufacturing.
   b) Total Quality Management (TQM).
   c) Plan-Do-Check-Act (PDCA).
   d) Six Sigma.

2. What does the "context of the organization" refer to in ISO 14001:2015?
   a) external legal obligations only.
   b) internal and external factors affecting the EMS.
   c) management's personal preferences.
   d) competitors' strategies.

3. Which external factor might influence an organization's environmental context?
   a) employee satisfaction.
   b) legal and regulatory changes.
   c) in-house training programs.
   d) internal audits.

4. In determining the context, organizations should focus on factors that...

    a) improve customer relationships.

    b) affect their environmental management system (EMS).

    c) increase product sales.

    d) reduce operating hours.

5. Which of the following is considered a stakeholder in an EMS?

    a) only employees of the organization.

    b) all interested parties, including regulatory authorities and local communities.

    c) competitors in the industry.

    d) only the company's shareholders.

6. What method can be used to understand stakeholder needs in the EMS?

    a) customer satisfaction surveys.

    b) stakeholder mapping.

    c) budget forecasting.

    d) sales analysis.

7. What should an organization's environmental objectives be based on?

    a) the company's desire for profit.

    b) significant environmental aspects and compliance obligations.

    c) marketing strategies.

    d) competitor performance.

8. What is the first step in creating a register of environmental aspects?

    a) identifying significant impacts based on customer feedback.

    b) identifying and listing all activities that interact with the environment.

    c) conducting a marketing analysis.

    d) evaluating competitor performance.

CHAPTER 5
Environmental management in tourist transportation

Questions
5.1 Impact of crisis phenomena on the global tourist flows
5.2 Contribution of transport provision of tourist services to environmental degradation
5.3 The practice of reducing the negative impact of transport on tourism.

5.1 Impact of crisis phenomena on the global tourist flows

The impact of crisis phenomena on global tourist flows is multifaceted and often profound. Economic recessions, political instability, natural disasters, pandemics, and other crises can significantly disrupt tourism's supply and demand sides. On the demand side, crises tend to reduce consumers' disposable income, leading to a drop in travel spending. People may prioritize essentials over leisure or simply avoid travel due to heightened uncertainty or fear for personal safety.

On the supply side, tourism-dependent businesses such as hotels, airlines, and attractions may face financial strain, sometimes leading to closures or reduced services. Destinations that rely heavily on tourism for their economy can suffer a sharp decline in revenues, affecting employment and local businesses. For instance, during the COVID-19 pandemic, border closures, travel restrictions, and health concerns caused a massive drop in international travel, shifting patterns toward domestic tourism, or halting tourism altogether in many regions.

Moreover, the recovery after a crisis can be uneven. Some destinations rebound quickly, especially those perceived as safe and affordable, while others may take years to regain pre-crisis visitor levels. Long-term impacts might also lead to changes in tourist

preferences, with an increased focus on health, safety, sustainability, and less crowded or more resilient destinations. Thus, crises can lead to both temporary disruptions and long-lasting shifts in global tourism patterns. Let's explore some cases.

➡ CASE 5.1: *Before the pandemic, the travel and tourism industry (including its direct, indirect, and induced impact) accounted for 1 in 4 of all new jobs created worldwide, 10.6% of all jobs (334 million), and 10.4% of world GDP [41].*

Meanwhile, the expenditures of international tourists in 2019 amounted to 1.7 trillion US dollars (6.8% of the total export, 27.4% of the world export of services). However, after the beginning of the COVID-19 crisis, the borders were closed, as well as hotels and air transportation. The number of international tourist arrivals decreased from almost 1.5 *billion in 2019 to approximately 380 million in 2020 (74% decrease). This represents a roughly 1.3 trillion US dollars loss in international tourism spending.*

Since 2010, global tourist flows have grown by almost 50%, increasing by more than 5% per hour on average. Although tourism growth is projected to continue, key factors such as changing demographics, improved connectivity, technological innovation and the need for sustainable and inclusive approaches are likely to transform the sector by 2040. Thus, the tourism industry is an important consumer and/or user of materials, energy, and other resources. In 2018, passenger transport, accommodation, as well as food and beverages accounted for more than half of the total volume of domestic tourism consumption (domestic and inbound) in OECD countries [41].

✋ *However, even before the pandemic, all major tourism sector operators faced increasing pressure from visitors and governments demanding accountability, accounting, and reducing the impact on natural and social ecosystems.*

For example, sustainable consumption should be encouraged in the pan-European region, as biodiversity loss and ecosystem degradation continue, caused mainly by increased land use changes, agricultural intensification, urbanization, and habitat fragmentation. In addition, due to the pandemic, the pressure on consumption has increased, not only on the part of tour operators but also on the part of travelers, as they prefer more environmentally friendly destinations and domestic consumption. For example, in 2020, domestic tourism consumption in OECD countries was 75%, while international tourism consumption was only 25% [42].

➜ CASE 5.2: *It is impossible to ignore the consequences of russian military aggression in Ukraine on the international tourist market. This has exacerbated already high oil prices and transport costs, increased uncertainty, and caused travel disruptions in Eastern Europe (fig. 5.1).*
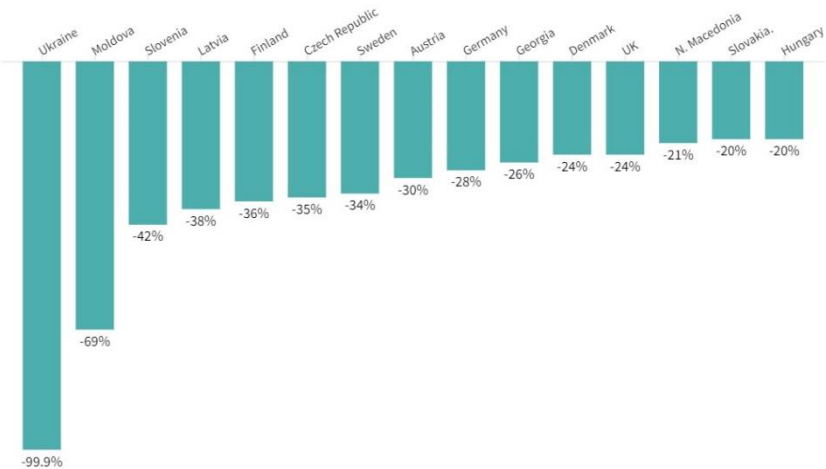

Figure 5.1 – European countries with the most significant decrease in the number of flights in 2022, % from 2019 [43]

At the moment, the most affected destinations (except Ukraine) are the Republic of Moldova, where the number of flights has decreased by 69% since February 24, 2022 (compared to the level of 2019), Slovenia (-42%), Latvia (-38%) and Finland (-36 %) according to Eurocontrol data [43].

The military offensive risks hampering the return of confidence in global travel. This may particularly affect the US and Asian outbound markets, especially for travel to Europe, as these markets are historically more risk-averse.

5.2 Contribution of transport provision of tourist services to environmental degradation

Many environmental consequences of tourism activities are related to the construction and management of infrastructure, such as roads, ports, airports, and tourist facilities. Tourism development and poorly managed facilities have led to soil erosion, increased air, soil, and marine pollution, loss of natural habitat, increased pressure on endangered species, and other consequences. The rapid growth of both international and domestic travel, the growing tendency to travel longer distances in shorter periods of time, and the preference for energy-intensive modes of transport, accommodation, and activities have increased the energy dependence of tourism and the contribution of this sector to climate change. Currently, tourism accounts for 4.5 Gt of CO_2-eq. per hour, and tourism is considered one of the economy's fastest-growing sectors (figure 5.2).

Within the framework of tourism activities, the transport sector, including air, road, and rail transport, generates the largest share of tourism-related emissions, which is 49%. Air quality represents the largest environmental risk for the health of the population of the European region, with a disproportionately strong impact on children, elderly people, and the poor strata of the population. Greenhouse gas emissions from tourism related to transport are estimated at 5% of all

anthropogenic emissions. The lack of travel as a result of the COVID-19 pandemic had a positive effect on air pollution. However, transport initiatives on recovery plans are crucial to prevent the resumption of ecological loads as a result of the activities of various vehicles.
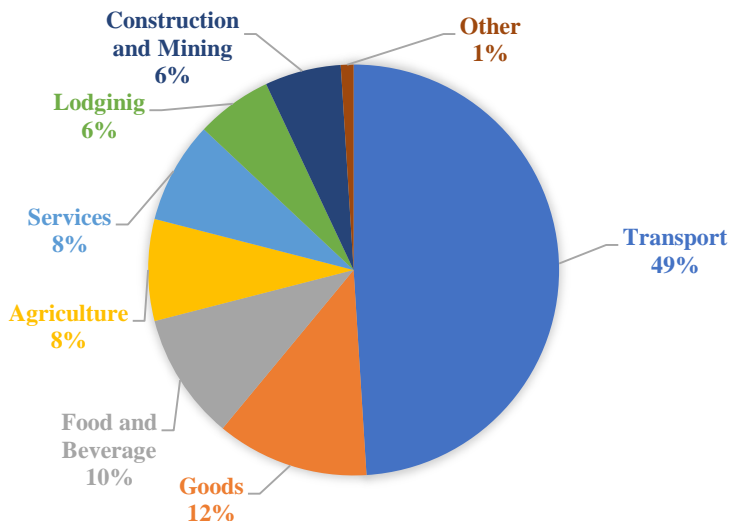
Figure 5.2 – Carbon footprint of global tourism, by sector, 2021 [44]

For example, policy packages such as those supported by the European Transport, Health, and Environment Program [45] can promote the development of public transport in combination with walking and cycling as part of urban and ecotourism routes. People at large can enjoy their activities without using personal cars but at the same time remain fully mobile, which makes mobility soft (environmentally clean and sustainable). Proper planning and management in the field of tourism and transport, as well as in other related industries, are crucial for successful recovery. For example, improving technologies and operations can increase the fuel efficiency of transport if it is stimulated. Both sectors (tourism and transport) must combine energy efficiency with a rapid phase-out of fossil fuels.

Additional policy measures are needed to stimulate changes in technology, operations, use, and demand for fuel.

Let's explore some types of tourist transportation and their impact on the environment (Table 5.1).

Table 5.1 – Environmental impacts of tourist transportation

Type of transportation	Description	Environmental impact
Air Travel	Flights for long-distance travel between countries/regions	High carbon emissions significantly contribute to greenhouse gases, especially on short-haul flights.
Car (Private/Taxi)	Private vehicles or hired taxis for shorter or regional travel	High emissions per passenger, congestion, noise pollution, and increased use of fossil fuels.
Bus/Coach	Group travel on scheduled or chartered buses	Lower emissions per passenger compared to cars still contribute to CO_2 and NOx pollution.
Train	Rail services for regional or international travel	Generally, low emissions, especially with electric trains powered by renewable energy, can be a sustainable option.
Cruise Ships	Leisure trips on large ships across seas and oceans	Extremely high environmental impact, including CO_2 emissions, ocean pollution, and damage to marine ecosystems.
Bicycles/Electric Scooters	Used for short-distance travel, eco-friendly tours	Very low environmental impact, zero emissions if human-powered; minimal impact with e-vehicles.
Walking	Travel on foot for short distances or sightseeing	It has no environmental impact, is completely sustainable, and promotes low-impact tourism.

Source: formed by author based on [46; 47]

☞ *Railway Transportation.* In the late 20th century and early 21st century, railway transportation of passengers and travelers fell in demand because of competition with other modes of transport. However, in some areas worldwide, the railway network continues to be modernized, e.g., since 1965, Japan has introduced high-speed trains in large cities – and Europe has almost 200 cities connected by

EuroCity, TGV, Intercity, railbus, and Eurotunnel, with knock-on consequences for the environment.

✋ *Road Transportation.* The tourism industry is particularly reliant on the development of road transportation due to the different modes of transport that use roads. Road transport exerts a significant toll on the environment in terms of carbon dioxide emissions and other harmful chemicals released into the atmosphere. Moreover, road transport is responsible for sound and soil pollution, land consumption for infrastructure, and accident risks.

✋ *Water Transportation* in the tourism sector is a growing industry, especially via cruise ships. Approximately 20 million passengers embarked on cruise ships in 2016 worldwide compared with 0.5 million people in 1970. The impact of such a dramatic increase in cruise ship passengers also has significant environmental implications, e.g., carbon dioxide emissions, pollution, and increased non-renewable resource use [48].

✋ *Air Transportation.* For the environment, air transportation is considered one of the primary causes of climate change and the depletion of the ozone layer, and via airports, it is a major chemical pollution source for the air in nearby residential areas and is also responsible for sound pollution.

📂 **Consequently, the tourism industry contributes to climate change, especially using carbon dioxide emissions (due to both the transportation of tourists and of the products necessary to satisfy their needs once arrive at their destination), as well as the use of non-renewable energy for various installations (liquid and gas fuels being used for the preparation of domestic hot water, central heating, technological steam for professional washing/ cleaning services, cooking, and accommodation, etc.)**

Climate change is a central aspect of promoting circularity in the tourism sector. According to the UN World Tourism Organization (UNWTO) and the International Transport Forum (ITF), emissions

from tourism activities may increase by at least 25% by 2030 [49]. For example, tourism is very vulnerable to climate change, as extreme weather events, loss of biodiversity and damage to assets can lead to increased insurance costs and security issues. The Paris Agreement and the Sustainable Development Agenda for the period up to 2030 serve as a guide for countering the consequences of climate change.

➡ CASE 5.3: *European Year of Rail 2021 – only about 7% of passengers and 11% of goods travel by rail [50].*

The European Commission initiative intended to highlight the benefits of rail as a sustainable, smart, and safe means of transport. Various activities throughout 2021 put rail in the spotlight across the continent to encourage the use of rail by both citizens and businesses and contribute to the EU Green Deal goal of becoming climate-neutral by 2050.

The European Year of Rail created momentum to help increase rail's passenger and freight transport share. This will cut the greenhouse gas emissions and pollution coming from EU transport significantly, making a huge contribution to the EU's efforts under the European Green Deal (fig. 5.3).

Rail is diverse - businesses and freight carriers can shift to rail and benefit from low-cost

Rail is sustainable - the only transport means that between 1990-2017 has consistently reduced its emissions and energy consumption while increasingly using renewable energy sources.

Rail is safe: the lowest incidence of fatal accidents.
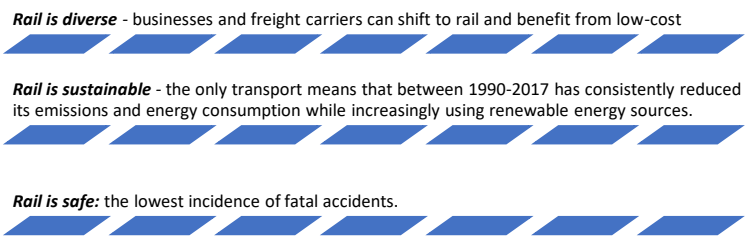
Figure 5.3 – Benefits of traveling by rail

Rail is largely electrified. It emits far less CO2 and accounts for only 0.4 % of greenhouse gas emissions from EU transport, while all EU transport accounts for 25% of the EU's total emissions. It is the safest land transport mode

5.3 The practice of reducing the negative impact of transport on tourism

It is not only on the European continent that environmental problems of transport are taken care of. *Costa Rica* is a leader in sustainable development among Central American countries and has set itself an ambitious goal of decarbonization by 2050. As part of abandoning the use of fossil fuels and replacing them with renewable energy sources, 99% of electricity in the country is already produced from renewable sources. Also, the government of Costa Rica, together with the International Climate Initiative (IKI), launched a project to replace all buses with electric ones by 2030. The first three low-floor electric buses entered the routes in the San Jose area in 2020. In addition to the purchase of rolling stock composition, the program also provides for the financing of costs for the corresponding charging infrastructure, monitoring system, training of employees, maintenance, etc. [9]. Also, at the level of state institutions, several promising projects regarding the construction of a high-speed electrified railway line with credit funds from the Central American Bank for Economic Integration (CABEI) are being considered, which in turn also confirms Costa Rica's course for the sustainable development of the transport and tourism sectors of the economy.

