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Chair: Tourism and Socio-Humanistic Sciences



DIDACTIC SUPPORT

Sustainable tourism

Specialty: "Tourism"

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ARGUMENT

The ‘Sustainable Tourism’ teaching support brings to the attention of students in the ‘Tourism’ specialty, but also to the attention of interested teachers, the main directions of development of the contemporary tourism industry, as it responds to both economic, social and environmental needs. Unlike traditional forms of tourism, which can generate pollution, environmental degradation and cultural pressures on local communities, sustainable tourism seeks a balance between development and conservation.

A central argument for promoting sustainable tourism is that it guarantees future generations access to the same natural and cultural resources that we benefit from today. Thus, tourism is no longer seen as a rapid consumption of resources, but as a form of responsible valorisation of them. In this respect, the ecological dimension becomes fundamental, by protecting biodiversity and reducing the environmental impact.

In addition to environmental aspects, sustainable tourism encourages respect for and involvement of local communities. Cultural values, traditions and identity of the place are promoted and economic benefits are fairly distributed. In addition, by attracting stable incomes and creating jobs, sustainable tourism contributes to strengthening local and regional economies. Sustainable tourism is more than a trend – it is a necessity. It provides a middle ground between progress and conservation, demonstrating that economic development can coexist with environmental protection and respect for local communities. Therefore, it can be considered the only viable strategy for the future of tourism. Unlike traditional tourism, which often puts pressure on the environment (pollution, ecosystem degradation, overexploitation of resources) and local communities (cultural unification, economic dependence), sustainable tourism aims to:

- **the environmental dimension** – protecting biodiversity, reducing emissions and using resources responsibly;
- **the socio-cultural dimension** – respect for the values of local communities, their involvement in decision-making and the valorisation of cultural heritage;
- **economic dimension** – generating stable incomes and jobs without compromising resources in the long term.

The concept of sustainable development

- Deadline enshrined in the **Brundtland Report (1987)** – *Our Common Future* :

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

- **The essence of the concept:** striking a balance between economic growth, environmental protection and social fairness.
- **Main Features:**
 - long-term orientation;
 - intergenerational responsibility;
 - integration of economic, social and environmental policies;
 - active participation of communities.

Motivation, usefulness of the course for training and professional development.

The Sustainable **Tourism discipline** is of major importance in the training of future specialists in the field of tourism, as it puts at the centre the idea of the balance between economic development, environmental protection and respect for social and cultural values. In a global context marked by climate change, pressures on natural resources and the need to provide quality tourism services, the course provides students with both **theoretical knowledge** and **practical skills** necessary for a responsible and competitive career.

Motivation of the course

- Tourism is one of the most dynamic branches of the world economy, and its focus on the principles of sustainability is a necessity, not just an option.
- The Republic of Moldova (and the region in general) has a rich natural and cultural tourism potential, but for its sustainable use, specialists are needed to integrate economic, ecological and social aspects in the planning and development of tourism activities.
- The growing demand from tourists for authentic experiences, ecotourism, rural and cultural tourism motivates the preparation of frameworks that understand and apply the principles of responsibility and sustainability.

Usefulness of the course for training and professional development

- **Develop professional skills** in planning and managing tourism projects in accordance with the principles of sustainable development.
- **It trains skills to analyze** the impact of tourism activities on the environment and local communities.
- **Encourages critical and responsible thinking**, necessary in decision-making and implementation of green tourism strategies.
- It prepares future specialists to become **promoters of change** within tourism agencies, organizations and institutions.
- Provides a solid foundation for **career development** in areas such as: tourism destination management, tourism consultancy, ecotourism projects, education and training in tourism, public administration and non-governmental organizations.
- Contribute to the **formation of a professional mindset oriented towards ethics, social responsibility and the protection of natural and cultural heritage**.

Administration of Discipline

Module code	Name module	Seme ster	Number of hours				How to Evaluate	Numbe r of credits
			Total	Direct contact		Study indivi- dual		
				Lectures	Practice			
S.07.A.041	<i>Sustainable tourism</i>	<i>VII</i>	120	40	20	60	<i>Exam</i>	4

Course content

No. crt.	Learning units	Number of hours			
		Total hours	Direct contact		Individual study
			theory	practical	
1.	Sustainable development - the foundation of environmental management.	28	10	4	14
2.	Implementation of environmental efficiency in the Republic of Moldova.	26	8	4	14
3.	Environmental management system (EMS) in tourism.	36	12	6	18
4.	Development and implementation of environmental management systems in tourism	30	10	6	14
Total		120	40	20	60

I. STRUCTURE OF DIDACTIC SUPPORT

1. 21 theoretical/thematic contents
2. 10 Practical Works
3. Methodological and evaluation suggestions

Contents:

Thematic content	Form of activity
Content and concept, dimensions of sustainable development.	Theory
Sustainable Development Principles and Goals (UN 2030 Agenda).	Theory
Sustainable Development Strategy of the European Union.	Theory
National Development Strategy "Moldova 2030". Objectives of the strategy.	Theory
Policies and legislative frameworks. International environmental policies. Education for sustainable development.	Theory
The concept of environmental efficiency. Environmental efficiency in the Republic of Moldova in policy documents and normative acts.	Theory
Scopes of environmental efficiency. Implementation tools. Institutions and actors involved in environmental efficiency.	Theory
Projects for the implementation of the circular economy in the Republic of Moldova.	Theory
Education and environmental awareness. Education campaigns.	Theory
Specific terms and concepts of an environmental management system.	Theory
Requirements of the environmental management system.	Theory
The stages of implementing an EMS in tourism. Areas of application in tourism.	Theory
Common benefits and features of successful environmental management. Examples of good practice.	Theory
Opportunities for sustainable tourism. International trends (Green Tourism, Sustainable Destinations).	Theory
Partnerships, collaborations with authorities, NGOs. The role of tourism managers.	Theory
Reducing the use of plastic. Reducing food waste in hotels. Efficient waste management and recycling.	Theory
Defining policy and commitments for the introduction of an EMS in tourism. The basis for the development of an EMS in tourism.	Theory
Planning the implementation of environmental policy in tourism.	Theory
Capacities and mechanisms to support the implementation of environmental policy.	Theory
Application of EMS in tourist structures.	Theory
Control of activities and operations carried out in the framework of EMS in tourism. Monitoring and evaluation of the implementation of the EMS.	Theory
Environmental policy of the European Parliament.	Practice
European Agenda for Tourism 2030.	Practice
Ensuring a healthy and safe environment in the National Development Strategy "European Moldova 2030" (Content of Goal 10).	Practice
Waste management strategy in the Republic of Moldova for the years 2013-2027.	Practice
Environmental management system according to ISO 14001 and EMAS.	Practice
Stimulants and barriers in the implementation of EMS.	Practice
Continuous improvement of overall environmental performance in tourism.	Practice

II. CONTENT OF DIDACTIC SUPPORT

2.1. Theoretical content

Subject 1: Content and concept, dimensions of sustainable development.

Sustainable tourism or sustainable tourism is a concept that emerged in the 1990s, but has gained global recognition lately, with awareness of the threat of global warming. Thus, sustainable tourism refers to the sustainable strategy practiced by the tourism industry. The positive impact of tourism refers to the creation of new jobs for residents of tourist destinations, the preservation of cultural heritage, but also the protection of local fauna and flora. The negative impact of tourism is mainly represented by the destruction of ecosystems, heritage biases or damage to the well-being of local people. In other words, sustainability tourism, a form of tourism that meets the current needs of tourists and tourist destinations, protecting and improving tourism development opportunities for future generations (Tourism Observatory, 2023).

The World Tourism Organisation *defines sustainable tourism* as "tourism whose management ensures economic, social and aesthetic needs while preserving cultural integrity, biological diversity and the well-being of local communities".

"*Tourism that is economically, socio-culturally and environmentally sustainable*. This way the economic, socio-cultural and environmental impact is not permanent, but also not irreversible" (Beech & Chadwick, Coventry University)

"Sustainable tourism is in the purest sense an industry that aims to have the lowest possible impact on the environment and local culture, helping to increase incomes, jobs and preserve local ecosystems.

Tourism has one of the biggest contributions to achieving sustainable development, firstly because of the dynamism and growth of this sector with direct implications for economic growth in tourist regions and destinations, and secondly because tourism is based on a direct link between consumers (tourists), industry, the environment and local communities.

This direct relationship between tourism and sustainable development is also created by the fact that in tourism, unlike other industries, the consumer (tourist) moves to the producer and to the product, and when properly planned and managed, it can be a means of subsistence for rural and urban communities. For these reasons, we can distinguish three essential aspects of the tourism-sustainable development relationship:

Interaction . The nature of tourism, as a component of the services industry, implies a direct and indirect interaction between tourists, the host community and the local environment;

Awareness. Through tourism activities, tourists become aware of environmental problems and cultural differences, paying more attention to the sustainable aspect;

Motivation. Most tourist activities are based on tourists' desire to visit regions with an intact, attractive natural environment and to get in touch with local communities. In terms of this relationship, tourism can have a positive impact on local sustainable development, but it can also cause environmental degradation.

Positive impacts can result from:

- creating opportunities for local economic development and increasing the number of jobs;
- stimulation of investments;
- creation and development of local infrastructure;
- establishing inter-cultural links;

- obtaining income from the exploitation of natural and cultural resources, which can be used for activities of conservation and protection of the environment.

In terms of negative impact, it can be manifested by:

- exerting direct pressure on fragile ecosystems;
- exerting considerable pressure on host communities, which can lead to the loss of its authenticity;
- increasing the degree of local pollution;

Sustainable tourism is only applicable when it contributes to:

- international collaboration and understanding;
- protecting the environment;

preserving the cultural identity of the host communities;

Economic development of local communities.

Dimensions of sustainable development:

Sustainable economic development in both the short and long term, by:

- building partnerships between small and medium-sized enterprises and Multinational organisations in the field of tourism;
- organising training courses for tourism workers;
- obtaining an international certification;
- diversification of the tourist offer;
- the allocation of resources for the promotion and diversification of tourism products and services;

Environmentally sustainable development by:

- promoting ethical codes and rules of conduct among tourists;
- continuous monitoring of the impact of tourism on the environment;
- formulating development policies and strategies in accordance with the principles of sustainable development;
- applying sustainable management in the protected natural areas visited by tourists;

Sustainable cultural development through:

Preservation of cultural integrity;

- preservation of local cultural diversity;
- ensuring the protection of the natural environment and traditions;
- encouraging locals to maintain traditional customs;
- respect for the right to property of the locals;
- educating tourists to adopt appropriate behaviour;

Sustainable development of local communities, aimed at achieving the benefits of economic nature.

- the community must maintain control over the development of tourism;
- tourism must create jobs for residents;
- encouraging small local entrepreneurs through grants;
- increase in local living standards as a result of tourism activities.

Priorities and challenges for sustainable tourism:

Dynamic growth and management of the tourism industry. Predictions about an increase in domestic and international tourism circulation over the next 15 and 20 years also raise the issue of increasing pressure on the environment.

- In order to reduce the pressure of tourism on natural and man-made resources, a management plan must be drawn up and properly applied at all levels.
- Marine and coastal regions, historic cities, cultural and historical sites and fragile natural environments are the first destinations where proper resource management should be applied.
- Climate change.

Climate change is also an essential component in ensuring the sustainable development of tourism in both respects: climate change has consequences for tourism and tourism contributes to climate change. The effects of climate change, such as: rising sea levels, beach erosion, the increasing formation of phenomena such as storms, tornadoes or hurricanes can pose a threat to coastal destinations. Mountain resorts can be affected by abundant rainfall or by shortening the winter sports season.

Tourism is also estimated to contribute 5.3% to the greenhouse effect, mainly due to the transport used by tourists.

Eradicating poverty.

- Tourism can help reduce global poverty, as it is a sector that uses natural and cultural resources even in poor countries.

- Tourism development in such countries is an opportunity, by providing additional income, creating jobs for residents, etc.

The main challenge for tourism is to find the best solutions to reorient revenues to the local community.

Preservation of the environment.

- The concern to find the necessary financial resources to preserve and protect the environment is a global priority.

- Protected natural areas in developing countries receive less than 30% of the funds needed for conservation, and some governments have cut these funds by 50% in the last 10 years.

Tourism contributes directly to obtaining income for such protected areas through access fees or special permits, and most of this income is geared towards environmental conservation.

Content of sustainable development

The content of sustainable development refers to all **the objectives, principles and measures** aimed at:

- Long-term economic growth through efficient and rational use of resources.
- Ensuring quality of life and reducing social inequalities.
- Protecting the natural environment, maintaining biodiversity and preventing pollution.
- Promoting innovation, education and culture for social responsibility.
- Strengthening democratic institutions and international cooperation.

Dimensions of sustainable development

Sustainable development has several interlinked dimensions, the most important of which are:

a) The economic dimension

- It is about maintaining **sustainable economic growth**.
- It promotes **rational use of resources**, technological innovation and energy efficiency.
- It creates **decent work opportunities** and boosts competitiveness.

b) The social dimension

- Aims at **well-being and social fairness**.
- Provides access to education, health, culture and social justice.
- Supports social inclusion and poverty reduction.
- Respect cultural diversity and the identity of local communities.

c) Environmental dimension

- It focuses on the **protection of ecosystems and biodiversity**.
- Prevents pollution and climate change.
- Ensures the conservation of renewable and non-renewable natural resources.
- Promotes responsible consumption and production patterns.

d) Cultural dimension (complementary)

- Recognizes the role of culture, traditions and identity values in development processes.

- Contributes to the **preservation of tangible and intangible heritage** .
- It fosters intercultural dialogue and social cohesion.

e) Institutional and political dimension

- Supports **good governance** and transparency in decision-making.
- It encourages the participation of citizens in the democratic process.
- Promotes international cooperation to achieve global goals (UN 2030 Agenda).

Sustainable development is an **integrative vision** of the future of humanity that balances economic progress, social fairness and environmental protection. In today's era, dominated by globalisation, climate change and demographic pressures, the application of the principles of sustainability is a **strategic necessity** for all states and areas, including tourism, agriculture, industry and urban planning.

Table 1

Dimensions of sustainable development			
Size	Primary purpose	Examples of actions/indicators	Impact on sustainable tourism
Economic	Sustainable economic growth	Resource efficiency, technological innovation, decent jobs	Development of tourism infrastructure without depletion of resources
Social	Fairness and well-being	Education, health, social inclusion, poverty reduction	Equal access to tourist attractions, involvement of local communities
Ecological	Environmental protection	Biodiversity conservation, pollution prevention, natural resource management	Ecological tourism, ecotourism, protection of natural habitats
Cultural	Preservation of heritage	Preservation of traditions, tangible and intangible heritage	Promoting cultural and community tourism
Institutional/Political	Governance and participation	Transparency, public participation, international cooperation	Involvement of authorities and communities in sustainable tourism projects



AUTO-EVALUE QUESTIONS

General knowledge questions

1. What is the concept of sustainable development?
2. Who formulated the classic definition of sustainable development and in what document?
3. What is the fundamental principle of intergenerational equity?
4. What is Intragenerational Equity?

Questions of understanding

5. Explain the relationship between economic development, environmental protection and social fairness.
6. Why is sustainable development not limited to environmental protection?
7. List the main principles of sustainable development.

Applicative questions

8. Provide concrete examples of sustainable actions in tourism for each dimension: economic, social, ecological, cultural, institutional.
9. How can a tourism specialist contribute to the sustainable development of a tourist destination?
10. Identify a tourism project in Moldova or another region that respects the principles of sustainable development and argue the choice.

Critical/analytical questions

11. What are the risks of ignoring the principles of sustainable development in tourism planning?
12. How does the cultural dimension influence the development of sustainable tourism?
13. You argue the importance of integrating the economic, social and environmental dimensions in tourism projects.

Subject 2: Sustainable Development Principles and Goals (UN 2030 Agenda).

1. Principles of sustainable development

Sustainable development is based on several **fundamental principles**, which guide the actions of states, organisations and individuals:

1. **Intergenerational fairness** – the present must meet current needs without compromising the resources and opportunities of future generations.
2. **Intragenerational fairness** – reducing social, economic and geographical inequalities today.
3. **The integration of the economic, social, environmental and cultural dimensions of development** must be linked in the decision-making process.
4. **Precaution and prevention** – avoiding irreversible environmental degradation and responsible management of natural resources.

5. **Public participation and responsibility** – involving citizens and communities in decision-making that affects the environment and society.
6. **International cooperation** – collaboration between states and organisations to achieve global goals.

The 2030 Agenda and the Sustainable Development Goals (SDGs)

In 2015, the **United Nations** adopted the **2030 Agenda**, which includes **17 Sustainable Development Goals (SDGs)** and 169 associated targets. They represent a **global framework for economic, social and environmental progress**.

The 17 main objectives

1. **No poverty** – eliminating extreme poverty and reducing inequalities.
2. **Zero hunger** – ensuring food security and adequate nutrition.
3. **Health and well-being** – universal access to health services and public health.
4. **Quality education** – access to inclusive and equitable education.
5. **Gender equality** – eliminating discrimination and promoting equality.
6. **Clean water and sanitation** – access to drinking water and sustainable management of water resources.
7. **Clean and affordable energy** – promoting renewable energy sources.
8. **Decent work and growth** – creating jobs and sustainable growth.
9. **Industry, innovation and infrastructure** – developing sustainable infrastructure and promoting innovation.
10. **Reducing inequalities** – social and economic inclusion.
11. **Sustainable cities and communities** – safe housing and sustainable urban development.
12. **Responsible consumption and production** – resource efficiency and waste reduction.
13. **Climate action** – fighting and adapting to climate change.
14. **Life under water** – protection of aquatic ecosystems and sustainable management of marine resources.
15. **Life on land** – protection of terrestrial ecosystems and biodiversity.
16. **Peace, justice and strong institutions** – promoting peaceful societies and effective institutions.
17. **Partnerships for Goals** – Global cooperation to achieve SDGs.



Figure 1. Source: statistics.gov.md. Sustainable Development Goals (SDGs).

The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. These 17 goals build on the successes of the Millennium Development Goals and now also cover new areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities. Goals are intertwined - often the key to success in one area will involve addressing issues more commonly associated with another.

For the purpose of monitoring the SDGs of the 2030 Agenda at global level, a set of 241 indicators has been approved, according to which each country will be assessed at regional and global level. The SDG indicator set was developed by the SDG Expert Group (IAEG-SDGs) established by the UN Statistical Committee (Session 46), which includes 50 representatives of UN member countries as well as observers from international organisations.

The list of global SDG indicators consists of **241 indicators**. The SDG indicators are formulated based on the global objectives set and aim to report globally on comparable indicators in space and time. On the other hand, global indicators are intended to alert governments to the most pressing problems and the need to prioritise action at national and regional level, including through development assistance. In the process of nationalization of the SDGs, the set of global indicators is to be complemented by additional indicators, which reveal the national context and priorities. When identifying national indicators, it is important that the basic criteria for a statistical indicator, such as universally acceptable and measurable, meet certain quality requirements and are relevant in the context of nationalised targets.

Table 2

Description of the Sustainable Development Goals (SDGs)

No.	Objective	Brief description	Examples of actions
1	No poverty	Ending extreme poverty and access to resources for a decent life	Social programmes, support for vulnerable communities
2	Zero hunger	Ensuring adequate food security and nutrition	Sustainable agriculture, feeding programmes
3	Health and well-being	Universal access to healthcare and disease prevention	Vaccination campaigns, accessible medical services
4	Quality education	Inclusive and equitable education for all ages	Accessible schools, continuing education programmes
5	Gender equality	Eliminating discrimination and promoting equality	Equality policies, support for women and girls
6	Clean water and sewerage	Access to drinking water and sustainable resource management	Water treatment plants, sewerage projects
7	Clean and affordable energy	Access to reliable energy and promotion of renewables	Solar, wind, hydro
8	Decent work and economic growth	Sustainable growth and decent jobs	Employment Programs, Sustainable Entrepreneurship
9	Industry, innovation and infrastructure	Sustainable infrastructure and promotion of innovation	Green technologies, sustainable public transport
10	Reducing inequalities	Social inclusion and reduction of disparities	Support for vulnerable groups, social policies
11	Sustainable cities and communities	Safe, resilient cities with sustainable infrastructure	Sustainable urban planning, affordable housing
12	Responsible consumption and production	Resource efficiency and waste reduction	Recycling, green production, consumer education

No.	Objective	Brief description	Examples of actions
13	Climate action	Climate action and adaptation	Emission reduction, climate adaptation policies
14	Life under water	Protection of marine ecosystems and aquatic resources	the Mar Reserves
15	Life on land	Protection of terrestrial ecosystems and biodiversity	Protected forests, soil and fauna conservation
16	Peace, Justice and Strong Institutions	Peaceful societies and effective and transparent institutions	Institutional reform, access to justice
17	Partnerships for objectives	Global cooperation for the implementation of SDGs	International partnerships, NGOs, private sector

The 17 Sustainable Development Goals of concrete actions that individuals can take

Table 3

No.	SDG target	Shares of natural persons
1	No poverty	Donations, volunteering, supporting local businesses
2	Zero hunger	Reducing food waste, community gardening
3	Health and well-being	Healthy lifestyle, vaccination, prevention
4	Quality education	Continuing education, educational volunteering
5	Gender equality	Promoting equality, supporting women and girls
6	Clean water and sewerage	Responsible water use, prevention of water pollution
7	Clean and affordable energy	Use of renewable energy, energy saving
8	Decent work and economic growth	Respecting the rights of colleagues, supporting local businesses
9	Industry, innovation and infrastructure	Participation in recycling, use of sustainable technologies
10	Reducing inequalities	Anti-discrimination, volunteering for vulnerable people
11	Sustainable cities and communities	Public transport, community maintenance, local volunteering
12	Responsible consumption and production	Reducing unnecessary consumption, recycling, choosing sustainable products
13	Climate action	Reducing carbon footprint, planting trees
14	Life under water	Avoiding water pollution, participating in the cleanliness of beaches and rivers
15	Life on land	Conservation of natural habitats, planting of trees
16	Peace, Justice and Strong Institutions	Compliance with laws, civic engagement, promotion of tolerance
17	Partnerships for objectives	Supporting local and international initiatives, collaboration with NGOs

The importance of the 2030 Agenda in tourism and sustainable development

- It connects economic, social and environmental activities locally and globally.
- In tourism, it promotes: **responsible tourism, ecotourism, protection of natural and cultural heritage, involvement of local communities.**
- It allows the impact of tourism projects on the environment and society to be assessed, contributing to sustainable decision-making.



AUTO-EVALUE QUESTIONS

General knowledge questions

1. What are the Sustainable Development Goals (SDGs) and in which document are they contained?
2. How many goals does the UN 2030 Agenda include and what is the implementation period?
3. What is the main purpose of each SDG?

Questions of understanding

4. Explain the relationship between the 17 goals and the concept of sustainable development.
5. Why is international cooperation (SDG 17) important to achieve the other objectives?
6. How does the social dimension contribute (e.g.: health, education) to sustainable development?

Applicative questions

7. Give examples of concrete actions a person can take to achieve SDG 12 (Responsible consumption and production).
8. How can a student support SDG 4 (Quality Education) and SDG 5 (Gender Equality)?
9. Identify a local or international project supporting one or more SDGs and argue its relevance.

Critical/analytical questions

10. What are the consequences of non-compliance with the principles of sustainable development for the environment, the economy and society?
11. Analyse how tourism can contribute to or affect the achievement of SDGs.
12. You argue the importance of involving individuals in the achievement of the Sustainable Development Goals.

Subject 3: Sustainable Development Strategy of the European Union.

The EU Sustainable Development Strategy is a strategic framework adopted to promote economic growth, social fairness and environmental protection in the Member States, in line with the principles of global sustainable development (UN 2030 Agenda).

- The first was adopted in 2001 and revised in 2006, and the latest Strategy for 2030 aligns EU policies with the UN Sustainable Development Goals.
- Main purpose: transforming Europe into a sustainable, innovative and competitive society without compromising the environment or resources for future generations.

The Sustainable Development Strategy of the European Union is a strategic framework aimed at promoting economic growth, social fairness and environmental protection in the Member States, in line with the global principles of sustainability, in line with the UN 2030 Agenda. The main objective of this strategy is to transform Europe into a sustainable, innovative and competitive society that does not compromise the environment and resources for future generations.

Main purposes:

- **Economic growth:** Supporting sustainable and competitive economic models.
- **Social fairness:** Ensure a fair society where all citizens have opportunities and well-being.

- **Environmental protection:** Protecting natural resources and the environment to meet the needs of present and future generations.

Global context

- **Agenda 2030:** The EU strategy is aligned with the global goals adopted by the UN in 2015, which address a range of global challenges, from ending poverty and hunger to protecting the planet.

A concrete example of how the EU is implementing the strategy is the European Green Deal, which aims to transform energy systems, reduce dependence on fossil fuels and invest in renewable energy sources and the circular economy.

In order to ensure the balanced integration and correlation of the economic, environmental and socio-cultural components of sustainable development, the European Union Strategy sets out the following ***guiding principles***:

- a) Promotion and protection of fundamental human rights;
- b) Solidarity within and between generations;
- c) Cultivating an open and democratic society;
- d) Informing and actively involving citizens in the decision-making process;
- e) Involvement of the business environment and social partners;
- f) Policy coherence and quality of governance at local, regional, national and global levels;
- g) Integration of economic, social and environmental policies through impact assessments and stakeholder consultation;
- h) Using modern knowledge to ensure economic and investment efficiency;
- i) Application of the precautionary principle to uncertain scientific information;
- j) Application of the "polluter pays" principle.

The strategy is based on ***three integrated dimensions*** similar to those of sustainable development:

a) The economic dimension

- Smart and competitive growth.
- Promoting innovation, digitalisation and research.
- Supporting sustainable entrepreneurship and green jobs.

b) The social dimension

- Social inclusion and poverty reduction.
- Fair access to education, health and social services.
- Protection of human rights and promotion of equal opportunities.

c) Ecological dimension

- Protection of the environment, biodiversity and natural resources.
- Transition to a low-carbon economy.
- Promoting energy efficiency and renewable energy.

Specific strategic objectives:

The EU Strategy sets out several concrete objectives, including:

1. Fighting climate change and protecting the environment.
2. Increasing resource efficiency and moving towards a circular economy.
3. Creating a fair and inclusive society.
4. Promoting education, research and innovation.
5. Improving governance and public participation in decision-making.

Tools and mechanisms:

- **EU policies and regulations:** Renewable Energy Directive, Environmental Policy, Common Agricultural Policy (CAP).
- **Funding and programmes:** Structural and Investment Funds, Horizon Europe programme for research and innovation.
- **Performance indicators:** Monitoring progress in areas such as the green economy, employment, carbon emissions and social welfare.

The importance of the strategy for citizens and communities

- It creates **a unified and coherent vision** for sustainable development at European level.
- It promotes **sustainable tourism, green mobility and the protection of natural and cultural heritage**.
- Encourages the **involvement of citizens, organisations and communities** in sustainable projects.