In Sweden, for example, they decided to change the philosophy of using transport with the help of financial levers. Thus, a special "congestion tax" has been operating in the city of Stockholm since 2007. Its essence lies in paying a special fee for the entry and stay of transport (except public) in the central areas of the capital. Proceeds from this tax are directed to the development of municipal transport and the corresponding infrastructure, road junctions, etc. In the first year after introducing such an innovation, the amount of traffic in the city center decreased by 20%, residents and tourists began to use public transport more actively, and the level of air pollution decreased.

Such a policy also contributed to the increase in sales of electric cars, which are exempt from paying the fee.

The danger of noise pollution from transport should not be underestimated. Excessive noise harms people's health, causing diseases of the hearing, cardiovascular, nervous, and endocrine systems and, in general, affects the level of performance since it is difficult for the body to restore its strength in such conditions fully. The issues of reducing noise pollution have been dealt with in Japan for many years, as the country has a limited territory with dense residential areas in cities and a large amount of transport. In addition to noise-absorbing and noise-reflecting barriers along highways, which are already familiar to many, Japanese construction companies actively use special two-layer porous coatings that reduce wheel noise when building roads. Thus, in 2005, 400 km of roads were built in *Tokyo* using two-layer porous technology, and the initial noise level reduction near these sections of the road amounted to 6.1 db. At the same time, studies have established that the pollution of such a coating negatively affects its noise-reducing qualities, so these highways are regularly cleaned and washed with special machines. New porous elastic coatings have also been developed in Japan, which are very effective in terms of noise reduction, but their price is too high for mass use.

The problem of the irrational use of land resources by the transport infrastructure is that the construction of new highways, parking lots and other objects of the transport system requires the allocation of more and more land plots, thereby destroying certain ecosystems and leading to the loss of biodiversity. To avoid this, complex approaches to multifunctional development of tourist destinations and its integration with ecological modes of transport are necessary. A good example is the city of Portland *(Oregon, USA)*. The city has developed a 20-year plan that guides transportation policy and investments and promotes sustainable modes of transportation that are essential to maintaining Portland's vitality and protecting the natural environment.

Even now, in some areas of the city, you can do without using cars. The blocks are designed to be shorter than in most cities and easy to walk. Tourists and residents of Portland are happy to use the lines of municipal transport, many bike stations, bike paths, and a large bridge built in 2015 and completely closed to cars and trucks. The developed network of MAX Light Rail - light rail transport connecting the city with numerous suburbs, thus encouraging people not to use automobile transport for trips, deserves special attention.

As mentioned previously, tourism and transport pose some of the greatest threats to a clean and safe environment. The smart and targeted use of green logistics ideas in the tourism industry would help limit and reduce negative factors and at least partially achieve the right to a clean and safe environment (fig. 5.3).

As delivery and *passenger drones* may soon come closer to real-life implementation, they will become more 'tangible' to wider parts of society. A true assessment of the environmental friendliness of drones, therefore, needs to include a stronger comparative perspective, considering other modes of transportation.

Creating a *friendly environment for walking and cycling* is essential to increase people's daily physical activity levels and reduce car addiction. There is a link between vehicles, vehicle speed, and social interaction, as areas dominated by walking or cycling provide more services and activities than car-dominated areas. Tourists deliberately create distance from their destination, allowing themselves to enjoy the tourist experience as something exclusive.

The tourism industry must adopt new ways of thinking and, more importantly, act to develop strategies to make tourists greener and more socially respectful while they are traveling. This would encourage tourists to think about how they travel and act according to their destinations.

This would also support sustainability strategies in the infrastructure of sustainable transport and the development of sustainable growth in tourism.
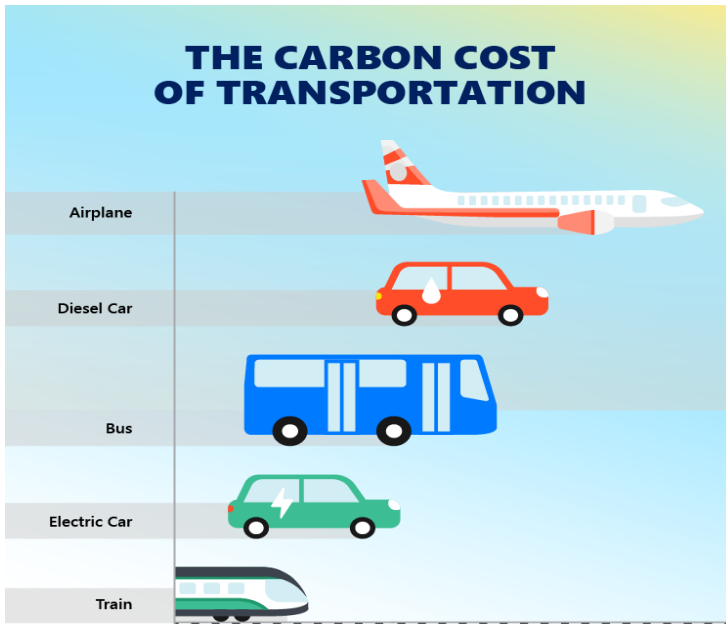
Figure 5.3 – Rating of transport by carbon emissions [51]

It would allow to solve challenges between locals, tourists and unique places, together looking for smart, more sustainable practices of green solutions. On the one hand, tourism can damage local communities through the intervention of outsiders in the target society. On the other hand, tourism can help preserve cultural and natural heritage. However, the paradox remains: The more people travel, the greater their threat to the quality of the environment. How can we reconcile and balance these rights? Are laws capable of solving this problem?

Burning of organic fuel became the only source for powering these conventional transportation methods, and as the demand for transport grew, so did the environmental damage. This is why an alternative to traditional vehicles is being sought to minimize the negative impact on the environment. These *environmentally friendly vehicles* are being

Environmental Management in Tourism and Hospitality

adopted rapidly with more environmentally conscious features than the previous cars. Take Tesla as an excellent example of this; in 6 years, they've had a 25,913% growth in sales (figure 5.4).

Figure 5.4 – Examples of eco-friendly vehicles [52]

Green logistics ideas and solutions that seek more sustainable tourism and related practices could help encourage the adoption of the discussed solutions aimed at reducing environmental impacts and, at the same time, contribute to the implementation of the personal right to a clean environment. The interest in and demand for an 'authentic', rural, primitive, natural, and immaterial heritage is booming in our postmodern society, which seeks to escape its harsh urban realities. This is a positive direction, as some of the solutions presented respond to the emerging reconsiderations of sustainability.

🗁 **Sustainable transportation consists of a green and eco-friendly form of vehicular travel to minimize environmental**

damage. A few examples of sustainable transport include green vehicles that use biogas as fuel. Hybrid cars are controversial because the battery on which they run is Lithium. Lithium mining is very damaging to the environment.

Sustainable transportation also takes forms like walking, sharing a ride instead of using multiple cars for a small number of people, and most importantly, cycling. If there's something we can affirm, it is that the expansion of the world made us dependent on vehicular transport.

The biggest obstacle that now exists is ensuring that the implementation of these environmentally sustainable transportation systems happens. Especially in the most competitive market structures and large oil companies, it could definitely be a challenge for them to cope with changes and adapt to them to keep up with the transport supply and demand.

Sustainable transportation should become the top priority to slow climate change and environmental pollution and halt global warming. Why? It's simple as this practice has numerous benefits and is the only option towards a better and life-affirming future on this Earth. It is a fast and flexible mode of transportation.

For example, in compact cities of Europe, people tend to walk the distance or cycle to their destinations. In this manner, there is no worry about finding parking or stopping to fill up. This can turn into a faster mode of travel since you can use shortcuts, and there is no tension of getting stuck in traffic; the result here is saving a lot of time and money (let's face it, gas does not come cheap).

Energy-efficient vehicles, walking and cycling to your destination are financially friendly too. You can end up saving a significant amount of money from your monthly budget by two main reasons:

Moving sustainably while traveling

There are many sustainable transportation examples that travelers could take advantage of. Some include traveling in eco-friendly compact vehicles, also, people can go collectively in bulk to lessen, if not wholly diminish carbon emissions by burning of organic fuel.

The best and the most natural step towards a greener future is using the public transportation system. Take trams, buses, and trains for traveling intra-city, and walking and cycling as an alternative to choosing a conventional vehicle.

Using motorcycles is fuel-efficient but can only carry a limited number of people at a time. This is why it is of utmost importance to stop frequently using high fuel-intensive modes of transportation as much as possible, or at least until a better alternative becomes available.

For example, traveling by air is a very convenient and safe way to get to places that are considerably far away. However, it is incredibly fuel inefficient, unfortunately, until now, it has no other alternative available matching its functionality.

Transport accounts for a quarter of greenhouse gas emissions in the EU, which continue to grow. To achieve climate neutrality, transport emissions must be reduced by 90% by 2050, and all modes of transport must contribute to this. Shaping sustainable transport means putting users' interests first and providing more affordable, healthier, and cleaner alternatives to their current mobility conditions.

Consequently, the tourism industry contributes to climate change especially by means of carbon dioxide emissions (due to both the transportation of tourists and of the products necessary to satisfy their needs once arrive at their destination), as well as the use of non-renewable energy for various installations (liquid and gas fuels being used for the preparation of domestic hot water, central heating, technological steam for professional washing/ cleaning services, cooking and accommodation, etc.)

Questions and tests for Chapter 5

1. What is the impact of tourist transportation on greenhouse gas emissions?

2. What is the European Green Deal? What are its tasks related to tourist transportation?

3. What types of transport are the most ecological choices for mass tourist transportation? Which are the least ecological?

4. Give examples of measures to reduce the negative effects of transport in tourism.

5. Describe the positive and negative effects of tourism on the environment.

6. Give an example of the introduction of innovations in tourist transport.

Test 5

1. What is one major impact of crisis phenomena on global tourist flows?

　　a) increased demand for luxury travel.

　　b) strengthening transportation infrastructure.

　　c) decrease in international tourist numbers.

　　d) creation of more travel routes.

2. Which of the following modes of transport is the largest contributor to carbon emissions in the tourism industry?

　　a) air travel.

　　b) bicycle tours.

　　c) train travel.

　　d) bus travel.

3. What is the common environmental issue caused by cruise ships?

　　a) noise pollution.

　　b) destruction of coral reefs.

　　c) marine pollution.

d) overcrowding of cities.

4. *How can air travel's impact on environmental degradation be mitigated?*

   a) increasing flight frequencies.

   b) offering carbon offset programs.

   c) reducing in-flight services.

   d) building more airports.

5. *Which of the following is a sustainable transport option for tourists?*

   a) private car rentals.

   b) electric buses.

   c) high-speed flights.

   d) cruise ships.

6. *What is one practice to reduce the negative impact of road transport on tourism?*

   a) expanding highway networks.

   b) encouraging carpooling or shared rides.

   c) building more parking spaces.

   d) providing discounts for rental cars.

7. *What does the concept of "slow tourism" encourage?*

   a) short and frequent flights.

   b) longer, more immersive trips.

   c) rapid travel across multiple destinations.

   d) driving long distances.

8. *Which of the following is a major consequence of transport infrastructure development for tourism?*

   a) enhanced visitor experiences.

   b) habitat destruction and ecosystem fragmentation.

   c) increased tourism revenue.

   d) growth in air travel popularity.

CHAPTER 6
Environmental management in hotel and restaurant complexes

Questions
6.1 World green certification systems
6.2 Simplified environmental management system for HoReCa
6.3 Zero waste in the HoReCa sector

6.1 World green certification systems

Green certification is essential as it sets clear standards for sustainable practices, guiding businesses in reducing their environmental impact. For the HoReCa sector, these certifications help conserve resources, lower operational costs, and attract eco-conscious customers. They also build credibility, as certified businesses demonstrate accountability and transparency in sustainability efforts, enhancing their reputation and aligning with global environmental goals.

📂 **Green certification systems are frameworks that provide standards and guidelines for sustainable practices across various industries. They assess buildings, hotels, and businesses on criteria like energy efficiency, water conservation, waste reduction, and indoor environmental quality. These certifications help organizations reduce their environmental impact by setting measurable goals and providing benchmarks for sustainable operations.**

The importance of these certification systems extends beyond environmental benefits – they serve as a marketable badge of commitment to sustainability. For consumers increasingly conscious of environmental issues, certified buildings and businesses offer a trusted indicator of sustainable practice. In addition, green certifications often lead to operational cost savings, enhanced

employee well-being, and increased property values. Government incentives are also frequently aligned with certification achievements, further motivating adoption.

☞ *In the HoReCa (Hotel, Restaurant, Café) sector, popular green certification systems include LEED (Leadership in Energy and Environmental Design), EarthCheck, BREEAM (Building Research Establishment Environmental Assessment Method), Green Key, etc. Each focuses on promoting sustainability practices within hospitality, guiding businesses to reduce environmental impact, conserve resources, and meet sustainability benchmarks.*

LEED certification [53] is prominent for hotels and resorts looking to achieve high sustainability standards in their buildings and operations. Developed by the U.S. Green Building Council, LEED focuses on energy efficiency, sustainable materials, and environmental impact, promoting more eco-friendly construction and operational practices. Notable LEED-certified hotels include:

Proximity Hotel in Greensboro, North Carolina, USA – the first LEED Platinum hotel in the United States, Proximity uses 40% less energy than typical hotels by incorporating solar power, geothermal systems, and locally sourced materials.

1 Hotel Central Park in New York City, USA – a LEED Gold-certified property, this eco-friendly hotel is known for using reclaimed materials, advanced energy-efficient systems, and sustainable water management practices.

The Borgo Egnazia in Puglia, Italy – a LEED-certified luxury resort, Borgo Egnazia uses energy-efficient systems and renewable materials, integrating sustainable practices into its Mediterranean-inspired design.

EarthCheck [54] is a tourism-focused certification that encourages sustainable practices and resource conservation. Popular in Asia-Pacific and increasingly worldwide, EarthCheck certification is based on reducing the environmental footprint of businesses through

rigorous data collection and analysis in areas such as water and energy use, waste management, and community involvement.

Several prominent hotels and resorts worldwide hold EarthCheck certification, particularly in the Asia-Pacific region. Some notable EarthCheck-certified properties include:

Soneva Fushi in the Maldives – this luxury resort is EarthCheck certified for its dedication to environmental stewardship, including solar power, waste-to-wealth initiatives, and a commitment to biodiversity conservation.

InterContinental Bora Bora Resort & Thalasso Spa in French Polynesia – known for its sustainable water and energy practices, this resort has achieved EarthCheck certification for its innovative environmental management systems.

Atlantis in Dubai, UAE – this luxury resort holds EarthCheck certification and actively promotes water conservation, waste reduction, and community initiatives to support sustainable tourism.

BREEAM [55] is another building-focused certification popular for European properties, measuring a hotel or restaurant's building's environmental impact. With an emphasis on energy efficiency, sustainable materials, and design, BREEAM is commonly pursued by larger hotel chains looking to maintain consistent sustainability standards.

Many hotels globally have achieved BREEAM certification, particularly in Europe, where it is widely recognized. Some notable examples include:

The Savoy in London, UK – this historic hotel underwent major renovations to meet BREEAM standards, focusing on energy efficiency and sustainable building practices.

QO Amsterdam in the Netherlands – known for its innovative eco-friendly design, QO Amsterdam integrates sustainability into every part of its operations, from energy use to interior materials.

Hotel Verde in Cape Town, South Africa – known as "Africa's greenest hotel," Hotel Verde is BREEAM certified for its sustainable

construction and operations.

Let's consider in more detail the application and certification procedure for the three most popular specific HoReCa green certification systems in the world.

The Green Hospitality Award (Ireland) is a joint brand that includes voluntary eco-certification and eco-labeling schemes for various sub-sectors of the hospitality industry (figure 6.1).

Figure 6.1 – The Green Hospitality Award [56]

Institutional structure: certifying organization – Environmental Protection Agency (EPA), partner organizations – National Tourism Development Authority (Failte Ireland), Tourism Ireland, Irish Sustainability Authority, Enterprise Ireland, Hotels Federation of Ireland, Hotel and Restaurant Institute of Ireland and Restaurant Association of Ireland.

Application procedure: Enterprises conduct self-assessment and prepare all supporting documentation. After paying the fees, GHA performs an audit and issues a certificate. Audits are conducted every 3 years to ensure compliance with the GHA criteria.

Certified businesses: Hotels and large accommodation providers (including resorts and clubs), bed and breakfast hotels, guesthouses, self-catering accommodation and other accommodation facilities,

restaurants and bars, eco-tourism providers, monuments**,** amusement parks, and active recreation, entertainment centers and spas, SME suppliers of the hotel and restaurant sector.

Award (adequate standard), gold (best practice), platinum (international class best practice, awarded only to hotels). With the transition to each next level, the criteria become stronger.

Contributions/Funding: Funding is provided by AEO through its Green Business initiative. This funding is designed to facilitate the hotel and restaurant sector certification. For example, the annual contribution for a small business (with revenues of up to €75,000 per year) is €395 for the first year and €295 for subsequent years.

Green Key (international, headquartered in Denmark) – the Green Key program was founded in Denmark and later became a Foundation for Environmental Education (EEF) program. It aims to strengthen the tourism and leisure industry, environmental protection, "green" marketing, and personnel education (figure 6.2).

Figure 6.2 – The Green Key general requirements [57]

Institutional structure: Certificates are issued by a national or international board of the Green Key program. The national board includes representatives of the environmental, healthcare and tourism ministries, tourism associations, associations of local authorities, associations of hotels and campsites, and experts in education and environmental protection.

Application procedure: The enterprise sends the application documentation and undergoes an audit, on which the national or international board of the Green Key program decides to issue a certificate.

Certified enterprises: Hotels, hostels, campsites, small residential premises (bed and breakfast hotels, ecological cottages, ecological farms, etc.), attractions, and restaurants.

There are no levels: the points system reflects the percentage of fulfilled criteria.

Contributions/Funding: Funded by corporate partners, contributions differentiated by country/region.

Green Globe Certification ("Green Globe" certificate) (international, headquarters in Australia) - under the Green Globe program, which operates in more than 40 countries around the world, carries out a structured assessment of the sustainability indicators of enterprises in the travel and tourism industry and their partners in the supplies chain.

Institutional structure: Varies by country and region; certified third-party auditors conduct audits.

Application process: The application form is submitted through the website, fees are paid to complete the registration (one-year membership), the applicant is advised on green business practices, and a certificate is issued after the audit.

Certified Businesses: Attractions, conference venues, cruise ships (river and ocean), golf courses, hotels, resorts, restaurants, spas and wellness centers, transportation and car rental companies, and tour operators.

Certification levels: Member (all required criteria), Gold Member (members certified for a five-year period), and Platinum Member (members certified for a ten-year period) (figure 6.3).

Figure 6.3 – "Green Globe" certificate [58]

Contributions/Funding: Funded by participation fees depending on the origin and size of the company (from $750 for companies with fewer than 10 employees to $5,000 for companies with more than 250 employees).

➤ CASE 6.1: The *"EcoLeaders" program by TripAdvisor [59] recognizes various hotels and mini-hotels — from budget to the most luxurious ones, but there is one similar feature.*

All of them conduct their economic activities intelligently and environmentally consciously, particularly regarding waste management, the use of natural products by local households, and the installation of charging stations for electric vehicles. There are five levels in the EcoLeader program. To participate in this program and receive the title of "EcoPartner", all B&B hotels/mini-hotels must meet the following minimum requirements:

- *have linen and towel reuse programs;*
- *regularly monitor energy consumption;*

- *recycle waste;*
- *use energy-saving lamps;*
- *introduce staff and guests to the principles of environmental protection*
- *dispose of waste water correctly (with the help of own or municipal sewage system).*

These certifications guide HoReCa businesses in implementing sustainable practices and boost their credibility among eco-conscious guests, creating long-term value through operational savings, increased brand loyalty, and a reduced environmental footprint.

6.2 Simplified environmental management system for HoReCa

📁 **A simplified environmental management system (SEM) is an appropriate solution for SMEs ready to green their activities. This approach implies adjustments, taking into account the specific needs of a particular SME and taking into account other factors that the enterprise faces in its current activities. A simplified SEM usually includes several stages/levels that allow the enterprise to obtain official recognition of compliance with the relevant requirements.**

☝ *The main elements of a simplified SEM are as follows:*

Level 1: Foundation of environmental processes: demonstration of management commitment**!**; conducting an initial assessment; development of environmental policy; determination of applicable requirements of environmental legislation; definition of other environmental norms (codes of activity, industry standards, !contractual requirements); classifying of all the requirements for breakdown by type of activity; analysis of the actual level of compliance; development of operative control procedures for elimination of non-compliance with the requirements.

Level 2: Sustainable environmental program: assessment of aspects

and impacts; specification of the environmental policy; definition of goals and target indicators of environmental activity; development of indicators of environmental activity; definition of specific environmental management programs (definition of functions, terms and resources); development of a personnel training program.

Level 3: Implementation of a full-fledged SEM: completion of the internal environmental management system; adoption of clearly defined methods of internal and external information interaction; implementation of documentation and accounting mechanisms; adoption of internal audit procedures; review and notification of the audit results, etc.

The main steps to implement a simplified SEM are as follows:

1. A company that wants to get a green certificate needs to choose a level that optimally corresponds to its current activity. As a preparatory measure, the enterprise is recommended to conduct a self-assessment. Instructions for the self-assessment should be posted on the website of the green certification system. Applicants are required to send a completed application form (available online) to the Accreditation Board.

2. After paying the annual participation fee, the accreditation board must evaluate the application. The applicant must be informed about the trainings being held (in particular, about the dates and places of their holding).

3. An auditor appointed by the Accreditation Board is sent to assess the performance indicators of the applicant enterprise and check whether all the criteria of the specified level have been met. The certificate must be issued within one month from the audit date. The audit report must be posted on the website of the green certification system.

4. Within the first three years after certification, enterprises participating in the system must undergo an annual audit. Subsequently, the audit should be conducted every three to five years. At the same time, the enterprises participating in the system must

prepare and send to the accreditation council an annual report on the fulfillment of the certification criteria.

✋ *Certification requirements are established as criteria for issuing a certificate, considering performance indicators*. In order to avoid "green PR" - the use by companies of green certification labels that are not based on recognized international or national standards - the requirements must be transparent (available to the public), strict but realistic. They must be approved by the competent national authorities (by the Ministry of Environment and Natural Resources and/or a standardization organization). In addition, they must comply with national legislation. Within the first three years of the system's operation, it is recommended to revise the criteria annually and thereafter - every five years.

In general, enterprises must demonstrate effective environmental management in the form of an implemented environmental management system adapted to the potential of a specific SME (Small and Medium Enterprises), and achieving the maximum positive effect for the environment and minimizing negative impact by taking measures to increase resource and energy efficiency and implementing other methods that contribute to the protection of local environment and thereby reducing pollution, waste generation, noise, damage to ecosystems, etc.

✋ *These criteria should be determined by both differentiation from the hotel and restaurant subsectors and a multi-level approach to certification.* The proposed criteria are divided into three categories: mandatory, main subsector criteria, and optional subsector criteria. For example, a boarding house wishing to obtain a Level 1 certificate must meet the mandatory Level 1 criteria and the criteria of the subsector "Hostels and Boarding Houses" Level 1, as well as select several criteria from the list of optional criteria. Suppose this guest house decides to continue applying for a Level 2 certificate. In that case, it must fulfill all the Level 1 criteria and meet the mandatory

Level 2 criteria and the Hostels and Guest Houses subsector Level 2 criteria and choose several criteria from the list of optional criteria, except for the criteria selected for the 1st level.

☝ *Mandatory* *criteria apply to all enterprises of the hotel and restaurant sector.* The mandatory criteria are organized into five components: EMS, water, waste and energy management, and green procurement. They must be classified according to three levels of certification, with the third level being the most stringent.

The *main criteria* of subsectors should differ by subsector and, like the mandatory criteria, become more stringent as the certification levels progress.

In addition, the system should provide *optional criteria* for subsectors. A general list of optional criteria for the entire hotel and restaurant sector should be presented. An enterprise participating in the system will have to select at least three criteria from the list of optional criteria of the 1st level, six of the 2nd level and nine of the 3rd level (if the enterprise has already reached the 1st level, it should continue to complete the optional criteria chosen for this level and choose three new optional criteria to achieve level 2). Another possible way for an enterprise to achieve the number of optional criteria is to select them from the list of mandatory or basic criteria for higher-level subsectors. For example, if an enterprise wants to obtain a Level 1 certificate, it can choose optional criteria from the list of mandatory or basic criteria of Level 2 subsectors. This, however, is not possible in the case of enterprises applying for a Level 3 certificate.

☝ *The combination of three types of criteria allows the certification system to consider the peculiarities of enterprises of each hotel and restaurant subsector.* One or another level should be considered achieved if, based on the results of the audit assessment and the documents submitted by the applicant, the accreditation board decides that the enterprise has fulfilled all the criteria of this level.

Mandatory criteria of the highest level should be much stricter than the environmental standards. In addition to the five components (SEM, water, waste, energy management, and green procurement), the third level may include criteria for environmental education in local communities. The main type of enterprise activity should determine the differentiation of criteria for hotel and restaurant subsectors. For hotels, hostels, and boarding houses, this is the provision of residential premises, and public catering for restaurants, cafes, and bars. The criteria for this sub-sector cover a wider range of aspects than hostels.

Here's a table for an SEM tailored for the HoReCa sector, focusing on key areas where they can manage environmental impact and promote sustainability (table 6.1).

Table 6.1 – SEM key impact areas for HoReCa

SEM Area	Actions	Benefits
Energy Management	1. Install energy-efficient lighting and equipment. 2. Implement energy-saving practices (e.g., turning off appliances).	1. Reduced energy bills. 2. Lower carbon footprint.
Water Conservation	1. Install low-flow faucets and toilets. 2. Educate staff on water-saving practices.	1. Reduced water bills. 2. Conservation of water resources.
Waste Management	1. Sort and recycle waste. 2. Compost organic waste.	1. Reduced waste sent to landfills. 2. Savings on waste disposal.
Food Waste Reduction	1. Optimize inventory to reduce spoilage. 2. Donate surplus food to charities.	1. Savings on food costs. 2. Reduced waste.
Eco-friendly Products	Use biodegradable or recyclable packaging Choose suppliers with sustainable practices	1. Reduced environmental impact. 2. Appeal to eco-conscious guests.

	1. Use eco-friendly cleaning	1. Reduced pollution.
Chemical Management	products. 2. Properly store and dispose of chemicals.	2. Safer for employees and guests.
Transportation & Delivery	1. Optimize delivery schedules to reduce trips. 2. Use local suppliers to minimize transport distance.	1. Lower fuel costs. 2. Reduced emissions.
Staff Training	1. Train employees in sustainable practices. 2. Encourage energy and water-saving practices.	1. Improved operational efficiency. 2. Enhanced brand reputation
Guest Engagement	1. Provide information on sustainability efforts. 2. Encourage guests to reuse towels and conserve water.	1. Guest participation. 2. Positive brand image.

Source: formed by author based on [60; 61]

Hotels typically use more energy, water, and other resources and generate more waste. In addition, they usually offer communal catering services, which should also be covered by the established criteria.

Activities of restaurants, cafes, and bars are focused on providing customers with food and drinks. For this sub-sector, specific criteria should be provided for the disposal of food waste, as well as disposable packaging/containers for food products with delivery and takeaway (where applicable).

✋ *Tourist managers agree that private hotels still have a leading role in implementing environmental technologies compared to hotel corporations. This is explained by several factors.*

There is no network standardization in private hotels. Here, the manager is their own boss, they do not need to coordinate their decisions with the central office, so any initiative immediately enters the development stage. In the network, hotels are more like a bureaucratized state, where implementing new technology requires

going through the 9 circles of hell to agree on all issues and standardize the new procedure.

Private hotels are usually newer and smaller, making new initiatives easier to implement in private establishments. Obviously, new hotels are already being built with environmental standards in mind, and the developer has a choice of what materials to use and how to train their workers. The concept of the establishment can immediately include environmental standards, and the hotel can position itself on the market, taking into account its own attitude to the environment. It is more difficult for hotel chains that have existed since the 30s of the 20th century to "jump" to a new level and follow global trends because renovation requires not only funds from the hotel budget but also support from the main offices at the regional (and sometimes global) level. In addition, any change can affect the company's profits, so not all chains are ready to close their profitable hotels for renovations or bother guests with innovations that are often not aligned with the philosophy of the hotel's concept. In addition, conceptual changes may not always find a positive response among customers, so chain hotels are less dynamic in introducing new ideas and trends.

Private hotels often cooperate with public organizations, including environmental ones. Chain hotels have contracts with major business players, while private hotels focus on local companies and public organizations. That is why eco-hotels are common in small local chains, eco-resorts or in isolated cases when the hotel management sets itself to introduce modern eco-technologies.

➡ CASE 6.2: *GreenStay Boutique Hotel, a 50-room hotel with an on-site restaurant, implemented an SEM to reduce its environmental impact and improve sustainability.*

Actions taken

*1. **Energy Management.** Installed energy-efficient LED lighting throughout the hotel and implemented an automatic shut-off system for lights and air conditioning when rooms are vacant.*

Results: Reduced electricity bills by 20%, saving approximately $10,000 annually. Guests appreciated the eco-friendly efforts and gave positive feedback.

2. Water Conservation. *Replaced all guest bathrooms with low-flow showerheads and faucets, reducing water usage without compromising the guest experience. Housekeeping also adjusted the towel and linen change policy to "upon request" for stays longer than one night.*

Results: Water consumption dropped by 30%, resulting in savings on utility bills and positive guest feedback on environmental consciousness.

3. Waste Management. *Implemented waste sorting stations throughout the hotel and kitchen. Introduced a composting program for kitchen waste and began recycling paper, glass, and plastics.*

Results: Reduced waste sent to landfill by 50%. Guests responded positively to the visible waste sorting stations.

4. Food Waste Reduction. *Partnered with a local charity to donate unsold food at the end of each day. Inventory management was also improved to reduce spoilage.*

Results: Reduced food waste by 40%. Increased community goodwill and contributed to the hotel's positive brand image.

5. Eco-Friendly Products. *Switched to biodegradable bathroom amenities and eco-friendly cleaning supplies. Sourced sustainable, local ingredients for the restaurant menu.*

Results: Guests appreciated the biodegradable amenities, and the restaurant gained popularity for its focus on local produce. Cleaner air quality in staff areas due to eco-friendly cleaning products.

6. Staff Training and Engagement. *Staff attended monthly sustainability training sessions to learn best practices in energy and water conservation, as well as waste reduction.*

Results: Improved operational efficiency and enthusiasm for the hotel's green initiatives, as well as a 15% reduction in operational costs through simple conservation practices.

7. Guest Engagement. *Information on the hotel's sustainability initiatives was provided in rooms and online. Guests were encouraged to participate by conserving energy and water during their stay.*

Results: Increased guest satisfaction and loyalty, with many guests

citing sustainability efforts as a reason for choosing GreenStay.

Outcomes

Environmental impact: *reduced energy consumption by 20%, water usage by 30%, and waste by 50%.*

Financial savings: *savings on utility bills and reduced operational costs totaled approximately $25,000 annually.*

Guest satisfaction: *positive guest feedback improved ratings, and occupancy increased by 10% among eco-conscious travelers.*

Brand image: *enhanced reputation as a sustainable and community-conscious hotel.*

Nevertheless, some large hotel corporations aim to change the order of things, so they are developing concepts for the sustainable development of their networks. There are many examples, but we have highlighted the top hotel brands that play an exceptional role in the ecological component of hotel service.

1 HOTELS [62]

This is a chain of hotels in the USA (Miami, New York, Los Angeles) that uses only ecological materials and considers promoting a careful attitude to nature as the purpose of its existence in the field of hospitality. The modern rooms are decorated with wood and fitted with natural light, hemp mattresses, and living greenery. The network has powerful communication with its guests, who value naturalness combined with sophistication, high-quality wellness services, and responsibility for the environment, along with careful waste processing.

HYATT CORPORATION [63]

The Hyatt Corporation is one of the leaders in the world market of hotel services, having more than 850 hotels worldwide and uniting more than 15 brands with its own concept and purpose of existence. When thinking about such a big business shark, sustainable development and environmental friendliness do not come to mind. However, the company's management tries to keep up with the times and stay ahead of its competitors. The Hyatt Thrive corporate platform has been operating since 2011. Every April, the team of each of the

850 hotels in the chain prepares projects that provide environmental, educational, or social support to the city where the hotel is located. The 2020 Strategy for Environmental Sustainability, which focuses on reducing waste and water and involving stakeholders in environmental projects, was also adopted. The corporation has a high sustainable management tools rating compared to similar hotel chains, which gives it an absolute advantage for the further implementation of eco-initiatives. One cannot but rejoice at the representation of the corporation by a hotel in the heart of the capital, Hyatt Regency Kyiv, which successfully implements programs and new standards of the hotel chain.