Strategic policies and directives

Table 4

Policy / Act	Description	Link with sustainable development
EU Strategy for Sustainable Development 2030	Strategic framework aligning EU policies with the UN Sustainable Development Goals	Integration of the economic, social and environmental dimensions
European Green Deal 2019	Ambitious plan to reduce greenhouse gas emissions and transition to a green economy	Climate action, circular economy
EU environmental policy	Legislation to protect biodiversity, water, air and soil	The environmental dimension of sustainable development
Renewable Energy Directive (RED II)	Promotes the use of renewable energy sources and the reduction of dependence on fossil fuels	Ecological dimension, clean energy
Common Agricultural Policy (CAP)	Support for EU farmers and sustainable rural development	Economic and environmental dimension, protection of natural resources
EU strategy for the circular economy	Promotes waste reduction, reuse and recycling	Reducing resource consumption, protecting the environment

Programmes and implementation mechanisms

Table 5

Program / Fund	Description	Impact
Horizon Europe	Research and innovation programme for sustainability	Development of green technologies, sustainable innovation
European Structural and Investment Funds (ESIF)	Support sustainable local and regional projects	Economic development, sustainable infrastructure
LIFE Programme	Fund for Environment and Climate Action	Biodiversity conservation, ecological projects

Program / Fund	Description	Impact
EU Climate Action	Initiatives and rules to reduce carbon emissions	Fighting climate change

Examples of legislative acts

- IED (Industrial Emissions Directive)
- Drinking Water Quality Directive
- Habitats and Species Directive (Natura 2000)
- Waste and Recycling Directive.

Examples, European practices/Case studies:

1. European Green Deal – Germany

Background: Germany leads the energy transition with its Energywende policy.

Actions:

- Development of wind and solar energy.
- Phasing out coal-fired power plants.

Results:

- Reducing carbon emissions.
- Creating new jobs in the renewable energy sector.

Link with SDGs: 7 (clean energy), 8 (decent work), 13 (climate action).

2. Circular economy – Sweden

Background: Sweden promotes the circular economy through recycling and reuse.

Actions:

- Municipal waste recycling programmes.
- Reducing food waste and promoting sustainable products.

Results:

- More than 99% of municipal waste is recycled or converted into energy.

Link with SDGs: 12 (responsible consumption and production), 13 (climate action).

3. Sustainable tourism – Iceland

Background: The growth of tourism has put pressure on the environment.

Actions:

- Implementation of a tourist tax system for environmental protection.
- Promoting eco-friendly and guided tourism.

Results:

- Funding of nature conservation projects.
- Increase tourists' awareness of their impact on the environment.

Link with SDGs: 11 (sustainable cities and communities), 13 (climate action), 15 (life on land).

4. Sustainable agriculture – Netherlands

Background: The Netherlands is a leader in sustainable and technological agriculture.

Actions:

- Efficient irrigation systems and vertical farms.
- Reducing chemical pesticides and fertilizers.

Results:

- High productivity with minimal environmental impact.
 - Export of know-how in sustainable agriculture.
- Link with SDGs:** 2 (zero hunger), 12 (responsible consumption and production), 13 (climate action).

5. Sustainable urban mobility – Copenhagen, Denmark

Background: The city promotes sustainable transport to reduce pollution.

Actions:

- Creation of bicycle lanes and environmentally friendly public transport.
- Encourage the use of bicycles and electric vehicles.

Results:

- More than 40% of people use bicycles every day.
- Reducing CO2 emissions and improving quality of life.

Link with SDGs: 11 (sustainable cities and communities), 13 (climate action), 7 (clean energy).



Figure 2. Source: the European Parliament. Sustainable development initiatives in European countries.

?? 1. European Green Deal – Germany

- **Energiewende – Energy transition in Germany:** Germany has implemented ambitious policies to reduce carbon emissions and promote renewable energy sources. This includes investments in wind turbines, solar panels and clean energy infrastructure.

?? 2. Circular Economy – Sweden

- **Recycling and waste management in Sweden:** Sweden is known for its efficient recycling and waste management systems, converting waste into energy and reducing its environmental impact.

?? 3. Sustainable Tourism – Iceland

- **Eco-tourism in Iceland:** Iceland promotes sustainable tourism by protecting natural landscapes and using renewable energy sources such as geothermal energy.

?? 4. Sustainable Agriculture - Netherlands

- **Sustainable agriculture in the Netherlands:** The Netherlands uses advanced technologies to practice sustainable agriculture, including smart greenhouses and resource efficiency.

?? 5. Sustainable Urban Mobility – Copenhagen

- **Sustainable transport in Copenhagen:** Copenhagen is an example of a city that promotes sustainable mobility through cycling infrastructure and green public transport.



AUTO-EVALUE QUESTIONS

General knowledge questions

1. What is the purpose of the EU Development Strategy
2. In which year was the first European Sustainable Development Strategy adopted?
3. What are the three main dimensions of sustainable development promoted by the EU?
4. What role does the European Green Deal play in the development strategy
5. List at least five headline targets of the EU Sustainable Development Strategy.

Analysis questions

6. How EU energy and environment policy contributes to achieving the goal
7. Identify two EU policies that promote the circular economy
8. What are the main challenges facing the EU in implementing the
9. Explain the link between development
10. How to assess the progress of the EU in achieving the objectives of the strategies

Applicative questions

11. Give an example of an EU Member State that is successfully implementing sustainable development measures.
12. How can a local community in the EU contribute to achieving the objectives of the Sustainable Development Strategy?
13. Analysis
14. Discuss the role of education for sustainable development in the EU.

Topic 4. National Development Strategy "Moldova 2030". Objectives of the strategy.

The National Development Strategy 'Moldova 2030' is a public policy document by which the Republic of Moldova sets long-term objectives for economic, social, institutional and sustainable development by 2030.

The National Development Strategy "European Moldova 2030" (hereinafter – NDS) is a national document of long-term strategic vision, which indicates the directions of development of the country and society and which adapts the priorities, objectives, indicators and targets of the international commitments undertaken by the Republic of Moldova with the national context, in particular the Association Agreement between the Republic of Moldova, of the one part, and the European Union and the European Atomic Energy Community and their Member States, of the other part (hereinafter – the Association Agreement Republic of Moldova – European Union) and the commitments deriving from the status of candidate country for accession to the European Union, including the Agenda for Sustainable Development 2030.

Thus, the development objectives set by the NDS derive from the modern concept of quality of life and the major problems identified at national level. In the development context of the Republic of Moldova, the most important dimensions of quality of life are: income, living conditions, education, culture, health, social solidarity, respect for human rights, trust in governance, trust in justice, human security and the quality of the environment.

The objectives proposed in the NDS meet the pressing needs of society. The NDS draws a direct link between welfare aspirations on the one hand and policies that will contribute to achieving these

goals on the other. Monitoring progress and assessing the development impact of the NDS will be done through disaggregated statistical indicators, including the Sustainable Development Goals.

Taking into account the general low income level and the high incidence of poverty, many citizens of the Republic of Moldova regard cultural and personal development opportunities according to the residual principle. The resources allocated by households to culture-related activities are very small. In 2023, an average household spent RON 78.6 per person per month on recreation and culture, and the COVID-19 pandemic further reduced this expenditure (RON 65.6). The geographical gap in the average monthly consumption of cultural products is enormous: RON 147.4 per person in the urban area versus RON 33.1 per person in the rural area, in 2023, and RON 124.4 per person and RON 26.9 per person, respectively, in 2024.

One way of valuing and appreciating cultural heritage, active rest and personal development is tourism. People's declared preferences go towards family, cultural, out-of-nature and historical tourism (each collecting more than 30% of responses) (Investment Agency, 'National study on Moldovans' perceptions of local tourism', 2021). Approximately 70% of people would like to visit tourist places in the country. However, statistics on domestic tourism show that, even in the pre-pandemic period, only 5-10% of people visited domestic tourist attractions, with practical options clearly shifting to external tourism. Reduced preferences for cultural products and culturalisation could be explained by a combination of factors. Some of them are structural. Low incomes are a severe constraint that cannot be directly eliminated by cultural policies. Another critical constraint is the very limited amount of time left available outside the hours of paid and domestic work. The Republic of Moldova has an important cultural heritage, a very varied and authentic one, which could also serve as a pivotal element for a cultural economy.

Not being rigorously documented, researched, preserved and protected, the cultural heritage, in all its forms (architectural, built, immaterial), is in a process of continuous degradation and loss. In particular, the intangible heritage is rapidly being lost due to the natural disappearance of its bearers.

Providers of cultural products fail to respond to changes in people's cultural preferences. For example, although more and more people prefer books in online format, national libraries and publishers do not respond to these new trends. The digitisation of the cultural sector, including heritage, is extremely low and most cultural institutions experimenting with the provision of online services do so in a non-professional way, with the proposed solutions not meeting the expectations and experience of users.

Cultural infrastructure is in an advanced state of physical degradation, which poses a real problem of accessibility of cultural products. Almost 1/3 of the cultural houses and 1/2 of the public libraries and buildings of several theatrical institutions require capital repairs. Many libraries are disconnected from heating and electricity systems, they are not equipped with furniture. Almost half of the public library's book stock is in Cyrillic script. The organizational, management and community insertion model of many of these institutions is anachronistic.

The health of the population has improved over the last two decades. Life expectancy increased from 63/70 years for men/women in 1996 to 65/73 years in 2022. There is a major gender gap in life expectancy at birth, with women living on average 8 years longer than men (73.1 years and 65.2 years respectively).

The day-to-day work of state institutions must be based on respect for the principles of the rule of law, complemented by efforts to promote the rule of law, equal access to justice and the fight against all forms of corruption. According to the Barometer of Public Opinion, the highest level of trust in justice was reached in 2005 – 41%. The lack of confidence in the judiciary reached its peak of 92% in 2016. In recent years, people's trust in justice has improved slightly, with 19% of citizens now feeling this way. The prevailing mistrust in the justice system generates a low level of trust in the state and its institutions, which leads to the creation of a vicious circle in the relationship between the state and the people. It also strongly reduces the productive capacity of the economy and the creative

potential of society, mistrust of justice also reduces people's motivations to enter into contractual transactions and initiate long-term projects.

A major problem remains to ensure that all people have access to justice. There are not enough professionals (prosecutors, judges, lawyers) specialised in cases involving children, including cases of violence against children. Persons with disabilities also have limited access to justice, caused by the reduced capacities of public legal aid providers in providing specialised legal aid on the rights of persons with disabilities, on the one hand, and by the impossibility for persons with intellectual or psychosocial disabilities to independently access legal aid services, on the other hand. Persons with disabilities seek legal aid in matters relating to: discriminatory treatment on the basis of disability; violation of the right of access to health and social services; violation of their rights by employees of residential institutions; infringement of property rights; violation of the right to life in the community (persons isolated at home or in residential institutions); limitation of the right to free movement; discrimination in employment; physical inaccessibility of court premises. Roma access to justice is also limited, as they face multiple barriers in accessing justice due to poverty, low level of education, discrimination, exclusion, lack of knowledge about their rights and lack of financial means to seek legal aid.

Environmental components have a direct impact on humans throughout life, determining health status, labour productivity, economic growth potential, etc. Low living standards make people unaware of the importance of natural resources and the clean environment for their health and well-being, putting social and economic issues at the forefront, contributing to pollution and non-compliance with environmental legislation. In addition to poor ecological education of the population can also be mentioned the past habit of having cheap energy or aquatic resources, which has stimulated wasteful behavior. Water is one of the most important natural resources that maintains life and ensures its quality. Surface water resources of approximately 12 km³ are available on the territory of the Republic of Moldova, including in the basin of the Dniester – 9.8 km³ and in the basin of the Prut – Danube and Black Sea – 2.7 km³. Up to 75-80% of the volume of surface water leakage from the territory of the Republic of Moldova is formed on the territory of Ukraine. The status and evolution of surface waters are determined by natural (climate change) and anthropogenic factors (hydrotechnical construction and non-rational use). In this context, the extension of the Novodnestrovsk hydrotechnical node and the further development of that project by Ukraine is a major concern from the point of view of providing our country with water. Water quality is determined by the sources of pollution and how these sources are managed. The main sources of water and soil pollution in the Republic of Moldova are untreated or partially treated wastewater, municipal waste, as well as chemicals.

A major risk factor for human health are mine fountains, which are an essential source of water in rural areas. According to the data of the National Agency for Public Health, in 84% of fountains the water does not meet the sanitary norms established by law. Developments in recent years are not encouraging in terms of ensuring water quality. Taking into account the financial constraints, the extension of public water supply networks in the Republic of Moldova is not accompanied by a corresponding extension of public sewerage networks: between 2010 and 2020, the length of water supply networks increased by 81.4% and the length of sewerage networks increased by only 14.8%. This discrepancy causes only part of the water abstracted for human needs to return in purified form in the natural circuit, which puts additional pressure on natural resources, increases water treatment costs and creates additional risks for the health of the population.

The SND's vision and major strategic objective are focused on quality of life. Thus, by 2030, the dimensions of quality of life in the Republic of Moldova will be improved tangible and sustainable,

in line with the European aspirations set out in the Republic of Moldova-European Union Association Agreement. At the same time, one of the general objectives of cooperation between the European Union and the Republic of Moldova, enshrined in the provisions of the EU-Moldova Association Agenda, pursues the commitment to achieving global policy objectives, including the Paris Agreement on climate change and the implementation of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals. Thus, cooperation and joint efforts “will strengthen the rules-based international order and contribute to building a stronger Europe globally”.

Improving quality of life will be based on several key elements, which will put people at the centre of public policy, reform and development processes and will ultimately aim to improve people's living standards and strengthen demographic resilience:

- 1) transparent, inclusive and efficient governance at all levels;
- 2) equitable access to justice;
- 3) accelerated economic diversification, facilitating the transition from traditional to modern technological processes, including innovative technological entrepreneurship, and facilitating geographical mobility;
- 4) the use of high-performance technologies in all public and private spheres;
- 5) creating decent jobs and increasing skills and productivity;
- 6) socio-economic inclusion, with the economic system providing opportunities for the employment of all people, including those from vulnerable groups;
- 7) fair redistribution of income, the state having the obligation to create a fair and transparent tax and subsidy system;
- 8) relevant, inclusive and qualitative education and research system;
- 9) public health and safety;
- 10) promoting a proactive policy for the protection of children and families with children;
- 11) sustainability of natural resources by using them responsibly, minimizing environmental impact.

This combination of factors for development will enable the productive and creative forces that exist in society to be empowered and public and private resources to be directed to uses that will ensure maximum possible welfare gains for current and future generations.

The general and specific development objectives proposed by the NDS for the 2030 horizon reflect the aspirations to increase the well-being of the people of the Republic of Moldova, to improve the lives of citizens, to Europeanize state institutions, to strengthen democracy, the rule of law, respect for human rights, and to bring the Republic of Moldova closer to European standards and values, which will ensure the process of accession of our country to the European Union.

The operationalisation of these objectives is achieved by setting tangible targets on all relevant dimensions of the concept of quality of human life.

Objectives of the National Strategy

1. Increasing incomes from sustainable sources and alleviating inequalities Government of Moldova
2. Room service Government of Moldova
3. Guarantee of relevant and quality education for all throughout the life of the Government of Moldova
4. Raising the level of culture and personal development Government of Moldova

5. Improving the physical and mental health of the population through a modern, efficient health system that meets the needs of individuals. https://www.gov.md/ro/moldova2030?utm_source=chatgpt.com
6. A strong and inclusive social protection system Government of Moldova
7. Ensuring effective, inclusive and transparent governance of the Government of Moldova
8. Building a fair, incorruptible and independent justice system Government of Moldova
9. Promoting a peaceful and secure society Government of Moldova
10. Ensuring a healthy and safe environment Government M

General objective 1. Increasing incomes from sustainable sources and mitigating inequalities.

According to the commitments on sustainable development, by 2030 it will be the following strategic targets have been implemented:

- 1) reducing by 50% the level of absolute poverty and poverty in all its dimensions according to the national and international thresholds set for men, women and children of all ages, with a focus on the most disadvantaged groups (Sustainable Development Goal (SDG);
- 2) having regard to the dependence of the population on the agricultural sector, as well as to the broad, as yet unexplored, potential of this sector, to increase agricultural productivity and incomes of small-scale agricultural producers through secure and equal access to inputs, knowledge, financial services and markets (SDGs);
- 3) implementing development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation and encourage the formalisation and growth of micro, small and medium-sized enterprises, including through access to financial services (SDGs);
- 4) stimulating productivity growth through diversification, technological modernisation and innovation (SDGs);
- 5) promoting green jobs as an effective way to combine social and environmental development, as well as to improve skills and business practices for sustainable and inclusive growth (SDG 8.4);
- 6) achieving, by 2030, an employment level similar to the average of the Central and Eastern European countries and boosting productive employment and decent work for all women and men, including young people, the elderly and persons with disabilities, as well as equal pay for work of equal value (SDG 8.5);
- 7) eradicate forced labour, trafficking in human beings and child labour (SDG 8.7);
- 8) protection of labour rights and promotion of safe working environments for all employees; boosting fair pay for work by strengthening social dialogue, applying adequate minimum wages and combating under-declared pay in line with European best practices (SDG 8.8);
- 9) increase employee satisfaction by improving working conditions in all sectors of the economy of the Republic of Moldova.

General objective 2. Improvement of living conditions.

According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:

- 1) Universal access to adequate and equitable health conditions will be ensured for 65% of the population and communities, paying special attention to the needs of women and girls and people in vulnerable situations (SDG 6.2);
- 2) the development of quality, reliable, sustainable and safe infrastructure across the country will be ensured to support economic development and increase the well-being of the population, with a focus on broad and equitable access for all (SDG 9.1);

- 3) ensure access to safe, affordable, accessible and sustainable transport systems for all, improve road safety, in particular by expanding public transport networks (SDG 11.2).

1) General objective 3. Ensure adequate and quality education for all throughout life.

- 2) According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:
 - 1) the necessary conditions will be ensured for all girls and boys to complete free, equitable and qualitative primary and secondary education leading to relevant and effective outcomes (SDG 4.1);
 - 2) increase enrolment in accessible and quality vocational education and higher education (SDG 4.3);
 - 3) substantially increase the number of young people and adults with appropriate skills for employment (SDG 4.4);
 - 4) equal access for vulnerable persons, including persons with disabilities, children in vulnerable situations and Roma children to all levels of education and training will be ensured (SDG 4.5);
 - 5) all students will acquire the knowledge and skills necessary to promote sustainable development and sustainable lifestyles, environmental protection, healthy lifestyles, human rights, gender equality, culture of peace and non-violence, global citizenship and appreciation of cultural diversity, and to promote the contribution of culture to sustainable development (SDG 4.7).

General objective 4. Raising the level of culture and personal development

In line with the commitments on sustainable development, the following strategic target is to be implemented by 2030: developing and implementing policies to promote sustainable tourism, facilitating the creation of public-private partnerships, developing the relevant institutional capacities of local public authorities and creating jobs, and promoting local culture and products (SDG 8.9).

General objective 5. Improving the physical and mental health of the population through the active contribution of a modern and efficient health system that meets the needs of each individual.

According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:

- 1) 30% reduction in premature mortality from non-communicable diseases through prevention and treatment (SDG 3.4);
- 2) methods of prevention and treatment of abuse of narcotic drugs, psychotropic substances, their precursors, as well as alcohol abuse will be fortified (SDG 3.5).
- 3) ensuring universal access to sexual and reproductive health services, including for family planning, information and education (SDG 3.7);
- 4) achieving universal health coverage, access to quality essential health services, including protection from the financial risks associated with these services, and access to safe, effective, quality and affordable basic medicines and vaccines for all (SDG 3.8).

General objective 6. A strong and inclusive social protection system.

According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:

- 1) implementing an adequate social protection system at national level for a consistent coverage of the poorest and most vulnerable (SDG 1.3);

- 2) building resilience of poor people and those in vulnerable situations and reducing their exposure and vulnerability to climate-related extreme events, including droughts and floods (SDG 1.5);
- 3) ensuring an appropriate national policy framework, based on poverty-sensitive and gender-sensitive strategies and respect for human rights, that would support investment in poverty eradication (SDG 1.b).

General objective 7. Ensure effective, inclusive and transparent governance.

According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:

- 1) Significantly reduce corruption and bribery in all its forms (SDG 16.5);
- 2) developing the efficiency, accountability and transparency of institutions at all levels (SDG 16.6);
- 3) Ensure responsive, inclusive, participatory and representative decision-making at all levels (SDG 16.7).

General objective 8. Building a fair, incorruptible and independent justice system.

According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:

- 1) promoting the rule of law and ensuring equal access to justice for all women, men and children, especially those from vulnerable groups (SDG 16.3, SDG 5.2);
- 2) Significantly reduce corruption and bribery in all its forms (SDG 16.5).

General objective 9. Promoting a peaceful and secure society.

According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:

- 1) the continuous and dynamic reduction of all forms of violence, in particular domestic violence and sexual violence (SDG 16.1);
- 2) stop the abuse, neglect, exploitation, trafficking and all forms of violence and torture of children (SDG 16.2);
- 3) the fight against all forms of organised crime and arms trafficking (SDG 16.4).

General objective 10. Ensuring a healthy and safe environment.

According to the commitments on sustainable development, the following strategic targets are to be implemented by 2030:

- 1) to ensure resilience to climate change by reducing risks related to climate change (SDG 13.1);
- 2) reducing water pollution, including through land-based activities (SDG 14.1);
- 3) combating soil degradation (SDG 15.3);
- 4) mainstreaming biodiversity values into policies (SDG 15.9);
- 5) implement sustainable forest management and increase afforestation and reforestation (SDG 15.2).

The 2024 Report on the implementation of the ‘2030 Agenda’ of the Republic of Moldova will be analysed on the website below.

<https://gov.md/sites/default/files/Filepdf/Raport%20ODD%202024.pdf>



AUTO-EVALUE QUESTIONS

1. What is the National Development Strategy “Moldova 2030”?

- a) A military planning document

- b) A short-term economic strategy
 - c) Main document on strategic planning of sustainable development of the Republic of Moldova
- A Plan for Accession to NATO

2. How many national development goals are set out in the Moldova 2030 strategy?

- a) 5
- b) 8
- c) 10
- d) 17

3. How does the Moldova 2030 strategy relate to the UN 2030 Agenda?

- a) It has nothing to do with
- b) Takes full advantage of the 17 Sustainable Development Goals
- c) Adapts them to the context of the Republic of Moldova through 10 national objectives
- d) It is limited to economic objectives only

4. What is the role of the goal of increasing incomes and reducing poverty?

- a) Provides financial stability and improves the standard of living of the population
- b) Increase the number of exports
- c) Focuses only on foreign investment
- d) Concerns only rural areas

5. Why is education considered a central pillar of the strategy?

- a) Because it increases the country's tourist attractiveness
- b) Because it ensures the formation of human capital necessary for sustainable development
- c) Because it relates only to young people
- d) Because it is required by the European Union

6. Which of the following objectives is aimed at the health of the population?

- a) Fair access to quality health services
- b) Reducing energy dependency
- c) Increase in disposable income
- d) Digitalisation of public administration

7. What objective is directly related to the protection of the environment?

- a) Job creation in industry
- b) Ensuring a healthy environment for present and future generations
- c) Development of road infrastructure
- d) Strengthening the rule of law

8. How does the strategy support economic development?

- a) By limiting imports
- b) Through a competitive, innovative and export-oriented economy
- c) By exclusively subsidizing agriculture
- d) By reducing the level of formal education

9. Why is good governance and strengthening democratic institutions important?

- a) To increase the export of agricultural products
- b) To ensure transparency, trust and efficiency in the implementation of the objectives
- c) To attract tourists
- d) To reduce the level of pollution

Topic 5. Policies and legislative frameworks. International environmental policies. Education for sustainable development.

The EU faces complex environmental challenges ranging from climate change and biodiversity loss to resource depletion and pollution. In order to find solutions to these problems, European environmental policy respects the precautionary principles, prevention, correction of pollution at source and the polluter pays principle. In 2019, the Commission launched the European Green Deal, which put environmental concerns at the heart of EU policy-making. In 1972, the first UN Conference on the Human Environment was held in Stockholm. It has placed environmental issues at the heart of international concerns and adopted principles of good environmental management, including the Stockholm Declaration and the Action Plan for the Human Environment.

In 1992 the Earth Summit took place in Rio de Janeiro. Thanks to this conference, many important declarations have been adopted, such as Agenda 21, the Rio Declaration, the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity.

European treaties:

In 1972, the Paris European Council declared that there was a need for a Community environmental policy to accompany economic policies and called for an action programme to preserve and improve the environment and to combat pollution and nuisances.

In 1987, the Single European Act introduced a new title, ‘Environment’ (Title VII), which provided the first legal basis for a common environmental policy. Its goals are to preserve the quality of the environment, protect human health and ensure the rational use of natural resources. Subsequent Treaty revisions strengthened the Union’s commitment to environmental protection and the role of the European Parliament in its development.

In 1993, the Maastricht Treaty made the environment an official EU policy area (Title XVI). It introduced the codecision procedure and qualified majority voting in the Council became the general rule. In addition, it urged Member States to assess their environmental impact and uphold the principle of sustainable growth.

In 1999, Article 3c of the Treaty of Amsterdam provided for the integration of environmental protection into all EU sectoral policies in order to promote sustainable development.

In 2007, the Lisbon Treaty made climate change and sustainable development a priority. It also gave the EU legal personality to conclude international agreements.

This progress has strengthened the EU’s leading role in the global environment, paving the way through key initiatives such as the European Green Deal and the European Climate Law. The Clean Industrial Deal was presented in February 2025 as part of the broader strategy of the European Green Deal Industrial Plan. This plan aims to make the EU a global leader in developing clean technologies and reducing carbon emissions, aiming to achieve climate neutrality by 2050.

EU environmental policy is based on four principles:

- **Precaution:** if an action or policy is likely to harm the environment or public health and scientific uncertainty about its effects persists, such action should not be taken until more evidence is provided;
- **Prevention:** a tool to prevent and not react to environmental damage. This principle requires preventive measures to anticipate and avoid environmental damage.
- **Correction of pollution at source:** if environmental damage has already been caused, polluters are obliged to take appropriate measures to repair the damage at the point of origin.
- **‘Polluter pays’:** If damage has been caused, operators are obliged to take appropriate measures to remedy it and to bear the related costs. This principle is implemented through the Environmental Liability Directive, which aims to prevent or correct environmental damage, i.e. to protected species or natural habitats, water and soil.

Environmental Action Programmes:

Since 1973, the Commission has been drawing up multiannual Environment Action Programmes (EAPs), which set out future legislative proposals and objectives for EU environmental policy. In May 2022, the [eighth EAP](#) entered into force as the legally agreed common EU agenda for environmental policy by the end of 2030. The programme reaffirms the vision of the 7th EAP for 2050: ensuring a good quality of life for all, while respecting planetary boundaries.