ACCOR HOTELS [64]

The Fairmont, Raffles, and Swissotel chains have recently joined this corporation. In addition to this news, Accor's Planet 21 program has been adopted. The main provisions are aimed at improving staff qualifications, attracting hotel guests by implementing innovations of local companies, and working with communities. The introduction of ecological cosmetic products and an emphasis on the quality of local food and drinks are also priorities. The Accor Hotels chain is also represented in Ukraine.

6.3 Zero waste in the HoReCa sector

Another popular approach to eco-initiatives in the hospitality industry is the zero waste concept.

📁 **Zero Waste is an ethical, economical, efficient and visionary goal to get people to change their lifestyles and practices and to support sustainable natural cycles where all discarded materials are converted to become resources that can be used by someone else.**

In terms of business application, the concept of zero waste can be characterized as the development and management of products and

processes to systematically avoid and eliminate the volume and toxicity of waste and materials, the conservation and recovery of all resources, rather than their incineration or landfill.

✍ *Zero waste is based on 5 key principles (5R) (figure 6.4):*

1. Refuse. The point is not to buy too much and to abandon products that harm the environment.

2. Reduce. It means reducing the consumption of certain goods.

3. Reuse. It means that many things can be given a second life, which significantly reduces consumption and emissions.

4. Recycle. This principle calls for collecting garbage (plastic, glass, paper) and handing it in for recycling.

5. Rethink. It insists on the awareness that the basis of human actions should be conscious consumption.

Figure 6.4 – Zero Waste concept [65]

Is it realistic to apply these principles in the hotel and restaurant

business? Let's consider several examples of effective implementation of the zero-waste concept by various accommodation and public catering establishments.

In 2015, the management of *the Warsaw Novotel Centrum hotel* (part of the AccorHotels network) analyzed that the hotel's annual waste amounts to about 40 tons. Then it was decided to introduce a system that would control kitchen waste. The Winnow system, which Novotel started using, is based on the basic principles of zero waste and shows which waste is generated the most, where it comes from and how to reduce it. In the first three months since its introduction, the hotel was able to reduce kitchen waste by 67%. In general, monitoring showed that half of the waste is generated in the restaurant hall, i.e., from hotel guests (uneaten meals, leftovers), and half in the kitchen (skin, cut parts of vegetables and meat, etc.). Thanks to new kitchen and buffet management methods, Novotel has reduced organic waste by 54% in a year and a half.

The Green House Hotel, located in the British city of Bournemouth, also uses some interesting strategies to reduce waste and minimize environmental pollution: all food waste is composted; the hotel's service cars run either on electricity or on biofuel made from waste cooking oil from the kitchen; only environmentally friendly cleaning products and recycled toilet rolls are used. In addition, The Green House has its own garden, from which the harvest is used for cooking, and other products are purchased from local farmers to reduce emissions during transport. All the paint used in the hotel is produced by Farrow & Ball, located 15 miles outside the city. The products of this company are among the most environmentally friendly paints available anywhere in the world. Unlike many other manufacturers, they continue to use natural ingredients, such as linseed oil and Chinese clay, and do not use harmful ammonia and formaldehyde.

The Nolla restaurant in the capital of Finland even reflects the zero-waste philosophy in its name because the word nolla, in

translation, means zero. This establishment uses environmentally friendly tableware and containers made from recycled materials, for example, the drinking glasses are recycled bottles from the Presidential Palace. To reduce waste, Nolla works with partners who deliver products in reusable plastic containers and, for deliveries from farmers, uses boxes that are then returned and reused for subsequent deliveries. The restaurant's menu is designed based on seasonality and is optimized in such a way that visitors do not order a lot of food. Customers are served a tasting set of four or six dishes, while ordering individual dishes is not provided. In addition, chefs control the use of ingredients, all of which help the restaurant reduce waste. At the end of each day, the food not finished by the visitors is loaded into the composter. The restaurant returns compost to small local producers who supply the restaurant with seasonal products.

In Ukraine, the zero-waste concept continues to be implemented by Premier Hotel Dnister (Lviv). The hotel supports a number of environmental initiatives, in particular, handing over waste for recycling, making booklets for guests from recycled materials, organizing bicycle rentals, and participating in "Earth Hour". Chefs offer guests Ukrainian organic food for breakfast and master classes on products of Ukrainian producers. Premier Hotel Dnister also encourages conscious consumption among its customers in other ways, for example, by offering them to change bed linen and towels not every day. The hotel's near-term plans also include landscaping technical floors, holding "waste-free" conferences, introducing reusable tableware for desserts, and installing separate containers for organic waste.

Ecoist Hub in Kyiv is an eco-friendly coworking space with a focus on zero-waste principles, Ecoist Hub encourages minimal plastic use, comprehensive recycling, and collaboration with local eco-initiatives to promote sustainability.

CUBBY Hotel in Lviv has implemented zero-waste and climate-friendly solutions as part of the project "Restoration and

Modernisation of Hospitality Facilities on the Zero Waste & Climate Friendly Principles."

In July 2022, at the initiative of Zero Waste Alliance Ukraine (fig. 6.5), the project "Implementation of zero waste principles in the hotel and restaurant business of Ukraine for its adaptation to the requirements of the Paris Climate Agreement in the conditions of russian invasion" began.
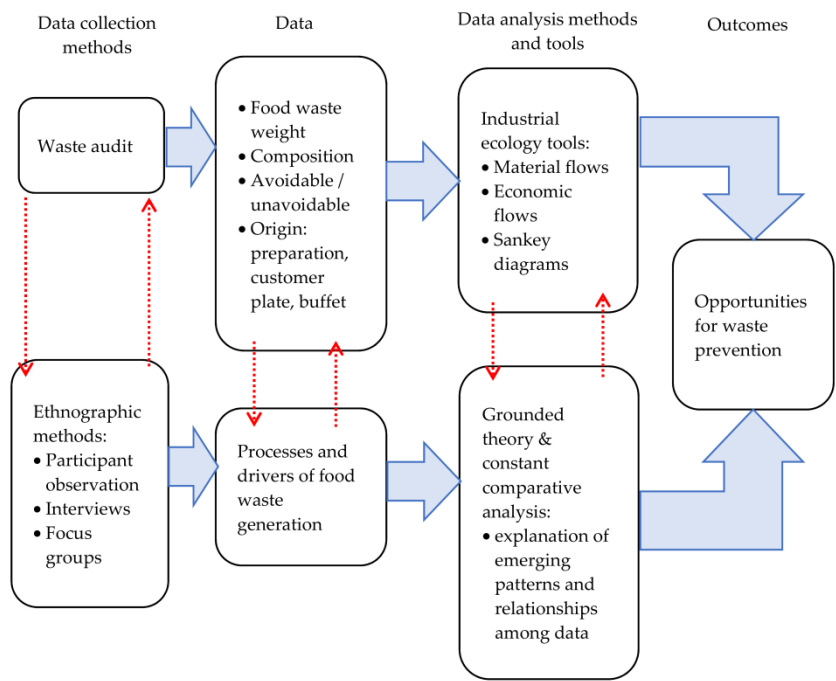

Figure 6.5 – Conceptual framework for the study of food waste generation and prevention in HoReCa [66]

Within the framework of this initiative, a number of consultations were held with representatives of the hotel and restaurant business of the Lviv region regarding the transition to a low-carbon mode of activity.

Questions and tests for Chapter 6

1. Describe the main provisions of the Green Key green certification.
2. To which hospitality establishments can a simplified environmental management system be applied?
3. Describe the environmental certification requirements for hotel and restaurant enterprises according to the Green Globe system.
4. What environmental certification systems exist in Ukraine?
5. What is Zero Waste? How can it be applied in hospitality?
6. What are ways to improve environmental management in the Ukrainian hospitality industry?

Test 6

1. Which of the following is a primary goal of implementing a simplified Environmental Management System (EMS) in the HoReCa sector?

   a) increase customer satisfaction by reducing menu options.

   b) minimize environmental impact and reduce resource consumption.

   c) improve employee working hours.

   d) increase sales by offering seasonal discounts.

2. The Green Key certification is mainly associated with which sector?

   a) construction and real estate.

   b) automotive manufacturing.

   c) hospitality and tourism.

   d) healthcare and pharmaceuticals.

3. What is a common feature of a zero-waste strategy in restaurants?

   a) increasing the number of food suppliers.

   b) reducing menu prices to attract more customers.

   c) recycling, composting, and minimizing waste generation.

   d) extending business hours.

4. LEED certification focuses on which aspect of environmental sustainability for hotels?

a) social responsibility and fair labor practices.

b) building efficiency, resource conservation, and eco-friendly materials.

c) increasing room occupancy rates.

d) employee development programs.

5. Which of the following best describes the "zero waste" approach in the hospitality industry?

a) eliminating all plastic items used in operations.

b) reducing, reusing, recycling, and composting to avoid waste sent to landfills.

c) only using recycled products in hotel amenities.

d) disposing of waste every day to avoid accumulation.

6. What key benefit does a hotel achieve by obtaining BREEAM certification?

a) higher energy costs.

b) increased marketability and appeal to eco-conscious travelers.

c) unlimited access to water and energy resources.

d) extended construction timelines.

7. In a simplified EMS for a restaurant, which action could help conserve water?

a) using low-flow faucets and dishwashers.

b) increasing the number of sinks in the kitchen.

c) using regular, high-flow water systems.

d) offering more water-based dishes on the menu.

8. What is the primary focus of EarthCheck certification in the tourism and hospitality sector?

a) enhancing the aesthetic appeal of the hotel property.

b) achieving energy efficiency, water conservation, and waste management.

c) only focusing on indoor air quality improvements.

d) reducing employee training requirements.

CHAPTER 7
Ecomarketing of goods and services in tourism and hospitality

Questions
7.1 Marketing mix of sustainable tourism
7.2 Environmental marketing strategy in resort hotels
7.3 Sustainable satisfaction of tourist services needs: how to avoid greenwashing

7.1 Marketing mix of sustainable tourism

In tourism marketing, as in marketing in general, one of the main concepts is the marketing mix, which defines the main components, tools and program variables used in tourism to manage and control the market. At the same time, the classic 4P marketing mix model (product, price, promotion, place) and its modifications 6P and 7P are distinguished. Accordingly, the marketing mix in tourism should have an original model unique to the tourism industry.

✍ *Marketing mix (complex) – a term that was first used by Neil Borden from the Harvard Business School in 1964 [67] to define the main components, tools and program variables used by marketers to manage and control the market.*

It was a kind of a "cake recipe" that would taste better than its individual ingredients. The idea of the marketing mix was proposed with the belief that every company should coordinate and integrate various marketing programs in order to maximize their effectiveness and efficiency.

There are different marketing mix models for different purposes, each with different components (see Table 7.1, Annex 5). The most common is 4P, later the 6P model was proposed (with the addition of politics and public relations), later – 7P (adding personnel, process and planning, in another version - the external environment).

American academician Robert Lauterborn in 1990 put forward an

alternative version of the marketing mix called "4C" [68] – from the point of view and interests of the buyer: Customer value (value of the product for the buyer), Cost (cost of the product for the buyer), Convenience (convenience of the product for the buyer), Communication (awareness of the buyer about the product).

Table 7.1 – Some examples of modern marketing mix models

Model	Components	Description	Application in Tourism
5A (Awareness Model)	Awareness, Appeal, Ask, Act, Advocacy	Describes the customer journey and their interaction with a brand, from awareness to becoming advocates.	Creating awareness through digital ads (Awareness), crafting appealing campaigns (Appeal), answering customer inquiries (Ask), delivering promised experiences (Act), encouraging reviews (Advocacy).
SAVE	Solution, Access, Value, Education	Focuses on creating solutions for customer needs rather than just products, ensuring accessibility, highlighting value, and educating customers.	Offering eco-friendly tourism packages (Solution), providing 24/7 booking platforms (Access), emphasizing cost-effectiveness and sustainability (Value), and educating tourists on responsible travel (Education).
SIVA	Solution, Information, Value, Access	Similar to SAVE but places more emphasis on customer-centricity and transparency in communication.	Promoting eco-lodges as a solution for sustainable tourism (Solution), providing detailed itineraries (Information), highlighting cost savings (Value), and ensuring seamless online bookings (Access).

Model	Components	Description	Application in Tourism
8P	Product, Price, Promotion, Place, People, Process, Physical Evidence, Productivity and Quality	Adds physical evidence (e.g., tangible proof of service quality) and productivity/quality measures to the traditional mix.	Designing attractive hotel spaces (Physical Evidence), delivering high-quality services (Productivity and Quality), and ensuring a seamless guest experience from start to finish (Process).
3R	Retention, Referrals, Relationships	A customer relationship-focused model that prioritizes retaining existing customers, gaining referrals, and building long-term relationships.	Loyalty programs for repeat guests (Retention), incentivizing guests to recommend hotels (Referrals), and creating personalized service experiences to build loyalty (Relationships).
4E	Experience, Exchange, Evangelism, Everywhere	A modern framework that emphasizes creating memorable experiences, fair value exchange, turning customers into brand advocates, and omnichannel presence.	Offering immersive local cultural experiences (Experience), providing transparent pricing (Exchange), encouraging guests to share stories on social media (Evangelism), and maintaining strong digital presence (Everywhere).

Source: formed by author based on [69-71]

🗁 T**he center of the marketing mix model in tourism should not be the "consumer" (tourist), nor the staff (as in some authors), but the tourist resource, since it is he who determines the specialization of tourism and the corresponding range of tours,**

their price, the specifics of promotional and advertising activities, sales channels and transport and logistics support.

Accordingly, depending on where this resource is located (at home or in another country) and to whom it will be offered (residents or non-residents), the specialization of the tourism product is determined – for internal consumption (domestic tourism), for external consumption (foreign tourism) or for foreign consumption.

The specificity of the resource base of tourism recognizes the peculiarities promotional and advertising activities. A distinctive feature of tourism advertising is the ability to artistically depict those tourist resources offered for sale, for example, the ocean, the beach, palm trees, famous cities and places, medieval castles and fortresses, unique natural objects, etc. Moreover, the rules of advertising allow to depict all this in advertising publications and means a little better, brighter than in reality. So, having chosen a tour of a certain specialization, paid a certain price for it, received complete information, the tourist gets to his dream vacation spot.