The new programme builds on the environmental and climate objectives of the European Green Deal through **six priority objectives**:

- achieving the 2030 greenhouse gas emission reduction target and climate neutrality by 2050;
- increasing adaptive capacity, improving resilience and reducing vulnerability to climate change;
- promoting a regenerative growth model, decoupling economic growth from resource use and environmental degradation, and accelerating the transition to a circular economy;
- pursuing zero pollution, including for air, water and soil, and protecting the health and quality of life of Europeans;
- protecting, preserving and restoring biodiversity and improving natural capital, in particular air, water and soil, forest, freshwater, wetland and marine ecosystems;
- reducing climate and environmental pressures related to production and consumption, in particular in the areas of energy, industrial development, buildings and infrastructure, mobility and the food system.

Horizontal initiatives:

1. Sustainable development

The EU introduced its first **sustainable development strategy** in 2001, thus including an environmental dimension in the Lisbon Strategy. In response to the 2030 Agenda for Sustainable Development, adopted by the UN in 2015, the Commission published in 2016 a communication entitled ‘Next steps for a sustainable European future – European action for sustainability’, outlining how to integrate the Sustainable Development Goals (SDGs) into EU policy priorities.

In January 2019, the Commission presented a reflection paper on the SDGs entitled ‘Towards a Sustainable Europe by 2030’, which outlines three scenarios for moving forward with the SDGs. In March 2019, Parliament adopted a resolution on the Annual Strategic Report on the implementation and delivery of the Sustainable Development Goals. In the resolution, Parliament stated that it supports one of the scenarios, which proposes to guide all EU and Member State actions by setting specific targets for the implementation of the SDGs. It presents concrete results for 2030 and creates a mechanism to report and monitor progress towards the SDGs.

2. Decarbonisation

High energy costs and global competition mean that European industries urgently need support. The Clean Industrial Deal outlines concrete actions to transform decarbonisation into a growth engine for European industries. This means lower energy prices, the creation of quality jobs and the right conditions for businesses to thrive. The Pact focuses on energy-intensive industries (such as steel, metallurgy and chemicals), the clean tech sector and circularity, which aim to reduce waste and extend the lifespan of materials by promoting recycling, reuse and sustainable production. The aim is also to maximise limited EU resources and reduce excessive dependencies on third country suppliers of raw materials in order to have a competitive and resilient market.

3. Biodiversity

In 2011, the EU adopted its Biodiversity Strategy to 2020, which reflected commitments under the UN Convention on Biological Diversity (CBD), the main international agreement on biodiversity to which the EU is a party. The Commission presented its Biodiversity Strategy for 2030 in May 2020. This is a thorough, ambitious and long-term plan to protect nature and reverse the degradation of ecosystems. Parliament endorsed this strategy in June 2021. According to the Commission’s follow-

up tool, 51 actions of the EU Biodiversity Strategy have been completed so far, 44 actions are ongoing and 9 are lagging behind.

In June 2024, the co-legislators adopted the Nature Restoration Regulation (Regulation (EU) 2024/1991), which requires at least 30% of the EU's land and sea areas to be restored by 2030 and 90% of all ecosystems in need of restoration by 2050.

4. Food systems

In May 2020, as part of the European Green Deal, the Commission presented the Farm to Fork Strategy, which aims to ensure fair, healthy and environmentally-friendly food systems. The European Parliament broadly endorsed the vision and objectives of this strategy in October 2021.

On 19 February 2025, the Commission presented a communication entitled 'Vision for Agriculture and Food'. The document promises that the EU will continue to work with key international organisations to improve the implementation of internationally agreed commitments and to instil more ambition in them to achieve sustainable food systems globally, in line with the 2030 Agenda and the SDGs.

5. Waste management

The Waste Framework Directive was adopted in 2008. It defines key concepts such as waste, recycling and recovery and lays down basic principles that waste must be managed without endangering human health or the environment and without causing nuisance or harm to nature and protected areas. In February 2025, Parliament and the Council reached a provisional agreement on new measures to prevent and reduce food and textile waste across the EU. It was agreed to set binding targets to reduce food waste. EU countries should establish producer responsibility schemes, whereby producers placing textiles on the EU market will have to cover the costs of their collection, sorting and recycling, and Member States will also have to deal with fast fashion and ultrafast fashion when setting financial contributions to extended producer responsibility schemes. The approval of the text in plenary took place on 7 July 2025.

Policies and legislative frameworks for sustainable development

- **Republic of Moldova**
 - *National Development Strategy "Moldova 2030"* – Framework document.
 - *Environmental Impact Assessment Act (2014)*.
 - *Water Law (2011)*.
 - *Waste Act (2016)*.
 - *Environment Strategy 2014–2023* and its follow-up.
- **The European Union**
 - *European Green Deal (2019)*.
 - *EU directives* on air quality, water protection, biodiversity.
 - *EU strategy for sustainable development* (revised in 2016).
- **Features**
 - Integrating the environment into all public policies.
 - The application of the *polluter pays* principle.
 - Strategic Environmental Assessment and Environmental Impact Assessment.

International environmental policies

- **UN Conferences:**
 - *Stockholm Conference (1972)* – the first step towards international environmental policy.
 - *Rio de Janeiro Earth Summit (1992)* – Agenda 21.
 - *Johannesburg (2002)* – implementation of sustainable development.
 - *Rio+20 (2012)* – the basis for the 2030 Agenda and the SDGs.

- **International agreements:**
 - *Kyoto Protocol* (1997) – reduction of greenhouse gas emissions.
 - *Paris Agreement* (2015) – limiting global warming to below 2°C.
 - *Convention on Biological Diversity* (1992).
 - *Aarhus Convention* (1998) – public access to environmental information.
- **Institutions:**
 - *United Nations Environment Programme (UNEP)*.
 - *World Meteorological Organisation (WMO)*.
 - *IPCC* (Intergovernmental Panel on Climate Change).

Aspects of Environmental Policies in the Republic of Moldova and Internationally

Table 6

Appearance	Republic of Moldova (national)	EU and UN (international)
Strategic documents	- National Development Strategy "Moldova 2030" - Environmental Strategy (2014–2023, currently being updated) - Water Law (2011) - Waste Law (2016) - Environmental Impact Assessment Law (2014)	- UN 2030 Agenda for Sustainable Development (2015) - European Green Deal (2019) - UN Conventions (CBD, UNFCCC, Aarhus) - EU Air, Water, Biodiversity Directives
Main objectives	- Pollution reduction - Management of natural resources - Adaptation to climate change - Promoting the green economy	Limiting global warming (Paris Agreement 2015) - Protection of biodiversity (Convention on Biological Diversity) - Circular economy and climate neutrality by 2050 (EU)
Tools	- National laws and regulations - Environmental Protection Inspectorate - Environmental taxes and fines - Local educational programmes	- Kyoto Protocol (1997) - Paris Agreement (2015) - Market-based mechanisms (emission allowances) - European Environment Funds (LIFE, Horizon Europe)
Institutions	- Ministry of Environment - Environment Agency - Inspectorate for Environmental Protection	- UN - United Nations Environment Programme (UNEP) - EU - European Commission (DG Environment) - IPCC (Intergovernmental Panel on Climate Change)
Features	- Gradually aligns with EU legislation and standards - Institutional capacity building required - Focus on national issues: waste, water, industrial pollution	- Global and regional approach - Focus on climate change, clean energy, biodiversity - Shared but differentiated responsibility between states

Description of the main environmental policies, protocols, conventions:

1.UN Framework Convention on Climate Change (UNFCCC, 1992)

Purpose: Prevent dangerous anthropogenic climate change and stabilise greenhouse gas emissions.

Main objectives:

1. Stabilization of greenhouse gas concentrations in the atmosphere.
2. Preventing negative impacts on ecosystems and human communities.

3. Promoting international cooperation to mitigate climate change.

Characteristics:

- It was the basis for the Kyoto Protocol (1997) and the Paris Agreement (2015).
- Includes regular reporting by States on emissions and measures taken.

Evolution of the UNFCCC:

1. **1992 – Signature of the UNFCCC**
 - Place: **New York, USA**
 - Purpose: establishing an international framework for the prevention of dangerous climate change caused by human activity.
2. **1995 – First Conference of the Parties (COP1)**
 - Place: Berlin, Germany
 - Established the basis for negotiations on binding targets to reduce greenhouse gas emissions.
3. **1997 – Kyoto Protocol (COP3)**
 - Place: Kyoto, Japan
 - It introduced binding emission reduction targets for developed countries.
4. **2005 – Entry into force of the Kyoto Protocol**
 - It was the first international agreement with legal obligations to reduce emissions.
5. **2015 – Paris Agreement (COP21)**
 - Place: Paris, France
 - Objective: keeping the increase in global temperature below **2°C** and working towards **1.5°C**.
 - All countries (developed and developing) have adopted Nationally Determined Contributions (NDCs).
6. **Post-2015 – Implementation and monitoring**
 - The Parties shall regularly report on progress in emission reductions and adaptation to climate change.
 - International cooperation, green technologies and financing of adaptation and mitigation projects shall be promoted.

2. Paris Agreement – 2015

1. Background

- Adopted at **COP21** (Conference of the Parties to the UNFCCC) in **Paris, France**, on 12 December 2015.
- It entered into force on **4 November 2016**.
- Main purpose: fighting climate change and limiting global warming.

2. Main objectives

1. **Limiting global temperature rise**
 - Below **2°C** from pre-industrial level.
 - Efforts to limit to **1,5°C**.
2. **Increasing adaptive capacity**
 - Reducing vulnerability and supporting sustainable development.
3. **Green finance and investment**
 - Mobilising resources for the transition to a low-emission economy.
4. **Transparency and reporting**
 - All countries must report on progress in achieving their Nationally Determined Contributions (NDCs).

3. Features

- **Universality** – applicable to all countries, regardless of the level of development.
- **Flexibility** – allows each country to set its own national targets (NDCs).
- **Regular review** – every 5 years, countries review and improve their contributions.
- **Support to vulnerable countries** – through funding, technology and know-how transfer.

4. Importance of the Agreement

- It is the first global agreement involving **all countries** in the fight against climate change.
- Encourages the **transition to renewable energies and the reduction of carbon emissions**.
- Strengthening international cooperation on climate change.

3. Kyoto Protocol – 1997

1. Background

- Adopted at **COP3** (Conference of the Parties to the UNFCCC) in **Kyoto, Japan**, on 11 December 1997.
- It entered into force on **16 February 2005**.
- Main purpose: reducing greenhouse gas (GHG) emissions for developed countries.

2. Main objectives

1. GHG emission reduction

- Developed countries had to reduce emissions **by around 5% compared to 1990** levels between 2008 and 2012.

2. Flexibility mechanisms

- **Emissions Trading**.
- **Clean Development Mechanism (CDM)** – projects to reduce emissions in developing countries.
- **Joint Implementation (JI)** – joint projects between two developed countries to reduce emissions.

3. Features

- **Differentiated obligations** – only developed countries had binding emission reduction targets.
- **International legal instrument** – obligations were legally recognised by the Treaty.
- **Commitment period** – initial 2008–2012; additional periods were subsequently set (2a period: 2013–2020, by the Doha Amendment).

4. Importance of the Protocol

- The first international agreement to impose **binding emission reduction targets**.
- Introduced innovative emission reduction mechanisms (CDM, JI, Emission Trading).
- It paved **the way for the Paris Agreement (2015)**, which involved all countries, including developing countries.

4. UN - United Nations Environment Programme (UNEP)

1. Background and establishment

- Established in **1972**, following the **United Nations Conference on the Human Environment** in Stockholm.
- It is the main UN agency responsible for coordinating international activities on the **environment** and promoting **sustainable development**.
- Headquarters: **Nairobi, Kenya**.

2. Purpose and mission

- Promoting **global policies and actions for environmental protection**.
- Increasing environmental awareness and education globally.
- Supporting Member States in the implementation **of environmental legislation and strategies**.

- Coordination of UN programmes on **climate change, biodiversity and natural resources**.
- 3. Main objectives**
1. **Protecting the global environment** – air, water, soil and biodiversity.
 2. **Sustainable management of natural resources** – forests, waters, marine resources.
 3. **Fighting climate change** – support for the implementation of the UNFCCC, Kyoto and the Paris Agreement.
 4. **Reducing pollution and waste** – promoting the circular economy and green technologies.
 5. **Increasing the capacity of developing countries** – financing, training and technology transfer.
- 4. Programmes and initiatives**
- **Global Environment Outlook (GEO)** – Global Environmental Reports.
 - **Climate and Clean Air Coalition.**
 - **Biodiversity Finance Initiative (BIOFIN)** – financing biodiversity conservation.
 - **UNEP Live** – digital platform for environmental data and information.
- 5. Importance**
- UNEP is a **global coordinator of environmental policies** and a catalyst for international cooperation.
 - It helps countries achieve the goals of the **2030 Agenda for Sustainable Development**.
 - Supports the implementation of **international environmental conventions** (CBD, UNFCCC, Aarhus Convention).

5. EU air quality directives

1. **Directive 2008/50/EC – Ambient air quality and clean air for Europe**
 - Sets limit values for pollutants: PM10 and PM2.5 particles, nitrogen dioxide, ozone, carbon monoxide, benzene, etc.
 - Provide for air quality monitoring and regular data reporting.
2. **Directive 2004/107/EC**
 - Regulates the levels of arsenic, cadmium, nickel and benzene in the air.

Objectives:

- Protection of human health and the environment against air pollution.
 - Reducing industrial and urban emissions.
3. **EU Water Quality Directives**
 4. **Water Framework Directive (2000/60/EC – WFD)**
 - Objective: achieving ‘good ecological status’ for all surface and groundwater.
 - Promotes integrated water resource management in the river basin.
 5. **Drinking Water Directive (98/83/EC)**
 - Ensures the safety and quality of water intended for human consumption.
 6. **Directive concerning the protection of waters against pollution caused by nitrates (91/676/EEC)**
 - Reduces water pollution from agricultural sources.

Objectives:

- Protection of aquatic ecosystems and human health.
 - Prevention and reduction of water pollution.
7. **EU biodiversity directives**
 8. **Habitats Directive (92/43/EEC)**
 - Protects natural habitats and wildlife.
 - Creates the network of **Natura 2000** protected areas .
 9. **Birds Directive (2009/147/EC)**

- Protects all species of wild birds and their habitats.
- It requires the conservation of areas important for birds.

10. EU Biodiversity Strategy 2030

- Ensures the protection of biodiversity and the restoration of degraded ecosystems.

Objectives:

- Conservation of species and natural habitats.
- Increasing the resilience of ecosystems to climate change



AUTO-EVALUE QUESTIONS

Policies and legislative frameworks

1. What are environmental policies and what is their main purpose?
2. What are the main national laws in the Republic of Moldova regulating the protection of the environment?
3. What fundamental principles underpin environmental policies?
4. How is environmental protection integrated into sustainable development strategies?
5. What are the legislative, economic and educational instruments used to implement environmental policies?

B. International environmental policies

6. What role do international environmental conventions such as **the CBD, the UNFCCC and the Aarhus Convention** play?
7. Where and when was the **UN Framework Convention on Climate Change (UNFCCC)** signed?
8. What are the main objectives **of the Kyoto Protocol (1997) and the Paris Agreement (2015)?**
9. Which international institutions coordinate global environmental policies (e.g. UNEP, IPCC)?
10. How do these policies and conventions contribute to the fight against climate change and the protection of biodiversity?

C. Education for Sustainable Development (EDD)

11. What is education for sustainable development and what are its main objectives?
12. How is EDD integrated into school curriculum and educational programs?
13. What international documents support the promotion of ESD (e.g. UNESCO, UN 2030 Agenda)?
14. Why is it important for citizens to be informed and involved in environmental matters?
15. Give examples of projects or initiatives that promote ESD in the community or at national level.

Subject 6. The concept of environmental efficiency. Environmental efficiency in the Republic of Moldova in policy documents and normative acts.

Environmental efficiency is the ability to achieve maximized economic and social outcomes with minimal environmental impact. Means *responsible use of natural resources*, reduction of emissions and waste, and protection of ecosystems.

Key elements of environmental efficiency:

- **Maximising economic and social outcomes:**

Achieving greater profit, better services and general well-being for society.

- **Minimum environmental impact:**

Minimising negative effects on nature.

- **Use of natural resources:**

Responsible management of resources, avoiding waste and promoting reuse and recycling.

- **Reducing pollution:**

Minimising harmful emissions into the atmosphere and reducing the amount of waste generated.

- **Ecosystem protection:**

Conservation and enhancement of natural capital, including biological diversity and habitats.

How it is done:

- **Developing circular business models:**

They aim at resource efficiency and waste minimisation by extending the lifespan of products.

- **Implementation of economic instruments:**

Taxes on resource use and pollutant emissions, subsidies for green technologies and waste collection systems.

- **Adoption of green technologies:**

Investments in equipment and processes that reduce energy consumption and emissions.

- **Education and awareness:**

Informing citizens about the importance of protecting the environment and involving them in concrete actions such as recycling and planting trees.

Principles:

1. **Resource economy** – reducing the consumption of raw materials, water and energy.
2. **Reducing pollution** – limiting emissions to air, water and soil.
3. **Recycling and re-use** – promoting the circular economy.
4. **Integration of the environment into economic decisions** – environmental impact assessment in production and development processes.

Environmental efficiency indicators:

- Energy consumption per unit of GDP.
- Greenhouse gas emissions per unit of product.
- Amount of waste generated and recycled.
- Consumption of water and raw materials per unit of product.

Environmental efficiency in the Republic of Moldova:

Legislative frameworks and policy documents:

1. **National Development Strategy "Moldova 2030"**

- Includes objectives on **sustainable economic development** and reduction of environmental impact.
- Promotes green technologies and efficient management of natural resources.
- 2. Environmental Impact Assessment Act (2014)**
 - It requires companies to integrate environmental criteria into their development processes.
- 3. Waste Act (2016)**
 - It sets requirements for the reduction, recycling and recovery of waste.
- 4. Environment Strategy 2014–2023**
 - Aims at **resource efficiency**, pollution reduction and biodiversity protection.
- 5. Sectoral plans**
 - Renewable energy policies and energy efficiency.
 - Water management and sustainable agriculture.

Examples of application

- Implementing **low-emission technologies** in industry and transport.
- Campaigns to **recycle waste and reduce plastic**.
- Support for **green energy and energy efficiency projects** at local and national level.

Table 7

Link between environmental efficiency and the main legislative acts and policies of the Republic of Moldova:

Act / Policy	Environmental efficiency targets	Practical measures and examples
National Development Strategy "Moldova 2030"	Promoting sustainable economic development with minimal environmental impact	Deployment of green technologies, efficient resource management, reduction of emissions
Environmental Impact Assessment Act (2014)	Integration of ecological criteria in development projects	Environmental impact assessment of industrial and infrastructure projects
Waste Act (2016)	Reducing waste generation and increasing recycling	Selective collection, waste recycling, recovery of recyclable materials
Environment Strategy 2014–2023	Resource efficiency and pollution reduction	Renewable energy programmes, reduction of water and energy consumption, protection of biodiversity
Sectoral policies (energy, agriculture, water)	Increasing energy efficiency and reducing sectoral environmental impacts	Deployment of renewable energy sources, sustainable agricultural practices, integrated water management

Environmental education is education for global responsibility, as it can help humanity to gain a deep understanding of the environment and the global problems we face.

The main purpose of environmental education is to facilitate the acquisition of knowledge that makes it possible to understand environmental issues in their depth and complexity, ultimately leading to environmentally conscious decision-making, as well as to promote opportunities for direct experience with the natural environment.

Environmental training and education is a highly complex process, which is why it must be carried out uninterruptedly in all educational disciplines, in all intra- and extra-curricular activities, in order to: the accumulation of knowledge about the environment, the formation of skills and convictions of

the need to protect the environment, the formation of the general culture in each individual, regardless of the nature of the professional activity. Environmental education and training are therefore mandatory components of the family, pre-university education institutions (pre-school, school, secondary, high school), university, post-graduate and society aimed at sustainable socio-economic development.

The ecological personality of contemporary man should be, as the subject of environmental protection and conservation actions, the one who voluntarily controls and adapts his own activities according to the requirements, the contemporary ecological standards, the one who is aware of the environmental problems, being able to find the right solutions, to develop projects and make appropriate decisions regarding their implementation, to express critical attitudes in the appreciation of his own facts and those of his fellow men, to be capable of self-education and continuous improvement in the ecological field.

Knowledge of and compliance with environmental laws and the adaptation of environmental behaviour to the requirements of the laws are based on environmental education. The expression '***no one is above the law***', including environmental protection laws, is appropriated and functions in the structure of ecological personality as an attitude, as an intrinsic motivation to regulate individuals' behaviours towards the environment. Without civic awareness, without adherence to civic values (freedom, justice, solidarity, the rule of law, pluralism, democracy, tolerance, etc.), without the belief in the rule of law, anarchic behaviour towards the environment is allowed – which is incompatible with guaranteeing the fundamental human right to a clean environment.

The degradation of the environment often happens before our eyes, and this is precisely due to man's intervention in nature. The danger is very great and that is why we need to be aware of the need to be sensitive to environmental problems, to adopt an appropriate behavior towards nature, to protect the environment.

Examples, case studies:

Recycling and recovery of waste

- **Example:** Companies that collect PET or used plastic and turn it into new materials (bottles, packaging, furniture).
- **Benefit:** Reduces the consumption of raw materials and minimizes waste.

Repair and refurbishment

- **Example:** Shops or workshops that refurbish electronics, household appliances or used furniture for resale.
- **Benefit:** It extends the life cycle of products and reduces the amount of waste.

Rental and product-as-a-service

- **Example:** Furniture or IT equipment companies that offer products in leasing or rental, taking responsibility for maintenance and recycling.
- **Benefit:** It optimizes the use of resources and reduces waste.

Remanufacturing and upcycling

- **Example:** Turning textile waste into new clothes or fashion accessories.
- **Benefit:** It reduces the consumption of raw materials and promotes environmental innovation.

Sharing economy

- **Example:** Car-sharing, bike-sharing or shared workspaces.
- **Benefit:** Reduces the consumption of goods and resources, optimizes their use.

Circular agriculture and sustainable food

- **Example:** Farms that use food scraps for compost or animal feed, and sell local products in reusable packaging.
- **Benefit:** It reduces organic waste and encourages the sustainable use of resources.

Implementation of economic instruments in environmental protection and sustainable development:

Green taxes

- **Example:** Carbon tax on industrial companies.
- **Benefit:** It encourages the reduction of emissions and the adoption of clean technologies.

Subsidies for green technologies

- **Example:** Financial support for companies installing solar panels or energy efficiency systems.
- **Benefit:** Increase the uptake of renewables and reduce fossil energy consumption.

Cap-and-trade system

- **Example:** Companies receive or buy the right to emit a certain amount of CO₂; who reduces emissions can sell the surplus.
- **Benefit:** Creates financial incentives to reduce emissions.

Payments for ecosystem services (PES)

- **Example:** Farmers receive financial compensation for maintaining forests or wetlands that protect biodiversity and water quality.
- **Benefit:** Contribute to the conservation of ecosystems and natural resources.

Guarantees and incentives for recycling

- **Example:** Reimbursable deposit for plastic/metal bottles and containers.
- **Benefit:** Encourages selective collection and reduction of waste.

Credits and tax incentives for green businesses

- **Example:** Tax reductions for companies that implement circular economy technologies or reduce water and energy consumption.
- **Benefit:** Reduces the costs of transitioning to sustainable models.

Examples of the adoption of green technologies, useful for environmental efficiency and sustainable development:

Renewable energy

- **Examples:**
 - Solar photovoltaic panels for the production of electricity.
 - Wind turbines for clean energy generation.
 - Small hydropower plants (micro-hydropower plants).
- **Benefit:** Reducing dependence on fossil fuels and reducing CO₂ emissions.

Energy efficiency technologies

- **Examples:**
 - LED lighting and automatic power control systems.
 - Energy-saving industrial equipment.
 - Green buildings with efficient thermal insulation and intelligent heating systems.
- **Benefit:** Reduce energy consumption and associated costs, decrease pollution.

Waste management and recycling

- **Examples:**
 - Automatic sorting and recycling technologies for plastics, metals and paper.
 - Industrial composting and use of biogas from organic waste.
- **Benefit:** Reducing waste and capitalising on secondary resources.

Green transport

- **Examples:**
 - Electric or hybrid vehicles for public transport and logistics.
 - Charging stations for electric vehicles and bicycle infrastructure.
- **Benefit:** Reducing pollutant emissions and urban noise.

Sustainable agriculture

- **Examples:**
 - Efficient and water-efficient irrigation systems.
 - Use of drones and sensors for crop monitoring and controlled fertiliser application.
 - Solar or biogas technologies on farms.
- **Benefit:** Reduction of water and energy consumption, protection of soil and biodiversity.

Green industry and sustainable processes

- **Examples:**
 - Low-emission production processes and industrial water recycling.
 - Carbon capture and utilization (CCU) technologies.
- **Benefit:** Reducing pollution and resource efficiency in the industrial sector.

Examples on education and awareness in the field of sustainable development and environmental protection:

Formal education

- **Examples:**
 - Integration of disciplines such as **Environmental Education and Sustainable Development (EDD)** into schools.
 - University programmes and masters in **environmental management, renewable energy or sustainable development**.
- **Benefit:** Green skills training at academic and professional level.

Public awareness campaigns

- **Examples:**
 - World Environment Day, recycling campaigns and plastic reduction.
 - Promoting the circular economy through social media and information materials.
- **Benefit:** Increasing citizens' involvement in environmental protection.

Community programmes and volunteering

- **Examples:**
 - Cleaning actions in parks, rivers or protected areas.
 - Tree planting projects or restoration of natural habitats.
- **Benefit:** Direct involvement of communities in environmental conservation.

Informal education and media coverage

- **Examples:**
 - Documentaries and TV shows on environment and sustainable development.
 - Online platforms with information on climate change, biodiversity and green energy.
- **Benefit:** Raising awareness and adopting responsible behaviour.

Training and vocational training

- **Examples:**
 - Courses for employees on **waste management, energy efficiency or sustainable agriculture**.
 - Workshops for authorities and companies on the implementation of environmental policies.

- **Benefit:** Encourages the uptake of green technologies and compliance with environmental legislation.

Environmental education in the online environment and applications

- **Examples:**
 - Mobile applications for monitoring energy consumption or recycling.
 - Educational games and simulations about biodiversity and climate change.
- **Benefit:** Integrating environmental education into the daily lives of young people and adults.

Examples of applying environmental efficiency in different countries of the world, with concrete practices and results:

1. Germany – Energy and Industry

- **Examples:**
 - Renewable energy policies (Energiewende) – transition to renewable sources and reduction of CO2 emissions.
 - Industry uses energy-saving processes and industrial recycling systems.
- **Result:** Germany is a leader in wind and solar power production, significantly reducing industrial emissions.