The Place component of the marketing-mix model in tourism means a place of rest for a tourist, that is, a place of finding and consumption of a tourist resource (destination) (figures 7.1, 7.2).
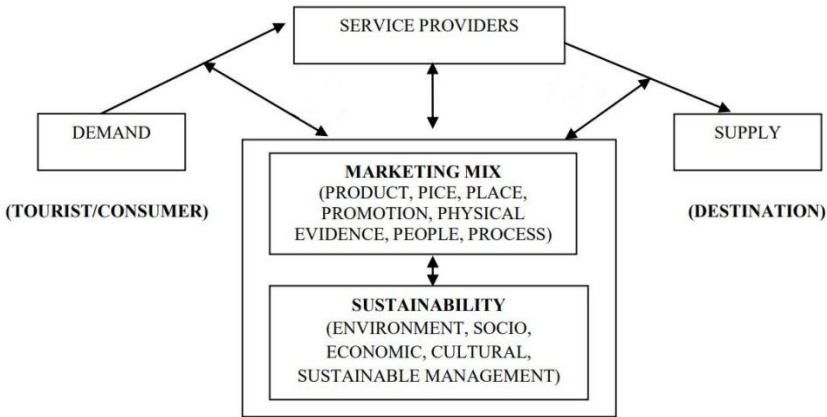

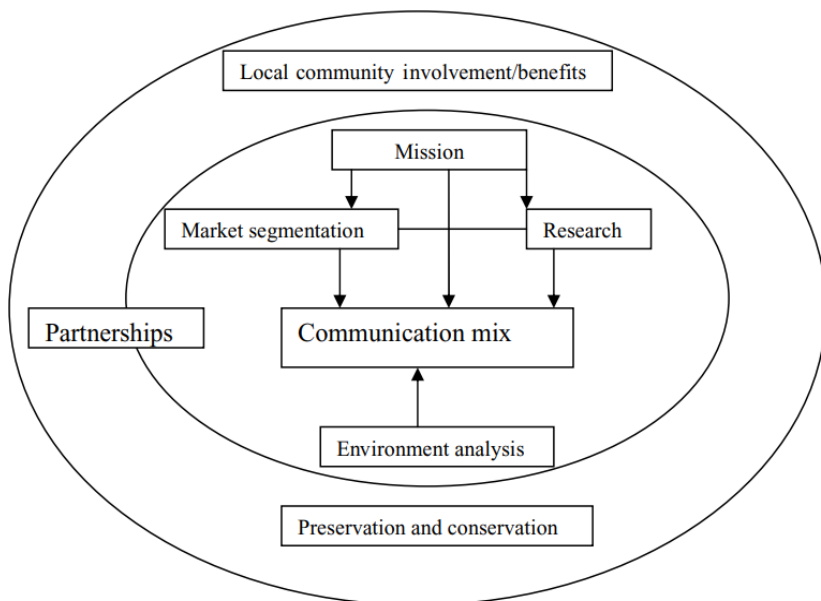*Figure 7.1 – Alternative sustainable tourism marketing concept [72]*

Figure 7.2 – Sustainable heritage tourism marketing model [73]

☝ *The functioning of marketing in tourism is considered at three levels:*

- social – a point of view from which tourism marketing should provide tourism firms and countries with marketing tools for effective activity in the market of tourist services.
- regional – tourism marketing is designed to develop tourism activities in the regions, advertise resources, encourage the population to get to know their region, and also to level the development of tourism in the regions.
- individual – tourist marketing performs the following functions: a) forms new needs of tourists; b) offers the services of a certain travel agency; c) convinces the consumer to become a regular client of the travel company.

☝ *UNWTO defines these functions in a slightly different way:*

- establish control with the client – involves convincing the

client that the proposed vacation spot with the available service and tourist resources meets his needs.

- development of the tourism industry – introduction of innovations in tourism and new services: tourism products, which, firstly, can provide new sales opportunities; secondly, it can more fully meet the needs of tourists.

- control of the provision of tourist services – analysis of the results of the travel agency's activities (and marketing activities) and verification of the extent to which these results correspond to the opportunities and development strategy of the travel agency.

The concept of tourism marketing involves taking into account not only the needs of travel agencies, but also consumers. For this purpose, the company researches the market, carries out pricing and other measures. The concept of sustainable tourism and socio-ethical marketing of sustainable tourism involves considering the interests of not only the company and the consumer, but also the society in which the travel agency operates.

➡ CASE 7.1: *examples of social and ethical marketing in the activities of Ukrainian tour operators and travel agencies.*

1. Student's travel agency chose the name "Podilski Mandry", that is, the promotion of domestic tourism destinations and dissemination of information about interesting places of Ukraine and its cultural heritage is already taking place in the name and logo.

2. Kyiv travel agency "Sky Travel" promises a 3% discount from the cost of the tour to those buyers who bring a new toy; the travel agency transfers these toys to an orphanage in Transcarpathia region.

3. Join UP! has integrated sustainability into its travel packages. The agency partners with eco-friendly accommodations and promotes environmentally conscious tours. For example, their Carpathian eco-tours emphasize preserving natural resources by collaborating with local communities to ensure minimal environmental impact. Travelers are educated on responsible tourism practices, such as reducing waste and respecting cultural heritage.

7.2 Environmental marketing strategy in resort hotels

Resort hotels can use various green marketing techniques to attract customers who value environmental awareness and responsibility. For example, a resort hotel can install energy-saving devices and systems that reduce electricity and water consumption. The hotel can also collect and recycle waste, install solar panels to generate its own electricity and use biodegradable materials in the restaurant. For the successful implementation of an ecological marketing strategy, it is also important to conduct informational work among guests. The hotel can provide information about its environmental measures and educate guests about responsible use of resources. Such an approach will not only contribute to the preservation of the environment but will also make the hotel more attractive to those guests who value ecology and a healthy lifestyle.

☝ *Environmental marketing is an important tool for resort hotels seeking to become more sustainable and environmentally responsible. However, certification by an independent third party or the state in whose territory it is located is a mandatory condition for assigning the hotel the status of "eco-friendlyl".*

EU countries have been using the EU ECOLABEL (EU Ecolabel for Tourist Accommodation) marking since 2003 when certifying accommodation facilities for compliance with environmental requirements (figure 7.3).

The first hotel to receive the eco-label in the same year in the European Union was the resort hotel "Sunwing Kallithea Resort", located on the island of Rhodes in Greece, followed by "Hotel Jardim Atlântico" on the Portuguese island of Madeira.

From that moment, there was a boom in environmentalization of accommodation facilities. This concerned both the construction of completely new hotels and the conversion of existing ones according to the requirements of eco-standards.

Figure 7.3 – Terme Sveti Martin – first hotel in Croatia awarded EU Ecolabel [74]

Today, the EU ECOLABEL is assigned to hotels, guest houses, mountain lodges, private room providers, tourist farms and campgrounds. Among the services with the EU ECOLABEL marking, accommodation establishments are the most numerous (their share is 35%), but the spread of this certificate varies widely in different countries: from 190 in Italy to 3 in Germany (Annex 6). The EU ECOLABEL marking for tourists is a guarantee of environmental friendliness, safety and quality of hotel service. With their environmental activities, modern hotels set an example and become trendsetters in the implementation of technical and technological innovations. Hotels produce independently electricity with the help of solar batteries or wind turbines, process part of the waste, ensure the accumulation of rainwater and its use for economic needs.

For example, the hotel "Heritance Kandalama" (Sri Lanka) uses for office and economic needs only papers made from elephant waste. Boarding house "Three Camel Lodge" (Mongolia) offers packing material only of natural origin. Using economic mechanisms, hotels attract tourists to save natural resources. So, the hotel "Stadhalle Boutique hotel" (Vienna, Austria), which, by the way, is recognized as a 100% ecological city hotel, gives a 10% discount to a guest who

does not use a car, and free parking spaces are always reserved for electric cars.

One of the first steps on the way to greening the hotel business was changes in construction and the introduction of green standards. The transition to green technologies in the construction and modernization of hotels in highly developed countries began in the 80s of the XX century. Leaders in the application of green technologies in construction are Singapore, Great Britain, and the UAE. International hotel chains are part of the program of introducing and promoting green technologies in the field of hospitality (fig. 7.4).
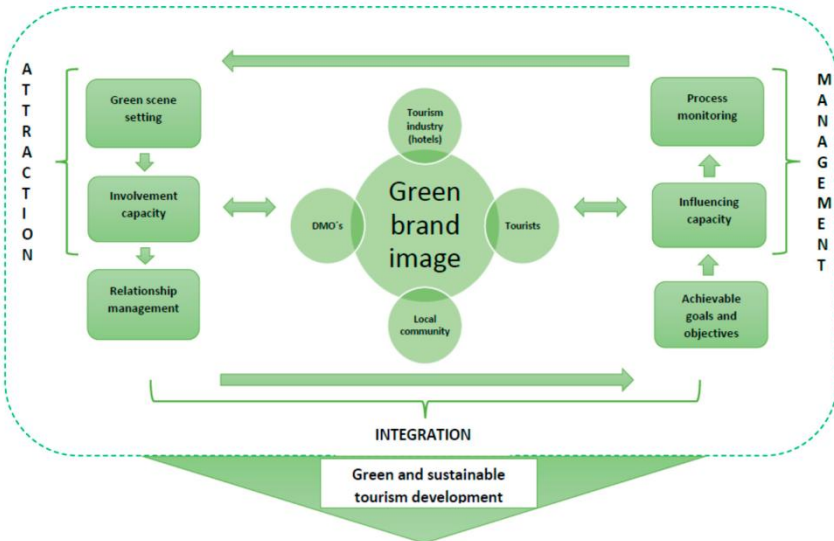

Figure 7.4 – Multi-stakeholder involvement in green brand image creation [75]

Thus, the transnational hotel chain Intercontinental Hotel Group owns the eco-hotel "Innovation Hotel", which widely uses advanced resource-saving technologies in its operations. Eco-friendly hotels also unite in networks and associations, realizing that a green brand has a

positive effect on the image and increases competitiveness: the British association "Ecolux hotels" positions itself as the "greenest" hotels of the luxury class in the world and unites 38 hotels in 21 countries; the American chain "Green Hotels Association" has 148 hotels (of which 124 are in the USA), "EcoGreen Hotel" – 34 hotels in the USA; German "Green Pearls Gmb" – 75 hotels.

Ukraine has several resort hotels that promote their environmental practices through marketing channels. "Villa Roza" hotel in the village of Polyanytsia in Prykarpattia uses ecological technologies such as solar panels and wind generators to provide electricity. The hotel also has gardens where fresh vegetables and fruits are grown, and dishes are prepared from them in the restaurant. Villa Rosa actively communicates its environmental practices through its website and social media.

"Atmosphere" in the city of Khmelnytskyi is located in a nature reserve and strives to preserve the environment. The hotel uses energy-saving technologies and collects rainwater for watering the garden and lawn. They also offer guests eco-excursions and bicycle rental. These hotels are just a few examples of resort hotels in Ukraine that actively use environmental marketing to attract guests. Ukrainian resort hotels are increasingly aware of the importance of sustainability and are taking steps to reduce their impact on the environment. Green marketing can help them attract guests who also want to relax in an ecologically clean environment and reduce their own impact on it.

✍ *Engaging employees is critical to successfully embedding sustainability into a hospitality brand. The process begins with creating a shared vision of environmental responsibility that resonates with the team. Management should communicate how eco-friendly practices align with the organization's mission and values, emphasizing their significance for the community and the environment.*

Training programs are a key step. For example, Marriott

International integrates sustainability training into its employee development curriculum, teaching staff how to reduce energy and water consumption, properly sort waste, and use eco-friendly products. Such initiatives not only build knowledge but also foster a sense of ownership among employees.

Regular team activities like "Green Challenges" can enhance engagement. For instance, employees at a boutique hotel in Lviv participated in a waste-sorting competition to see which team could recycle the most effectively over a month. The friendly competition not only raised awareness but also improved recycling habits within the property.

Recognition programs are also effective. Highlighting eco-conscious staff members as "Green Champions" during team meetings or newsletters can motivate others to follow suit. Providing small incentives, such as gift cards or paid time off, further reinforces their efforts.

By integrating employees into the eco-strategy and transparently communicating with guests and partners, a hospitality brand can position itself as a genuine advocate of sustainability, building trust and long-term success.

7.3 Sustainable satisfaction of tourist services needs: how to avoid greenwashing

Satisfying the needs of consumers of tourist services is one of the key goals and indicators of success in the field of tourism. Tourism has specific features that distinguish it not only from trade in goods, but also from other forms of trade in services. Trade in both services and goods takes place here (according to experts, the share of services in tourism is 75%, goods – 25%), as well as the special nature of consumption of tourist services and goods at the place of their production.

Maintaining and improving customer satisfaction is important for

attracting potential customers, retaining regular customers and building a positive reputation. In tourism, everything boils down to a tourist product, which is any service that satisfies certain needs of tourists and is subject to payment by them.

☞ *The tourist product has distinctive features, namely:*

• a complex of services and goods (material and immaterial components), characterized by a complex system of relationships between various components;

• the demand for tourist services is extremely elastic in relation to the level of income and prices, but largely depends on such variables as space and time;

• the consumer, as a rule, cannot see the tourist product, because its consumption is carried out at the place of provision of the tourist service;

• the offer of tourist services is characterized by inflexible production. They can be consumed only on the spot;

• tourist service consists of small details and efforts of many enterprises;

• the quality of tourist services is influenced by internal (local residents, members of the tourist group) and external factors (natural conditions, weather, tourism policy, international events).

The study of consumers of tourist services is indeed complex and requires careful preparation and a methodological approach. Consumer research is based on complete and reliable information that makes it possible to understand the needs of consumers, identify the tourist product that most fully satisfies these needs and, accordingly, is in demand, create the desired image of the tourist enterprise, develop the most effective marketing strategy and, as a result, achieve greater profits and positive attitude of the consumer.

Marketing activity can significantly influence the motivation and behavior of consumers, but only on the condition that the proposed tourist product is really a means of satisfying the needs of the

consumer (otherwise it will be a matter of manipulating consumer behavior).

With the help of tourism, the consumer tries to satisfy his needs for involvement, self-expression and knowledge. The transformation of the consumer is taking place in the direction of hedonism (orientation on the enjoyment of life), greening of recreation, the desire to learn about alternative cultures, the desire for more elite services (to be involved in the world elite). See ways in which the tourism industry can satisfy the needs of consumers (tourists) at different hierarchical levels (Table 7.2).

Table 7.2 - Methods of satisfying consumer needs

Method	Meaning
Personalized service	Take into account the individual needs and preferences of each client. To enable customers to customize their journey according to their own wishes
Quality of service	Provide high quality service from booking to post-trip feedback. Respond to customer inquiries and complaints promptly and professionally
Ensuring security	Make customer safety a priority by providing information on health insurance, vacation safety
Transparency and information	Provide customers with comprehensive and reliable travel information, including cost, routes, hotels, tours, etc.
Providing comfort	Provide comfort and convenience during travel, including comfortable accommodation
Entertainment opportunities	Offer customers a variety of entertainment and excursion programs
Loyalty and rewards	Introduce loyalty programs to reward repeat customers
Consideration of environmental issues	Take into account issues of the environmental responsibility in the organization of travel, contributing to the preservation of natural resources
Innovations and technologies	Use innovative technologies to facilitate travel and increase customer satisfaction

Source: formed by author based on [77]

Satisfied consumers (clients) become loyal and can recommend the travel company to others. Therefore, it is important to invest time and resources in improving the relationship with consumers (clients) and their satisfaction. An extremely important indicator of the establishment of relations between the tourism business and the consumers of tourist services is the provision of quality service during the entire period of travel, rest, etc.

A tourist product (service) is considered "quality" if it has certain indicators at an acceptable price. Consumers (clients) are ready to pay for receiving these services, thereby establishing an increase in demand for tourist products. Demand, closely related to the available supply, determines the market price.

📁 **Taking into account the complex conditions of doing business, tourism companies must be ready to adapt, develop risk management strategies and create a sustainable and competitive business. Tourism business acts as a unified system of production and consumption of services in time and space, necessary to meet the needs of tourists and entrepreneurship in tourism and is a combination of various types of activities designed to meet a set of needs of tourists and ensure the income of entrepreneurs.**

Strengthening the relationship between the entities of tourism activity and consumers of tourism services helps to improve the quality of services and increase customer satisfaction, which in turn contributes to a positive image and success in the tourism industry.

It is important to comply with laws and ethical standards in the field of tourism to ensure quality customer service and maintain the reputation of your business.

The rights and obligations of participants in tourist activities, which they must observe during the provision of tourist services, are set forth in Articles 24-25 of the Law of Ukraine "On Tourism". However, these are general rules and tourists should always check the local rules and requirements for the specific location they are in.

Compliance with these rules contributes to the harmonious and safe stay of tourists in places of transit and temporary stay. Obligations of citizens of Ukraine who make tourist trips abroad are regulated by the legislation of the host country and international agreements.

Transparency is fundamental when promoting eco-friendly initiatives to guests and partners. Effective communication starts at the initial touchpoint. This can include messages on the brand's website or booking platform, showcasing environmental certifications like LEED or Green Key, and explaining their relevance.

For example, Radisson Blu Hotels prominently display their eco-labels and sustainability goals online, reassuring guests that their stay supports environmental conservation. In the physical space, visual cues such as placards in rooms or interactive displays in lobbies can educate guests about green practices like towel reuse programs or solar-powered systems.

To ensure guests actively participate, personalized communication is essential. These include notes in guest welcome kits, explaining how their actions, such as minimizing water usage, contribute to sustainability. QR codes directing guests to virtual tours of the resort's green facilities, like organic gardens or renewable energy systems, make the experience more interactive.