2. Sweden – Transport and circular economy

- **Examples:**
 - Green transport: electric buses and taxis, bicycle incentives.
 - Recycling and re-use: more than 99% of municipal waste is recycled or recovered energy.
- **Result:** Sweden has reduced landfill waste and increased the efficiency of natural resources.

3. Japan – Technologies and Resource Management

- **Examples:**
 - Electronics and vehicle recycling technologies.
 - Energy efficiency systems in buildings and industry.
- **Result:** Japan is a leader in green technologies and in reducing emissions per unit of production.

4. Denmark – Sustainable energy and agriculture

- **Examples:**
 - Offshore wind farms for electricity.
 - Sustainable agriculture with efficient irrigation and fertilisation technologies.
- **Result:** Denmark produces a large proportion of its energy from renewable sources and reduces agricultural pollution.

5. Singapore – Water management and green urban planning

- **Examples:**
 - Efficient water desalination and purification systems.
 - Green buildings and sustainable urban infrastructure.
- **Result:** Singapore saves water resources and reduces urban energy consumption.

6. Costa Rica – Biodiversity conservation and green energy

- **Examples:**
 - 99% of electricity comes from renewable sources.
 - Policies to protect forests and ecosystems.
- **Result:** Costa Rica is a model for protecting biodiversity and reducing carbon emissions.

Concrete examples of environmental efficiency in the Republic of Moldova, with practical application in various fields:

1. Energy and energy efficiency

- Examples:
 - Installation of solar panels for public lighting or public buildings.
 - Modernization of heating systems in schools and hospitals to reduce energy consumption.
- Benefit: Reducing energy consumption and greenhouse gas emissions.

2. Sustainable agriculture

- Examples:
 - Farms that apply efficient irrigation and precision farming technologies.
 - Use of organic fertilizers and crop rotation for soil conservation.
- Benefit: Protecting natural resources and reducing water and soil pollution.

3. Waste management

- Examples:
 - Selective recycling projects for paper, plastic and metals in Chisinau and other cities.
 - Composting of organic waste in rural and urban communities.
- Benefit: Reducing waste and capitalising on secondary resources.

4. Green transport

- Examples:
 - The introduction of electric buses in public transport.
 - Creation of cycle paths in cities to reduce the use of cars.
- Benefit: Reducing pollutant emissions and urban noise.

5. Biodiversity conservation and water management

- Examples:
 - River and pond rehabilitation projects for the protection of aquatic ecosystems.
 - Implementation of protected areas and nature reserves.
- Benefit: Preserving biodiversity and protecting local ecosystems.

6. Ecological Education and Awareness

- Examples:
 - Information campaigns on recycling, energy saving and environmental protection.
 - School programmes on sustainable development and green education.
- Benefit: Increased citizen engagement and responsible behaviour.

Case studies for the Republic of Moldova:

1. Solar energy farm - Orhei district

- Background: The need to reduce fossil energy dependency and lower energy costs.
- Intervention: Installation of a solar panel park to power the farm and administrative buildings.
- Result: Reducing energy bills and lowering CO2 emissions.
- Lesson: Renewable energy contributes to environmental efficiency and sustainability of agricultural businesses

2. Effective irrigation project in agriculture – Cahul district

- Background: Farmers depended on traditional irrigation systems, high water consumption.
- Intervention: Implementation of drip irrigation systems and monitoring of soil moisture.
- Result: Reducing water consumption and increasing crop yields.

- Lesson: Sustainable technologies in agriculture increase resource efficiency and protect the environment.

3.Protected areas and biodiversity conservation - "Orheiul Vechi" Reservation

- Background: The need to protect natural and cultural heritage.
- Intervention: Implementation of sustainable area management, species monitoring and habitat restoration.
- Result: Preserving biodiversity and attracting eco-tourism.
- Lesson: Responsible management of natural resources increases environmental and economic value.

4.Ecological education in schools – Green School Project

- Background: Lack of environmental awareness among students.
- Intervention: Introduction of educational programmes on recycling, energy saving and environmental protection.
- Result: Students adopt ecological behaviors, involvement in environmental actions.
- Lesson: Education for sustainable development contributes to the formation of an environmentally responsible generation.



AUTO-EVALUE QUESTIONS

The concept of environmental efficiency

1. What does environmental efficiency mean and what is its main purpose?
2. What are the fundamental principles of environmental efficiency?
3. List some indicators used to measure environmental efficiency.
4. How can environmental efficiency be integrated into economic or industrial activity?
5. What is the link between environmental efficiency and sustainable development?

Ecological efficiency in the Republic of Moldova

6. Which national documents and strategies promote environmental efficiency in Moldova?
7. What role does the Moldova 2030 National Development Strategy play in implementing environmental efficiency?
8. How does the Environmental Impact Assessment Act (2014) contribute to environmental efficiency?
9. What are the objectives of the Waste Act (2016) in the context of environmental efficiency?
10. Give examples of sectoral policies (energy, agriculture, water) that apply the principles of environmental efficiency in Moldova.

Practical applications

11. Mention some examples of green technologies adopted in Moldova that increase environmental efficiency.

12. How can environmental education and public awareness be used to increase environmental efficiency?
13. Give examples of local projects or case studies in Moldova that demonstrate environmental efficiency.
14. What are the benefits of implementing environmental efficiency principles for the environment and society in Moldova?
15. How can environmental efficiency influence economic policy and investment decisions at national level?

Subject 7: Scopes of environmental efficiency. Implementation tools. Institutions and actors involved in environmental efficiency.

Eco-efficiency (eco-industrial efficiency) is applied in sectors such as industrial production, agriculture, energy, transport and waste management, using tools such as life cycle analysis (LCA), eco-labelling, eco-auditing and circular economy models. The institutions involved include governments, ministries (environment, economy), environmental agencies, non-governmental organisations (NGOs), industry associations and consumers.

Areas of Application:

- **Industrial production:**

Optimization of production processes to reduce the consumption of raw materials and energy, as well as pollution emissions.

- **Agriculture:**

Promoting sustainable farming practices that reduce dependency on pesticides and fertilisers, preserve soil and water.

- **Energy sector:**

Switching to renewable energy sources and improving energy efficiency in consumption.

- **Transport:**

Developing sustainable mobility through the use of alternative fuels, optimising routes and encouraging public transport.

- **Waste management:**

Implement circular economy principles by reducing, reusing and recycling waste.

Implementation Tools:

- **Life Cycle Analysis (LCA):**

Assessing the environmental impact of a product or service throughout its life cycle.

- **Eco-labelling:**

Labels certifying that a product meets strict environmental standards, making it easier for consumers to choose green products.

- **Ecological audit:**

Voluntary assessment of an organisation's environmental management systems to identify areas for improvement in environmental performance.

- **Circular economy :**

Economic models that focus on resource recovery and valorisation, reducing waste.

- **Green technologies:**

Develop and adopt technologies that minimise environmental impacts, such as renewable energy sources and water treatment systems.

Institutions and Actors Involved:

- **Governments and public institutions:**

Establish policies, regulations and incentives to encourage the practice of environmental efficiency (e.g. ministries of environment, environmental agencies).

- **Non-Governmental Organisations (NGOs):**

It acts as a lobby, monitors compliance with environmental rules and runs public awareness campaigns.

- **Industrial and Business Associations:**

It represents the interests of companies, promotes good practices and facilitates the exchange of knowledge.

- **Private sector (Companies):**

Implement environmental efficiency initiatives in their operations to reduce costs, improve image and comply with regulations.

- **Consumers:**

Through their purchasing choices they can influence the demand for environmentally friendly products and services.

- **Research and Education Institutions:**

It develops new technologies, methodologies and trains the necessary specialists.

Tools for implementing environmental efficiency

Table 8

Tool type	Examples	Purpose
Legislative instruments	Laws, regulations, environmental standards	Imposing compliance with ecological criteria
Economic instruments	Green taxes, subsidies for green technologies, cap-and-trade system, tax incentives	Boosting investment in sustainable technologies and practices
Technological tools	Green technologies, renewable energy systems, recycling and reuse technologies	Reducing resource consumption and pollution
Educational and awareness-raising tools	Ecological education in schools, public campaigns, professional trainings	Increased involvement of citizens and economic actors
Planning and monitoring tools	Environmental impact assessment, environmental indicators, environmental audits	Ensuring compliance with environmental standards and monitoring progress

Institutions and actors involved

Table 9

Category of actor	Role in environmental efficiency	Examples in the Republic of Moldova
Central public authorities	Policy development, monitoring of implementation	Ministry of Environment, Ministry of Agriculture, Energy Efficiency Agency
Local authorities	Implementation of policies at regional/rational level	District councils, town halls
Companies and industry	Adoption of green technologies and sustainable practices	Energy, agricultural, industrial enterprises

Category of actor	Role in environmental efficiency	Examples in the Republic of Moldova
NGOs and civil society	Environmental education, environmental projects, advocacy	Eco-Razem, WWF Moldova
Academic and research institutions	Research, specialist training, consultancy	Universities, environmental research institutes
The general public	Participation in recycling programmes, consumption reduction, volunteering	Citizens involved in environmental campaigns and community projects

Scopes of environmental efficiency at international level

Table 10

Domain	Examples of application
Energy and industry	Transition to renewable energy (Germany – Energiewende), low-emission industrial processes
Transport and mobility	Electric and Hybrid Vehicles (Norway), Green Public Transport, Bicycle Infrastructure
Sustainable agriculture	Precision agriculture, reduction of water consumption and pesticides (Israel, Netherlands)
Waste management	Recycling and circular economy (Sweden – more than 99% recovered waste), composting and energy recovery of waste
Biodiversity and environment	Creation of protected areas and ecosystem rehabilitation (Costa Rica, Kenya)
Education and awareness	Global and local campaigns, education programmes for climate change (UN, UNESCO)

Implementation tools at international level

Table 11

Tool type	Examples	Purpose
Legislative instruments and international conventions	UN Framework Convention on Climate Change (UNFCCC), Kyoto Protocol, Paris Agreement	Regulating emissions and promoting sustainable development
Economic instruments	Carbon taxes (Sweden, Canada), emission allowance schemes (EU ETS), subsidies for renewable energies	Boosting emission reductions and the uptake of green technologies
Technological tools	Green technologies and energy efficiency, CO2 capture and storage (Germany, Japan)	Reducing resource consumption and pollution
Educational and awareness-raising tools	UNESCO - Education for Sustainable Development, Global Climate Action Campaigns	Increasing public engagement and adopting environmentally friendly behaviour
Monitoring and planning tools	UN Sustainable Development Indicators, IPCC Reports, Environmental Impact Assessments	Monitoring of progress and assessment of environmental effects

Institutions and actors involved at international level

Table 12

Category of actor	Role in environmental efficiency	International examples
International organisations	Developing global policies, monitoring progress	UN, UNEP, UNESCO, IPCC, World Bank
National governments	Adoption and implementation of environmental legislation and policies	Germany, Sweden, Costa Rica, Norway
International companies	Deployment of green technologies and sustainable practices	Tesla, Siemens, IKEA, Unilever
NGOs and civil society	Advocacy, education, implementation of environmental projects	WWF, Greenpeace, Friends of the Earth
Academic and research institutions	Research and development, training of specialists	Technical and environmental universities, climatological research institutes
The global public	Participation in campaigns, consumption reduction, volunteering	Citizens involved in local and global environmental action

Description of the areas of application of environmental efficiency at global level:

Energy and industry

- Description: Optimise the use of energy resources and reduce the polluting impact of industry.
- International examples:
 - Germany: the Energiewende programme – transition to renewable energy and reduction of industrial emissions.
 - Japan: efficient industrial technologies and water recycling in industrial processes.
- Benefit: Reduction of CO₂ emissions, lower consumption of energy and raw materials.

Transport and mobility

- Description: Promotes environmentally friendly transport to reduce pollution and resource consumption.
- International examples:
 - Norway: incentives for electric vehicles and charging infrastructure.
 - Netherlands: extensive networks of cycle paths and environmentally friendly public transport.
- Benefit: Reducing air pollution, lowering noise and energy efficiency.

Sustainable agriculture

- Description: Application of technologies and practices that reduce water, pesticides and energy consumption.
- International examples:
 - Israel: drip irrigation systems and precision agriculture.
 - Netherlands: smart farms and crop monitoring technologies.
- Benefit: Protecting soil and water, increasing productivity and reducing pollution.

Waste management

- Description: Collection, recycling and recovery of waste to minimise environmental impact.

- International examples:
 - Sweden: more than 99% of municipal waste is recycled or recovered energy.
 - Germany: advanced recycling and selective collection systems.
- Benefit: Reducing landfills and capitalising on secondary resources.

Conservation of biodiversity and the environment

- Description: Protection of ecosystems and natural resources essential for global balance.
- International examples:
 - Costa Rica: 99% of electricity comes from renewable sources and forest conservation policies.
 - Kenya: creation of national parks and species protection programmes.
- Benefit: Maintaining biodiversity and ecosystem services.

Ecological Education and Awareness

- Description: Global information and training on sustainable development and environmental protection.
- International examples:
 - UNESCO: Education for Sustainable Development (EDD) programmes.
 - Global Climate Action Campaigns: informing and mobilising the public on climate change.
- Benefit: Increasing citizen engagement, adopting responsible behaviour and supporting international green policies.