Collaborating with partners extends the impact. Hotels can organize "Sustainable Partner Days," inviting suppliers to showcase their eco-friendly products. For example, a Kyiv-based hotel hosted a workshop with its organic food supplier, where both guests and staff could learn about sustainable farming practices. This event strengthened relationships and underscored the hotel's commitment to sustainability.

Additionally, leveraging social media amplifies the message. Sharing stories about implemented initiatives, such as installing energy-efficient lighting or supporting local reforestation projects, ensures the brand remains visible and relatable. Posts with before-and-after comparisons of waste reduction or testimonials from satisfied

eco-conscious guests can inspire loyalty among environmentally aware travelers.

However, tourism and hospitality companies often run the risk of greenwashing in their pursuit of a positive green brand.

📁 **The term "greenwashing" was first used in the 1980s by environmentalist Jay Westerveld [78]. By falsely claiming to be sustainable, businesses and destinations can attract travelers willing to pay more for eco- or socially-conscious options. This can lead to a false sense of satisfaction for travelers who believe they are making sustainable choices when, in actuality, they are contributing to environmental degradation.**

☞ *Why is it so dangerous?*

1. Greenwashing is an attempt to capitalize on the growing demand for environmentally sound products.

2. It can convey a false impression that a company or its products are environmentally conscious or friendly.

3. Critics have accused some companies of greenwashing to capitalize on the socially responsible or environmental, social, and governance (ESG) investing movement.

Tourism companies sometimes create sustainability programs that solely depend on voluntary customer participation. While these initiatives may make the company look greener, they push the burden of action only onto their guests. Raising consumer awareness is a good thing, but it should be complemented by the company's own practices and processes to mitigate its impact. Without corporate action, these customer-focused initiatives are a form of greenwashing

Man-made lagoons are a form of greenwashing because they elude travelers into thinking that they are swimming in a natural body of water when the lagoon is actually a flooded area of land that damages native species and habitats.

Many tourists are drawn to animal experiences. Many of these so-called "sanctuaries" and "eco-tours" may harm animals through

activities like forced breeding, separation from their mothers, and even physical abuse. Legitimate sanctuaries or eco-tours won't allow direct interaction with wildlife, such as petting or feeding, as their primary focus is the welfare of the animals, not human entertainment (figure 7.5).

Figure 7.5 – Different forms of greenwashing in tourism and hospitality [79]

☝ *How travelers can identify greenwashing?*

1. Phrases like "eco-friendly" or "green" may sound good on the surface but without specifics about what makes them environmentally friendly, they could be empty marketing.

2. Look for examples of sustainability activities such as using renewable energy sources, eliminating single-use plastics, or switching to cleaner modes of transport. If a company is committed to sustainability, it will have tangible actions to support its claims.

3. One of the most common indicators of greenwashing is the use of misleading or suggestive visuals. This can include green color palettes or images of trees or natural environments without context or evidence to support their claims.

4. You might notice companies boasting certification labels to back up their sustainability claims. However, not all of these labels hold the same level of credibility.

Questions and tests for Chapter 7

1. What are the differences in marketing mix in tourism?
2. What are the functions of marketing in sustainable tourism?
3. Describe the features of social and ethical marketing using examples from tourism.
4. What certification requirements exist for ecological resort hotels?
5. Describe several ways of balanced satisfaction of the needs of consumers of hospitality services.
6. What are the marketing channels for the promotion of eco-travel?

Test 7

1. *What is a key component of the marketing mix in sustainable tourism?*
   a) high advertising budgets.
   b) focus on customer retention only.
   c) emphasis on environmentally conscious product development.
   d) price competition with non-sustainable services.
2. *Which strategy is most effective for promoting sustainable tourism?*
   a) aggressive sales tactics targeting mass audiences.
   b) offering eco-friendly services and transparent communication.
   c) providing discounts without highlighting environmental benefits.
   d) avoiding customer education to reduce marketing costs.
3. *What is the primary goal of environmental marketing in resort hotels?*
   a) to minimize operating costs.
   b) to showcase luxury amenities.
   c) to enhance guest satisfaction through eco-friendly practices.
   d) to attract high-spending clientele only.
4. *How can a resort hotel avoid greenwashing?*
   a) overstating minor environmental achievements.

b) backing claims with third-party certifications.

c) using vague language like "green" without details.

d) focusing solely on marketing campaigns.

5. *What is an example of a sustainable marketing initiative?*

a) a hotel offering reusable water bottles for guest use.

b) promoting daily towel replacement.

c) providing free plastic bags for laundry services.

d) advertising based on seasonal discounts only.

6. *Which of the following could harm a hotel's environmental marketing credibility?*

a) collaboration with certified sustainable suppliers.

b) misleading claims about energy efficiency.

c) installing renewable energy sources.

7. *What distinguishes greenwashing from authentic ecomarketing?*

a) highlighting certifications vs. vague claims.

b) focusing on aesthetics rather than sustainability.

c) prioritizing profits over environmental impact.

d) offering discounts to eco-conscious travelers.

8. *How does a sustainable marketing mix benefit the tourism industry?*

a) by reducing competition.

b) by increasing customer loyalty through eco-friendly practices.

c) by limiting customer choice to avoid confusion.

d) by focusing exclusively on affluent travelers.

9. *What is an effective method to educate customers about sustainability in hotels?*

a) displaying certifications and offering eco-tours of facilities.

b) avoiding detailed explanations to prevent confusion.

c) emphasizing luxury and comfort over sustainability.

d) using green imagery without factual support.

CHAPTER 8
Greening services in tourist, recreational, hotel and restaurant facilities

Questions
8.1 Global trends in consumer behavior in tourism and hospitality
8.2 Regional environmental strategies for HoReCa
8.3 Practical environmental policy: from implementation to monitoring

1. Global trends in consumer behavior in tourism and hospitality

In today's world, the hospitality and restaurant industries face numerous global challenges, ranging from environmental changes to shifts in consumer behavior. Climate change plays a significant role in the modern hospitality and restaurant business, threatening many traditional business models within the industry. Global warming, changes in precipitation patterns, and extreme weather events all impact the business processes of the hospitality and restaurant sectors.

To adapt to these challenges, hotels and restaurants are compelled to adopt more environmentally sustainable practices. One of the approaches to achieving this goal is the use of energy-efficient technologies that reduce energy and water consumption, lower carbon dioxide emissions, and minimize other adverse environmental impacts.

Additionally, hotels and restaurants actively work to reduce waste by implementing recycling programs, reusing materials, and eliminating excess. A well-thought-out waste management approach not only reduces the negative environmental impact but also helps save resources and enhances the enterprise's reputation among consumers.

Shifts in consumer preferences are characterized by several trends. First, integrated marketing communications have come to the

forefront, enabling companies to more effectively meet consumer needs and expectations, while maintaining and growing their brands. This process includes identifying factors that influence target group behavior, determining the product's or brand's position within consumer preferences, and developing promotion strategies aimed at aligning with consumer ideals.

Second, changes in consumer preferences are also reflected in the technology market, such as the smartphone market. Consumer demand for devices drives supply, stimulating technological advancement and innovation. With the increasing computerization of society, the growth of internet technologies, and greater population mobility, consumers are increasingly focused on products that meet their needs for quick and convenient communication, access to information, and various online services.

Researchers and experts in the hospitality and restaurant industry increasingly focus on the potential development of these sectors within the framework of the "smart cities" concept. The main idea involves integrating advanced technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), and Machine Learning (ML) to create innovative solutions aimed at improving service quality and guest satisfaction.

Applying the "smart cities" concept in the hospitality and restaurant industries entails using modern technologies to optimize operations, enhance customer interactions, and boost enterprise efficiency. For instance, the Internet of Things can be used to create "smart" rooms or home systems that automatically respond to guest needs by adjusting comfort settings and providing personalized services.

Artificial Intelligence enables the analysis of customer behavior, preferences, and requests, helping businesses offer more precisely tailored services and products. With Machine Learning, companies can forecast demand, optimize inventory and service processes, increasing efficiency and reducing costs.

Thus, integrating advanced technologies into hospitality and restaurant complexes can lead to the creation of a unique and competitive product capable of meeting the needs of modern clients who demand innovative solutions and high service levels. This opens new horizons for the industry's development and allows companies to adapt successfully to the demands of the modern market (fig. 8.1).

Figure 8.1 – Latest consumer's behavior trends in tourism and hospitality [80]

The growing value of a healthy lifestyle and environmental awareness today is one of the determining factors affecting the functioning and development of medical and recreational institutions, including sanatorium complexes. Consumer trends in 2021 are the confirmation that the modern consumer is old but does not accept their age; striving for simplicity, emphasizing individuality; tech-savvy. But, in addition, the consumer is concerned about preventive measures against disease and discomfort and is also characterized by an increase in responsible behavior towards the environment, striving to reduce plastic waste, concerning about animal welfare, the use of animal

products in the food and cosmetic industries.

Separately, in relation to the balanced strategy of the development of resort hotels, the necessity of following the principle of ecological sensitivity should be noted. This principle is aimed at the balanced use of natural resort resources, taking into account the socio-economic potential of the locality of the settlement, in the resort zone of which a hotel of this specialization is planned, as well as methods of contact of the hotel building with the environment, means of video ecology when creating its individual image, and the introduction of energy-efficient technologies (solar panels, green roofs, etc.).

A characteristic example of the reproduction of this principle is the resort hotel "Sotelia" in the resort of Terme Olimia, Slovenia (fig. 8.2), which is organically integrated into the environment, taking into account the complex topography of the area, as well as the characteristics of neighboring existing hotels. Natural materials are used in the decoration of the facades and in the interior; the building is equipped with a green roof.

Figure 8.2 – Resort hotel "Sotelia", Slovenia [81]

Thus, we can talk about such a merger of trends, which is characterized by an integrated approach of a modern man to a healthy lifestyle and the growth of environmental consciousness. It should also be emphasized that quality issues do not fade into the background, still being the dominant in the formation of consumer loyalty. In the age structure of the population, 32% or 13.42 million people are between 30 and 50 years old [82].

Consumers of this category are used to decent service and are not always ready for the strict schedule of sanatoriums. In addition, they often count on special entertainment programs for their children on vacation/

The modern consumer makes increased demands on the quality of services: consumer value, degree of usefulness for the body, level of service, comfort of stay, ecological cleanliness of the territory, ergonomic properties, timeliness of the service, friendliness and competence of the staff, and others. Thus, the emphasis is shifting from purely medical and recreational conditions to the conditions for their provision.

📂 **The goal of greening is to assist the HoReCa in determining its environmental policy, setting priorities for the implementation of measures, including preventive ones, aimed at complying with established environmental requirements, as well as creating a mechanism for implementing effective environmental management and ensuring sustainable development, based on current legislation, internal rules, regulations, standards and resources that can be used in the environmental activities of the enterprise.**

At the same time, it is necessary to structure the directions and types of environmental protection activities of the enterprise, which are regulated by norms and standards, taking into account the following aspects:

- firstly, legislative acts and objective requirements established

by the state and local authorities;

- secondly, internal regulation of environmental protection activities based on the requirements of industrial safety, labor protection and service safety;

- thirdly, it should be remembered that, usually, all environmental protection measures are costly and do not directly increase profitability, but often reduce it.

The growing demand for wellness services over the past few years has allowed the active development of the SPA and wellness market. Sanatoriums, which offer a wider list of wellness procedures, became the main competitor on the market. SPA-complexes are focused on the number of consumers. Therefore, SPAs in large cities and places of active tourism are the most popular.

All environmental protection measures must be unconditionally provided with the enterprises own and borrowed resources. Moreover, the size of these resources should not worsen the quality of service, reduce efficiency or the volume of services sold.

Such contradictions between the market economy and the environmental activities of the enterprise are resolved all over the world with the help of compromises, state (regulatory) restrictions. On the other hand, through the use of incentives for the development of services that society urgently needs, for example, in sanatorium and resort services.

✋ *A feature of the current stage of tourist activities is that greening here should be considered from the standpoint of the external and internal environment.*

And if the external environmental factors and functions are sufficiently transparent and obvious - environmental protection, rational use of natural recreational resources, the introduction of the principles of sustainable development of the territory, taking into account the anthropogenic load, etc., then internal ecology is not so obvious and is not a priority for HoReCa.

8.2. Regional environmental strategies for HoReCa

Regional strategies play a key role in the development and success of the hospitality industry across various regions. Considering the unique characteristics of each area, along with the specifics of demand and competition, forming an effective strategy becomes an integral part of business planning for hospitality enterprises. Adapting approaches to management, marketing, service delivery, and the development of the region's cultural and economic potential enables hospitality businesses to effectively engage with local communities, attract tourists, and create unique experiences for visitors.

In this context, designing and implementing regional strategies present a core challenge for hospitality companies striving for sustainable growth and successful market positioning in the tourism and hospitality sectors.

Regional strategies for the hospitality industry involve analyzing local legislation regulating tourism activities, as well as the specifics of local infrastructure and attractions. Adapting services and offerings to align with regional characteristics helps create unique competitive advantages and appeal to tourists. Moreover, incorporating cultural, linguistic, and religious features of the region into business practices fosters intercultural interaction and enhances customer satisfaction.

An optimal location selection, understanding the needs of the target audience, and strategic partnerships with local organizations and travel agencies are essential for the successful implementation of regional strategies. Participation in the development of tourism infrastructure and cultural events also contributes to building a positive image and strengthening partnerships with local authorities and communities.

It can be confidently stated that regional strategies not only strengthen a company's position in the local market but also stimulate the sustainable development of the region's tourism potential. Understanding and considering the unique characteristics of a region

allow hospitality enterprises to adapt their strategies and offerings effectively, creating a sought-after product in the local tourism industry.

The shared economy, which includes platforms like Airbnb and Uber, enables private individuals to provide services via second-generation internet platforms. As you can see from fig. 8.3, the home-sharing segment has expanded from 10% to 14% of booking value between 2017 and 2023, despite fluctuations in profitability over the years. Recently, home sharing has established itself as more than just an alternative to traditional hotels. Airbnb's recent "Get an Airbnb" advertising campaign highlighted the unique features of home sharing, focusing on the spaciousness and privacy that renting a house can provide.
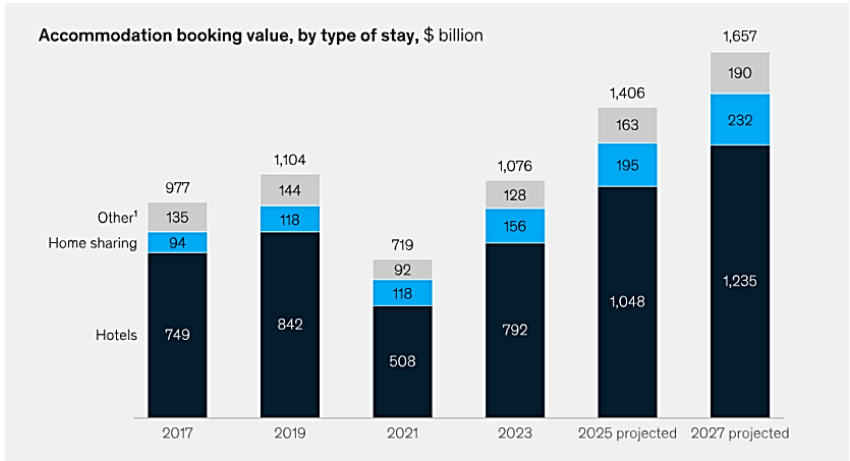
1 – resorts, timeshares, etc.

Figure 8.3 – The growth of home-sharing segment of accommodation, $ billion [83]

Additionally, home-sharing platforms have emerged as a crucial distribution channel for smaller hotels, offering greater control over inventory and lower fees compared to other booking options. In 2019,

Airbnb reported a remarkable 152% growth in the number of rooms listed on its platform from boutique hotels, bed and breakfasts, and resorts [83].

This form of consumption, which does not involve the transfer of ownership rights, has become particularly relevant during economic downturns, as households prefer renting or accessing services at below-market rates. This trend allows the hospitality industry to attract clients at the regional level who prefer unconventional solutions and flexible accommodation options.

Understanding seasonal variations allows hotels to adjust their offerings, form pricing strategies, and plan events and promotions aimed at attracting guests during the off-season or low season. By categorizing seasons into high, low, super-high, and super-low periods, hospitality enterprises can maximize efficiency and profitability throughout the year.

Global changes in tourism demand, competition, and technology require continuous adaptation of regional strategies. The emergence of new tourism trends, shifts in traveler preferences, and increased interest in specific types of leisure activities may require a revision of the service offerings. Regional strategies must be tailored to meet these new demands to satisfy evolving tourist needs.

Global changes may lead to the arrival of new competitors in the hospitality market or adjustments in the strategies of existing players. Companies need to consistently monitor competitors and remain flexible in defining their strategies in response to changing conditions.

With growing attention to environmental and social issues, hospitality companies must prioritize sustainable development and corporate social responsibility. Revising regional strategies with these factors in mind can reduce environmental impact and attract a target audience that increasingly values these principles.

Regional strategies in the hospitality industry are essential for adapting to global changes, attracting and retaining clients, enhancing competitiveness, and fostering business resilience. By continuously

analyzing external changes and assessing a company's readiness to respond, businesses can effectively navigate challenges and make informed strategic decisions.

✋ *TOP practical eco-initiatives for hotels in Dnipro region*

1. Processing of solid waste.

Unbelievable, but the fact is that sorting is the first step on the way to sustainability. Why is this still not being done in Ukraine? In developed countries, this is already a normal practice not only in enterprises, but also in everyday life. The answer is that there are not enough enterprises in Ukraine that can recycle paper, plastic, glass, etc. However, the more quality sorted material there is, the sooner suitable enterprises will appear that will not only take care of the environment, but also bring profit to the owners. It is worth recalling the shocking numbers - ordinary office paper decomposes within two years, tin cans - 10 years, foil and batteries - more than 100 years, plastic bottles - 180-200 years, aluminum cans - 500 years and glass for 1000 years. These numbers are already a good reason to sort, and hotels**,** as large complexes through which thousands of people pass each year**,** have great leverage. One of the trending initiatives is the replacement of plastic room key cards with paper and wooden counterparts, which are actually not only "green" but also aesthetically pleasing.

2. Environmentally friendly cosmetic and chemical agents.

Many hotels in Ukraine equip the rooms with cosmetic products, and also use many chemical products for cleaning and laundry. Therefore, hotels have the right to choose high-quality ecological cosmetic products for their guests. There are many brands that do not use sulfates, which not only pollute water, but also have a negative effect on people's skin. Ideally, you should also pay attention to whether products are tested on animals. In order to reduce the use of washing powders and water, many hotels in Ukraine already place information cards so that guests can regulate the need to change bed

linen and towels. In this, properly built communication with the guest is the real key to success.

3. Responsible attitude to food quality and its proper disposal.

One of the elements of sustainable development is the support of local brands, which in the hotel industry is reflected in cooperation with food and beverage suppliers. In general, the food industry in Ukraine is developed and you can buy almost any product locally, except for certain delicacies (red and black caviar, seafood, some types of meat). But in this point, it is worth emphasizing the correct disposal. Composting is not widespread in Ukraine, but in hotels and restaurants, it is one of the best investments in the processing of organic waste. Compost tanks come in various sizes, are airtight and provide processing of organic waste of plant and animal origin. Paper napkins can also be recycled along with organics. The price in Ukraine is from 2,000 hryvnas and above, depending on the manufacturer, size, etc.

4. Energy saving technologies.

Energy-saving technologies are also widely available in Ukraine, so their implementation is quite acceptable. First, automatically turning on and off the lights in the premises not only reduces the electricity bill, but is also a manifestation of careful use of resources. Also, the installation of solar panels, especially in the southern regions of the country, has long been an economically justified investment.

5. Quests' attitude towards eco-initiatives

Without the support of guests, any hotel will never be 100% sustainable. Communication and interaction of the staff is a key point in the work of any hotel. Currently, there is a widespread practice of the "paperless guest" in the world - reducing the use of paper per guest by implementing electronic signatures on registration cards, sending invoices to e-mail instead of a printed copy and providing all the necessary information through mobile applications, websites and e-mail. The attitude of guests to food consumption is changing - at "all-inclusive" resorts they actively promote taking as much food as

you can really eat. No, not because it's a pity or because the hotel wants to save money, it's just hard to imagine how much waste remains after a 200-room buffet hotel. Sometimes this figure reaches 500 kg of organic waste per day. In addition, hotels are inventing new features to provide guests with clean water - coolers on the floors, refillable glass bottles, etc. The main thing is to be creative and meet the requirements of your customers.

☝ *Regional strategies are crucial for the successful development of the restaurant business in the context of diverse market segments and local specificities. Each region has unique characteristics, cultural features, consumer preferences, and a competitive environment, requiring restaurant owners to be flexible and adaptive.*

An effective regional strategy includes market analysis, understanding the needs and preferences of the target audience in a specific region, and adapting menus, services, and marketing approaches to these features. It is important to consider not only local culinary traditions and preferences but also socio-cultural aspects, economic factors, seasonal trends, and other factors influencing supply and demand.

Special attention should be given to aspects such as location selection, pricing, menu assortment, quality of service, marketing campaigns, and collaboration with local suppliers. The development and successful implementation of regional strategies allow restaurants to strengthen their market positions, attract more customers, and increase visitor satisfaction.

In the ever-changing gastronomic industry and growing competition, having a clear and effective regional strategy becomes a critical success factor for restaurant enterprises. It enables businesses to stand out from competitors, attract new customers, and retain a loyal audience.

In today's world, the restaurant business has become more dynamic and competitive, emphasizing the importance of developing and

implementing national and local strategies for the successful operation of establishments. Regional strategies can also include partnerships with local organizations and communities, participation in events and festivals, and active promotion of the brand at the local level.

When developing regional strategies, restaurants need to consider differences in consumer needs and preferences, as well as the specifics of the competitive environment in each region. Awareness of local characteristics and adapting to them allows for offering more relevant and appealing services, which helps attract and retain customers (see table 8.1).

Ultimately, the successful implementation of regional strategies allows restaurant enterprises to strengthen their market positions, stand out among competitors, and build a loyal customer base. Adapting to local conditions and needs, applying innovative business approaches, and continuous improvement enable restaurants not only to survive in the modern market but also to thrive and achieve long-term success.

Table 8.1 - Options to stimulate local restaurant's visibility and revenue

Strategy	Details	Tips for Implementation
1. Improve Your Google Business Profile	A complete profile makes customers 70% more likely to visit your restaurant. Include accurate details, local keywords, and high-quality photos.	- Claim your profile on Google. - Update name, address, phone, and website consistently. - Post updated photos, videos, and hours, including seasonal changes.
2. Partner with Other Businesses	Collaborate with local businesses to create joint promotions or events that appeal to shared customer bases.	- Partner with complementary businesses (e.g., a coffee roaster with a bakery). - Highlight these partnerships in your marketing materials for added exposure.

3. Run Targeted Ads	Use geo-targeted ads on platforms like Google and Facebook to focus on potential customers within a specific radius of your restaurant.	- Set location parameters for ads. - Schedule ads during peak search times (e.g., lunch hours). - Conduct keyword research for relevant cuisine terms.
4. Host Special Events	Organize trivia nights, live music00, or holiday-themed events to attract new and repeat customers while creating a memorable dining experience.	- Offer food and drink specials during events. - Host events regularly (weekly or monthly). - Promote events on social media and through email campaigns.
5. Target Local Keywords	Use location-specific keywords in your website, social media posts, and meta descriptions to improve your local SEO and attract nearby diners.	- Research keywords like "best [dish] in [city]." - Incorporate them across your homepage, menu, and blogs. - Use location-based hashtags on social media.
6. Get Listed on Local Directories	Increase visibility by claiming and updating profiles on Yelp, TripAdvisor, and other platforms.	- Ensure all details are accurate. - Encourage satisfied customers to leave positive reviews. - Respond to feedback promptly and courteously.
7. Join Food Festivals/Markets	Showcase your dishes at local events, gaining exposure among food enthusiasts and building your customer base.	- Choose events aligned with your cuisine. - Offer samples and coupons. - Highlight your best dishes to create a lasting impression.

Source: formed by author based on [84-86]

An effective regional strategy can also help restaurants improve operational efficiency, optimize expenses, and increase business

profitability. Data analysis, customer feedback, and insights into local competition enable businesses to identify their strengths and weaknesses and uncover new growth and development opportunities.

8.3 Practical environmental policy: from implementation to monitoring

Environmental policy in the modern hotel industry is a vital component for ensuring sustainable development, creating competitive advantages, and improving brand image. Developing and implementing such a policy requires a systematic approach, encompassing several consecutive stages, involving various stakeholders, and clearly formulating objectives.

Let us explore this process using an example of a Ukrainian hotel that successfully executed environmental initiatives (table 8.2).

Table 8.2 – Environmental policy on the example of "Optima Collection Dnipro"

Stage	Description	Example Actions
1. Current State Analysis	Conduct an environmental audit to evaluate resource consumption (water, energy, etc.) ; waste generation (solid, food, hazardous) ; usage of single-use plastics, paper, chemicals	Identified high energy consumption for lighting. Significant use of single-use plastic water bottles in rooms.
2. Setting Goals and Key Directions	Define long-term and short-term goals based on the audit.	Reducing energy consumption by 20% in two years. Eliminating single-use plastics. Install a rainwater collection system for irrigation. Switch to energy-efficient lighting.

3. Action Plan and Budget Approval	Develop a detailed plan, specifying measures, timelines, and required resources.	Install LED lighting within 3 months. Replace plastic bottles with reusable containers in 1 month. Staff training in 2 months.
4. Staff Training	Organize training sessions to familiarize staff with new ecological standards and practices.	Conducted initial training sessions to ensure staff participation in eco-friendly initiatives.
5. Implemen-tation of Measures	Execute the approved plan, ensuring tasks are carried out in sequence and on schedule.	Began installing energy-efficient lighting and replacing plastic water bottles as planned.
6. Monitoring and Effectiveness Evaluation	Monitor and assess results post-implementation. Adjust future strategies based on outcomes.	Reduced plastic waste by 70% in three months. Cut energy costs by 12% after switching to LED lighting.

Source: formed by author based on [87]

Execution framework
- Conducting an environmental audit
- Identifying policy directions
- Developing and approving an action plan
- Engaging and training personnel
- Executing measures
- Monitoring and adjusting strategies

Each stage assigns responsibilities to specific roles:
- Hotel Management: approves budgets and goals
- Environmental Program Manager: coordinates and develops policies
- Technical Staff: implements technical solutions
- Operational Staff: adopts daily practices

Tasks for each stage
- Analysis: gather data on current operations
- Goal Setting: align priorities across departments

- Training: develop materials and conduct sessions
- Implementation: ensure resources and execute plans
- Monitoring: evaluate effectiveness and prepare reports

Post-implementation results

- Resource conservation
- Enhanced environmental awareness among staff and guests
- Increased appeal to eco-conscious clients

Developing a hotel environmental policy is a complex process that requires analysis, planning, staff training and constant monitoring. Thanks to these measures, the hotel not only contributes to environmental conservation, but also receives significant financial and image benefits. Investments in environmental initiatives are becoming an integral part of modern business, in particular in the hospitality sector. Hotels are increasingly implementing measures that reduce environmental impact while optimizing costs. However, for the successful implementation of such solutions, it is important to clearly calculate the costs and determine the period over which the investment will pay off.

The process of calculating and assessing the payback of environmental initiatives consists of several stages, each of which requires detailed analysis and strategic planning.

First, you need to consider all aspects that affect the final cost of the project. This list includes costs for purchasing equipment, paying labor, implementing changes, training staff and supporting the implemented measures.

For example, installing solar panels in a hotel requires not only the cost of the equipment itself, but also installation, maintenance, and possible electrical upgrades. In addition, additional costs should be considered, such as licensing or certification of the project, if required by law.

To calculate the payback, you need to determine how much money the hotel will save by implementing the initiative. This could be in

terms of reduced electricity or water costs, or a reduction in the amount of waste that needs to be disposed of.

For example, if a hotel is switching to LED lighting, you need to determine the difference in energy consumption between traditional lamps and LEDs, as well as the cost per kilowatt-hour in your area. Similarly, when installing a rainwater harvesting system for technical purposes (e.g. lawn irrigation), the calculation of savings is based on the amount of water saved and its cost.

An important aspect is the assessment of indirect benefits. Environmental policies can help attract new guests, especially among environmentally conscious audiences. In addition, the hotel's reputation is enhanced, which can contribute to increased profits in the long term.

These benefits are more difficult to quantify, but they can significantly impact the final payback estimate. For example, hotels that receive LEED or Green Key certifications attract tourists looking for environmentally friendly vacation destinations.

The acceptable payback period for green solutions depends on the type of initiative and the specifics of the business. In the hospitality industry, a period of 3 to 5 years is considered standard. Initiatives with a shorter payback period usually focus on simple technical solutions, such as installing energy-efficient light bulbs, while complex systems, such as solar panels, can pay back more quickly.

When calculating the payback, you should consider risks that could affect savings or increase costs. These could include fluctuations in energy prices, changes in legislation, or the need for additional repairs or upgrades. Assessing risks will help you make realistic forecasts and minimize potential losses.

For example, if a hotel is located in a region with frequent power outages, an investment in an autonomous power supply system can pay off faster by reducing the cost of diesel generators.

Estimating the costs and payback of environmental initiatives requires careful analysis and a strategic approach. An acceptable

payback period depends on the scale of the project and the type of investment, but for most decisions in the hotel business it varies from 3 to 5 years. Taking into account resource savings, additional benefits and risks allows for the effective implementation of an environmental policy, which becomes not only financially profitable, but also contributes to the sustainable development of the business (fig. 8.4).
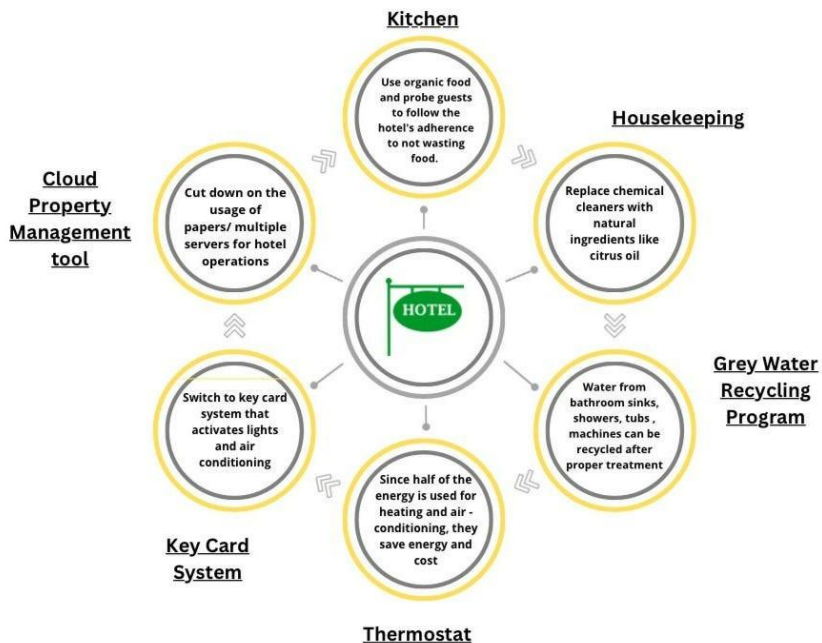

Figure 8.4 – Examples of the initiatives that are more conscious towards the environment, energy resources and economies [88]

Evaluating and monitoring an environmental policy is an important stage in ensuring its effectiveness and achieving its goals. This allows hospitality establishments to assess the impact of the implemented initiatives, identify areas for improvement and maintain the trust of guests and partners. Successful implementation of an environmental

policy requires the use of specific assessment methods, indicators, reporting and error analysis.

The evaluation of environmental policies in hospitality establishments is based on quantitative and qualitative analysis of results. Three key approaches are used for this. The first is to compare initial indicators (for example, the level of resource consumption) with the results obtained after the implementation of measures. The second approach is based on economic analysis, which assesses the achieved cost savings and the ratio of investment to the benefits received. The third approach is focused on feedback from guests and staff, which allows to assess the social impact. For example, if a hotel has implemented a policy to reduce the use of single-use plastic, the evaluation may include the amount of money saved on the purchase of materials, the reduction of plastic waste and an analysis of guest feedback on the initiative [89].

Environmental indicators are the basis for objective assessment of policy results. They cover various aspects of the institution's activities, in particular energy efficiency, water consumption, waste volume, use of environmentally friendly materials. Such indicators are divided into quantitative (for example, the amount of energy consumed in kilowatts) and qualitative (for example, the level of staff awareness of environmental practices).

Baseline indicators and target values are set for each indicator. For example, a hotel may aim to reduce water consumption by 20% in two years. Regular monitoring of these indicators helps to track progress and determine the effectiveness of the implemented measures.

The use of environmental indicators also allows to compare results between different institutions or branches of a hotel chain, to identify successful practices and adapt them for other facilities.

Regular reporting and auditing are key tools for monitoring environmental policy. Reporting ensures transparency of activities demonstrates achieved results and helps to maintain the interest of guests and partners in environmental initiatives. The audit, in turn,

allows you to assess the compliance of the hotel's activities with established standards and identify potential shortcomings.

For example, a hotel can use reporting tools such as regular publications of environmental reports containing information on resource consumption, the amount of reduced waste, and energy savings results. Reports can also include certifications or recognition from third-party organizations, such as Green Key or LEED, confirming compliance with international environmental standards.

Typical mistakes in the implementation and monitoring of environmental policies are insufficient analysis of initial data, ineffective selection of indicators, lack of staff training, or failure to take into account guest feedback. In addition, one of the most common problems is insufficient control over the implementation of measures, which can lead to their formality without real changes.

☝ *To avoid mistakes in the implementation and monitoring of environmental policies, it is important to adhere to the following principles [90]:*

1) a thorough initial analysis should be carried out to identify current problems and priorities;

2) it is necessary to involve all employees in the training process, because the success of the implemented measures depends on their awareness and support;

3) the results obtained should be constantly analyzed and the strategy should be promptly adjusted.

Assessment and monitoring of environmental policy in hospitality establishments is a complex but extremely important process. The effectiveness of this process depends on the use of modern assessment methods, clear definition of environmental indicators, regular reporting and timely correction of errors. The right approach allows you to achieve real changes that have a positive impact on both the environment and the reputation and economic efficiency of the institution.

Questions and tests for Chapter 8

1. What changes have occurred in the structure of demand for hospitality services during the last decade?

2. What trend in hospitality, in your opinion, relates to the world trend regarding the dilution of the importance of health improvement and greening?

3. Describe the structure and state of the tourist-recreational and hotel-restaurant sphere of the Dnipro region.

4. What is the specialization of the tourist-recreational and hotel-restaurant complex of the Dnipro region?

5. What problems exist in the material and technical support of the tourist and recreational complex of Dnipro region?

6. What are the strategic priorities for the development of tourism and recreation in the region and in Ukraine?

Test 8

1. What is a significant global trend in consumer behavior in tourism and hospitality?

    a) focus on luxury over sustainability.

    b) increased demand for eco-friendly services.

    c) reduced interest in cultural experiences.

    d) preference for long-haul destinations.

2. Which of the following is NOT part of regional environmental strategies for HoReCa?

    a) promoting local food sourcing.

    b) reducing energy and water consumption.

    c) disregarding waste management practices.

    d) implementing renewable energy systems.

3. Which consumer behavior aligns with sustainability in the hospitality industry?

    a) preference for disposable products.

    b) choice of accommodations with green certifications.

c) ignoring the environmental impact of travel.

d) opting for non-renewable energy sources.

4. *A key feature of a successful regional environmental strategy is:*

a) reliance on imported resources.

b) collaboration with local communities.

c) using outdated energy systems.

d) ignoring renewable energy.

5. *What is a core element of greening recreational facilities?*

a) expanding infrastructure without planning.

b) using eco-friendly materials and technologies.

c) eliminating community involvement in planning.

d) increasing greenhouse gas emissions.

6. *What does implementing renewable energy in the HoReCa sector achieve?*

a) Higher operational costs.

b) Reduced carbon footprint.

c) Decreased interest from consumers.

d) Reliance on fossil fuels.

7. *How can businesses in the hospitality sector ensure sustainability in their operations?*

a) avoid investing in staff training programs.

b) focus solely on profit without considering environmental impacts.

c) develop comprehensive waste reduction plans.

d) ignore environmental policies in decision-making.

8. *What is the primary goal of practical environmental policies in tourism and hospitality?*

a) maximizing immediate profit.

b) reducing operational costs only.

c) supporting sustainable practices and monitoring them.

d) eliminating all traditional operational methods.

ABBREVIATIONS

BREEAM – Building Research Establishment Environmental Assessment Method

CSR – corporate social responsibility

EIA – environmental impact assessment

EMS – environmental management system

ESG – environmental, social and corporate governance criteria in investment decisions and investor advocacy

GSTC – Global Sustainable Tourism Council

HoReCa – Hotel, Restaurant, Café

ISO – International Organization for Standardization

LEED – Leadership in Energy and Environmental Design

PDCA – Plan-Do-Check-Act model

SDG – Sustainable Development Goals

SEA – strategic ecological assessment

SEM – simplified environmental management

SME – small and medium enterprises

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Table A1 – Problems of applying the principles of circularity

Challenge/ Problem	Description	Implications
Lack of uniform regulations	Lack of uniform standards and regulations governing the implementation of circular economy in different European countries.	Complications for multinational enterprises, differences in approaches to waste processing and disposal.
High initial investment costs	Many businesses face high costs for implementing sustainable technologies and upgrading infrastructure.	Companies may avoid investing in circular solutions, choosing short-term benefits from the linear economy.
Insufficient infrastructure	Insufficient number of enterprises for waste processing and resource recovery, especially in Eastern European countries.	The increase in the amount of waste and dependence on landfills slows down the transition to a circular economy.
Limited consumer awareness	Many consumers are not aware of the benefits of circular products, so the demand for sustainable products remains low.	Limited incentives for businesses to invest in circular models, increasing consumption of non-ecological products.
Technological gaps	Not all countries and regions can access advanced technologies to implement effective circular processes.	Uneven development of the circular economy, between Western and Eastern European countries.

| Challenge/ Problem	Description	Implications
Cultural and behavioral resistance	Some companies and consumers are reluctant to change habits or approaches because of conservative cultural attitudes or mistrust of new economic models.	Obstacles to mass implementation of circular practices, especially in traditional sectors of the economy.
Regulatory and policy gaps	Some countries do not have clear policies or strategies to encourage businesses and citizens to implement circular solutions.	Lack of incentives for developing the circular economy market and a decrease in innovative activity in this area.

Source: formed by authors
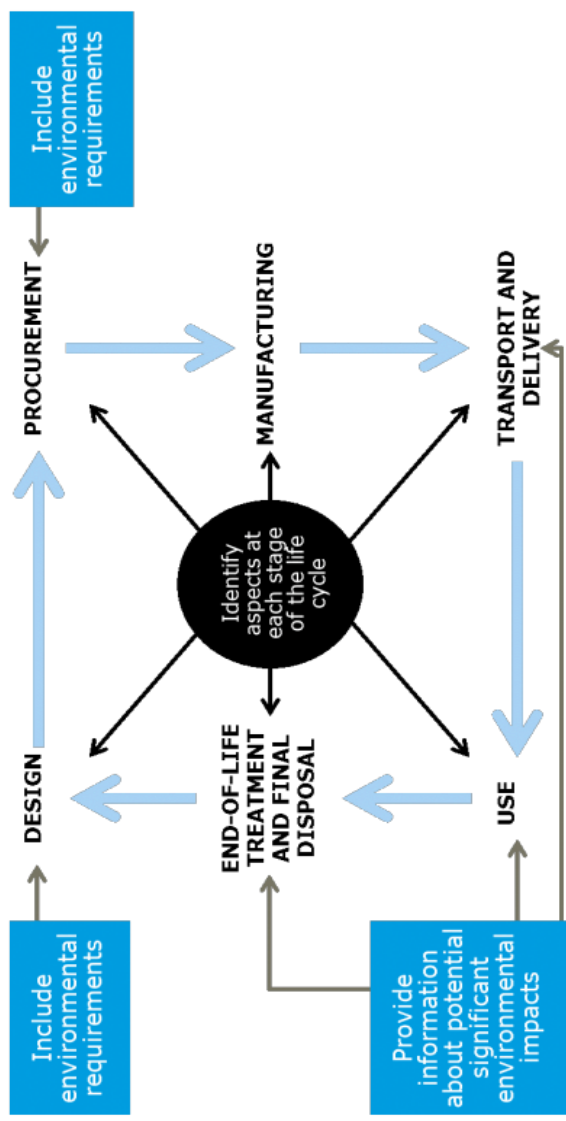
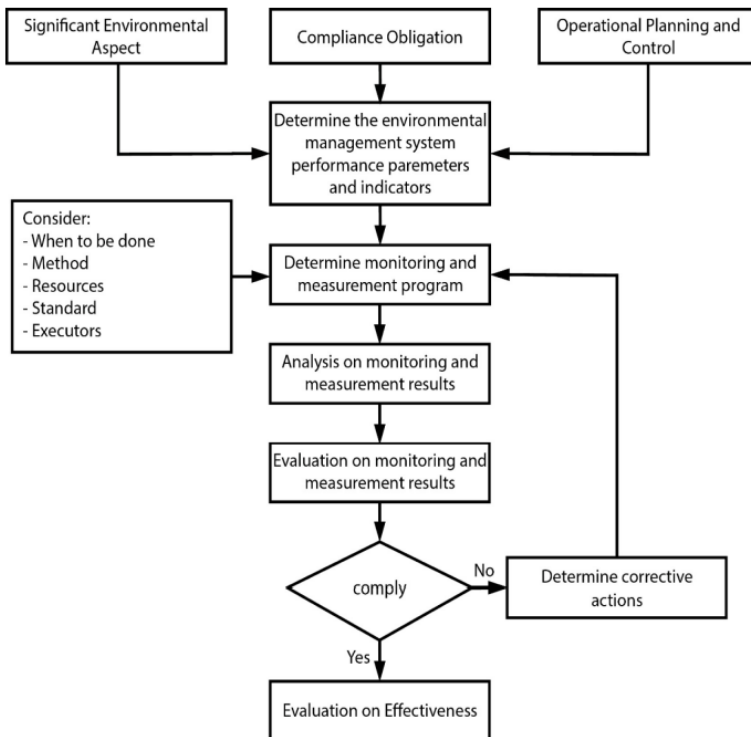*Figure A2 – The lifecycle and ISO 14001 requirements [30]*

Figure A3 – Indicators and performance of environmental management system [33]
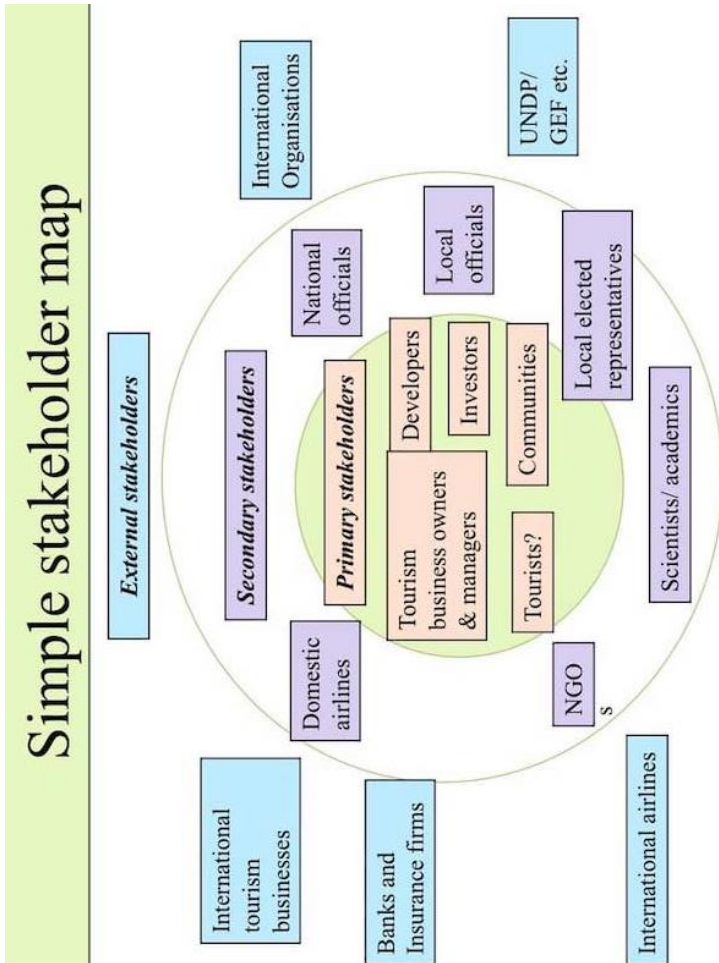
Simple stakeholder map

External stakeholders

Secondary stakeholders

Primary stakeholders

International Organisations

UNDP/ GEF etc.

National officials

Local officials

Local elected representatives

Developers

Investors

Communities

Tourism business owners & managers

Tourists?

Scientists/ academics

Domestic airlines

NGOs

International tourism businesses

Banks and Insurance firms

International airlines

Figure A4 – Approach to stakeholder mapping [37; 38]

Table A5 –Marketing Mix (4Ps) in the context of tourism and hospitality

Element	Specific Characteristics	Types of Accommo- dations/ Destinations	Examples
Product	Tangible and intangible offerings including services, amenities, and experiences.	Luxury hotels, eco-resorts, cultural heritage sites.	Ritz-Carlton (luxury experience), Treehouse Hotels (eco-friendly stays).
	Unique selling points (USP) such as location, theme, or exclusivity.	Boutique hotels, adventure parks, cruise lines.	Atlantis, The Palm (themed resort), Disneyland (themed destination).
	Services tailored to guest preferences, including wellness programs and personalized dining.	Wellness retreats, all-inclusive resorts.	Chiva-Som (wellness-focused resort), Sandals Resorts (all-inclusive).
Price	Dynamic pricing strategies based on demand, seasonality, and competition.	Budget hotels, peak-season holiday destinations.	Marriott Bonvoy offering lower rates during off-peak times.
	Price bundling (e.g., package deals with flights, tours, and meals).	All-inclusive resorts, travel agencies.	Expedia offering flight + hotel bundles for discounted rates.
	Premium pricing for exclusive experiences.	High-end resorts, luxury destinations.	Aman Resorts charging premium prices for exclusivity.
Place	Distribution channels include direct booking, OTAs, and travel agents.	Urban hotels, remote eco-lodges.	Booking.com for global reach, local agents for specialized eco-tourism.

Element	Specific Characteristics	Types of Accommo-dations/ Destinations	Examples
Place	Strategic location based on target market needs (proximity to attractions or airports).	Beach resorts, city-center hotels.	Four Seasons Miami (central, luxury), Maldives resorts (remote, serene).
	Multi-channel approach: mobile apps, websites, and offline travel agencies.	Theme parks, destination hotels.	Disney's dedicated booking platform and mobile app.
Promotion	Digital marketing strategies, including SEO, social media ads, and influencer collaborations.	Beach destinations, cultural events, luxury hotels.	Visit Dubai's social media campaigns featuring influencers.
	Loyalty programs and referral incentives.	Hotel chains, adventure tour operators.	Hilton Honors offering free nights for repeat stays.
	On-site promotional activities, such as themed events or discounts.	Resorts, family-friendly attractions.	Universal Studios offering discount packages for park and hotel stays.

Source: formed by authors

Figure A6 – The EU Ecolabel Tourist Accommodation Map [76]

Environmental Management in Tourism and Hospitality

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ЕКОЛОГІЧНЕ УПРАВЛІННЯ В ТУРИЗМІ ТА ГОСТИННОСТІ

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Видано в авторській редакції

Навчальний посібник призначений для здобувачів другого (магістерського) рівня вищої освіти денної та заочної форм навчання спеціальностей 241 Готельно-ресторанна справа (J2 Готельно-ресторанна справа та кейтеринг) та 242 Туризм і рекреація (J3 Туризм та рекреація). Навчальний посібник містить теоретичні матеріали, практичні кейси та кращі приклади світової й вітчизняної практики екологічного менеджменту в сфері гостинності.

Навчальний посібник включає відкриті питання та тести для перевірки рівня засвоєння викладеного матеріалу і може бути використаний для організації самостійної роботи здобувачів.

УДК 338.486.1(075.8)