Republic of Moldova - Local Good Practices

- Chisinau – Selective collection and recycling: implementation of recycling programmes in neighbourhoods and public institutions.
- Orhei – Solar energy parks: supplying renewable energy to the farm and public buildings.
- Cahul – Agriculture with efficient irrigation: reducing water consumption and increasing crop yields.
- ‘Orheiul Vechi’ Reservation – Preservation of biodiversity: sustainable management of the area and restoration of habitats.

Tools for implementing environmental efficiency

1. Legislative and regulatory instruments

- Description: Laws, conventions and regulations that set environmental standards and obligations for states and companies.
- International examples:
 - UN Framework Convention on Climate Change (UNFCCC)
 - Kyoto Protocol (1997)
 - Paris Agreement (2015)
 - EU Directive on air quality and biodiversity
- Benefit: Creating a binding framework for reducing emissions and protecting the environment.

2. Economic instruments

- Description: Financial mechanisms that encourage investments in green technologies and sustainable practices.
- International examples:
 - Carbon taxes (Sweden, Canada)
 - Emission allowance systems / cap-and-trade (European Union – EU ETS)
 - Subsidies for renewable energies and green technologies (Germany, Japan)
- Benefit: Stimulating emission reductions and the uptake of green technologies.

3. Technological tools

- Description: Technologies and innovations that reduce resource consumption and environmental impact.
- International examples:
 - CO2 capture and storage (CCS – Germany, Japan)
 - Advanced recycling and energy recovery technologies for waste (Sweden, Germany)
 - Efficient irrigation systems and precision agriculture (Israel, Netherlands)
- Benefit: Reducing the consumption of energy, water and raw materials, reducing pollution.

4. Education and Awareness Tools

- Description: Training and information activities that increase the involvement of the public and economic actors.
- International examples:
 - UNESCO - Education for Sustainable Development (EDD)
 - Climate Action and Global Climate Strike
 - Educational programs and workshops for citizens and companies
- Benefit: Raise awareness and adopt environmentally responsible behaviour.

5. Monitoring and planning tools

- Description: Systems for assessing progress, impact and compliance with environmental standards.
- International examples:
 - UN Sustainable Development Indicators (SDGs)
 - IPCC reports on climate change
 - Environmental Impact Assessment (EIA) for international projects
- Benefit: Monitoring progress, identifying problems and adjusting policies.

The main institutional environmental actors in the Republic of Moldova are:

Ministry of the Environment – responsible for designing and coordinating environmental policies, authorities

subordinate administrative bodies and public institutions founded by it:

1) Environment Agency – with the functions of implementing environmental policies, assessing and regulating (through authorisation) activities with an impact on the environment, monitoring the quality of environmental components and information. The Environment Agency has an Environmental Reference Laboratory (hereinafter LRM) and two territorial subdivisions to the north and south of the country;

2) The Inspectorate for Environmental Protection (hereinafter – IPM) – with functions of controlling activities with an impact on the environment, the way in which the provisions of normative and permissive acts are complied with, the application of contravention sanctions. The inspectorate has subdivisions in each district of the country;

3) "Moldsilva" Agency – with policy implementation functions in the fields of forestry and cinematography, ensuring the protection and safeguarding of forests and fauna, maintaining and preserving biodiversity, supported by 24 forestry companies and public research institutions;

4) the Waters of Moldova Agency – with functions for the implementation of state policies in the field of water management;

5) Agency for Geology and Mineral Resources – with functions to implement the state policy in the field of geological research, rational use and protection of the subsoil, ensuring research, evidence and regulation of the use of mineral resources;

6) The National Agency for the Regulation of Nuclear and Radiological Activities – with functions to carry out the State's policy in the field of nuclear and radiological activities, regulates the use of installations with sources of ionising radiation and ensures the control and supervision of radioactive activities;

7) State Hydrometeorological Service – with functions to perform observations on hydrometeorological and agrometeorological conditions, meteorological, hydrological and environmental forecasting, warning of dangerous hydrometeorological phenomena;

8) Public Institution National Office for the Implementation of Environmental Projects

– with implementation functions for financial and technical assistance projects, external and internal, in the field of environmental protection and use of natural resources.

Information, awareness and environmental education of the population

The effectiveness of environmental policies is based on data, indicators, information and assessments related to the implementation of environmental legislation, as well as on the results of scientific research in the field. Considerable progress has been made in strengthening this knowledge base, informing and raising public awareness and improving the confidence of decision-makers and the public in the data and environmental information-based approach. This has facilitated greater understanding of environmental and societal challenges.

Promoting and understanding environmental protection and sustainable development needs is a priority for the Republic of Moldova. Various tools are used to raise awareness of environmental protection and promote compliance with environmental requirements, including official websites of environmental authorities, information campaigns, training activities on environmental regulations, communication platforms and targeted letters. Thus, information on the decision-making process, activity plans and reports, authorisation procedures, inspection plans, environmental actions carried out, etc. are published on the official websites of public authorities.

However, good information requires optimising and redesigning the flow of published environmental information to be easily found and accessed from a user's perspective, as well as continuously improving the quantity and quality of information published on the authorities' official websites.

Awareness-raising activities on existing environmental regulations, as well as on the institutions involved in ensuring this process, are also insufficient. Digital opportunities should be harnessed to better inform the public about the current state of the environment at local and national level, thereby stimulating behavioural change in the population.

Independent reports show that important standards such as: transparency, public participation and access to justice in environmental matters, as laid down in the Aarhus Convention on Access to Information, Justice and Public Participation in Environmental Decision-making, ratified by Parliament Decision No 346/1999, have not yet been fully achieved in the Republic of Moldova. Further efforts in these areas would benefit citizens, businesses and public institutions.



AUTO-EVALUE QUESTIONS

Scopes of environmental efficiency

1. What are the main areas of application of environmental efficiency at global level?
2. Give examples of applying environmental efficiency in the energy sector.
3. How do the principles of environmental efficiency in agriculture and waste management apply?
4. How does green transport contribute to green efficiency?
5. Why is education and public awareness important for environmental efficiency?

Implementation tools

6. What are the main categories of instruments for implementing eco-efficiency?
7. Give examples of legislative and regulatory instruments at international level.
8. How do economic instruments stimulate the uptake of green technologies?
9. What role do technological tools play in environmental efficiency?
10. How do educational and awareness-raising tools contribute to increasing environmental efficiency?
11. What role do monitoring and planning tools play in implementing green policies?

Institutions and actors involved

12. What are the main international institutions involved in promoting environmental efficiency?
13. What is the role of national governments in implementing environmental efficiency?
14. How do companies and the private sector contribute to environmental efficiency?
15. What role do NGOs and civil society play in promoting green practices?
16. How do the public and academic institutions participate in increasing environmental efficiency?

Subject 8: Projects for the implementation of the circular economy in the Republic of Moldova.

In the Republic of Moldova, the implementation of the circular economy is supported by the Programme to promote the green and circular economy, approved in 2024 for the period 2024-2028, which aims at investments, innovation, optimisation of resources and reduction of environmental impact. Another major project is the Programme to promote the green and circular economy (2023-2027), which includes measures to support green initiatives and align with the objectives of the European Green Deal.

Circular economy – a generic term used for an industrial economy that is created with the aim of being restorative and in which the material cycle is of two kinds: biological cycle, where the processes act in such a way that the components re-enter the biosphere without adverse effects; The second cycle is the technical cycle, where components are used very efficiently and do not enter the biosphere.

Key Documents and Programs:

- **Programme to promote the green and circular economy (2024-2028):**

This government document defines strategic directions for the transition to a more sustainable economy, including by stimulating innovation and investment in the green sector, according to the [Economic Council](#) website.

- **Programme to promote the green and circular economy (2023-2027):**

A design and implementation programme designed to align Moldova with the objectives of the European Green Deal and promote circular practices, as estimated in 2023 on [Particip.gov.md](#) and [EU4Environment](#).

General objectives

- Encouraging investment: in the green economy sectors.
- Boosting innovation: and start-ups towards green and circular business practices.
- Optimising the consumption of natural resources .
- Reducing environmental impact: and the carbon footprint of the Republic of Moldova.
- Creating new job opportunities: in the green economy.

Alignment with European objectives

- The Republic of Moldova aims to align its economic policies with the ambitious objectives of the European Green Deal by promoting the principles of the green economy and circular economy concepts.

Waste management projects:

- **Chisinau – Selective collection and recycling**
 - Implementation of the system of selective collection of paper, plastic, metal and glass.
 - Collaboration between city hall, NGOs and private recycling companies.
 - **Benefit:** Reduction of landfilled waste and recovery of recyclable materials.

Composting projects in rural communities:

- Creation of compost centres for organic waste.
- Involvement of households and public institutions.
- **Benefit:** Reducing the amount of organic waste and producing natural fertilisers.

Renewable energy and energy efficiency

- Photovoltaic parks in Orhei and other districts
 - Powering public buildings and the farm with solar energy.
 - Benefit: Greenhouse gas emission reductions and financial savings.
- Energy efficiency projects in schools and hospitals
 - Modernization of heating and lighting systems.
 - Benefit: Reduced energy consumption and lower costs, promoting circular economy principles by optimising resources.

Sustainable agriculture and circular economy

- Farms with efficient irrigation – Cahul district
 - Use of drip irrigation systems and soil monitoring technologies.
 - Benefit: Increasing productivity and reducing water and energy consumption.
- Recovery of agricultural debris
 - Turning plant residues and manure into compost or biogas.
 - Benefit: Reducing agricultural waste and obtaining energy or natural fertilizers.

Educational and awareness-raising projects

- Green School - green education campaigns in schools
 - Practical recycling activities, saving energy and water, planting trees.
 - Benefit: Forming a generation aware of the principles of the circular economy.
- Public environmental awareness campaigns
 - Promoting re-use, recycling and reducing resource consumption in urban and rural communities.
 - Benefit: Increasing citizen engagement and supporting sustainable practices.

Innovation and technology projects

- Start-ups and social enterprises for recycling and reuse
 - Manufacture of products from recycled materials (furniture, reusable packaging).
 - Benefit: Creating economic value from waste and reducing environmental impact.

The programme to promote the green and circular economy in the Republic of Moldova for the period 2024–2028, approved by the Government in July 2024, aims to support the transition to a sustainable and environmentally friendly economic model. It aligns with the principles of the European Green Deal and aims to improve the quality of life of citizens by ensuring a clean and healthy environment.

The granting by the European Council of candidate country status to the Republic of Moldova for accession to the European Union (EU) in June 2022 provided a number of advantages, among others, access to an extended international market for Moldovan producers, sustainable development, attractiveness for foreign investors, assistance and support in carrying out reforms in key areas, direct access to European programmes. In this context, it is necessary to develop public policy documents aligned with the European Green Deal, the 2030 Agenda for Sustainable Development and the Go Green Initiative, which will also take into account Moldova's previous commitments in the field of green economy.

The aim of the program is to promote the implementation of green economy principles and the adoption of circular economy principles in the Republic of Moldova in accordance with economic development and social welfare.

The programme is a medium-term public policy document (5 years), deriving from the National Development Strategy ‘European Moldova 2030’, the draft Environment Strategy 2030, the objectives of the European Green Deal and the results achieved following the implementation of the Programme to promote the ‘green’ economy in the Republic of Moldova for the years 2018-2020 and the Action Plan for its implementation. The preparation of the Programme is coordinated by the Inter-ministerial Working Group on Promoting the Green and Circular Economy.

The preparation of the Programme and the work of the Working Group is supported by the EU4Environment Green Economy programme, funded by the EU, as part of its Output 1.1 component on ‘Promoting the green economy, policy coherence and cross-sectoral coordination’, which is implemented by the UN Environment Programme (UNEP).

The Republic of Moldova faces considerable economic and environmental challenges, and the transition to a circular economy can address both issues simultaneously. On the one hand, the circular economy can help reduce dependence on imports of raw materials, and on the other hand, it can support the development of greener, more efficient and internationally competitive industries.

1. Waste reduction and environmental protection

Today, many of the resources used in industry end up being wasted at the end of the product lifecycle. The circular economy offers solutions to significantly reduce waste and minimize pollution, which is essential to protect the environment in Moldova.

2. Increasing resource efficiency

By promoting material reuse and recycling, the circular economy can help Moldova become more efficient in using natural resources, thereby reducing production costs for many industries such as agriculture, manufacturing and construction.

3. Creation of new jobs

The transition to a circular economy can stimulate the development of new economic sectors, such as recycling, remanufacturing and waste management, creating jobs and training opportunities for young people in the Republic of Moldova.

4. Attracting foreign investment

Sustainable business models are increasingly sought after in international markets. Foreign investors are attracted to companies that adopt environmentally responsible practices. Thus, the circular economy can be a magnet for external capital aimed at developing green and sustainable businesses.

The main objectives of the programme include:

1. Reducing carbon emissions: Promoting energy efficiency and the use of renewable energy sources to reduce environmental impacts.
2. Promoting recycling and reuse: Implement circular economy principles by designing products to be durable and easy to repair, thereby reducing waste and regenerating natural resources.
3. Developing green jobs: Creating opportunities in sectors such as renewable energy and waste recycling, contributing to sustainable economic growth.
4. Optimising the consumption of natural resources: Promoting resource efficiency to reduce waste and support sustainable development.
5. Reducing environmental impact and carbon footprint: Implement measures to protect the environment and reduce pollution, contributing to the fight against climate change.

To achieve these objectives, the program provides for investments estimated at over 200 million lei, of which 100 million lei will be allocated from the state budget, and the rest from other sources. Planned measures include the classification of green economic activities and the introduction of green skills in public administrations.

By implementing this program, the Government aims to support economic growth by promoting ecological conditions and practices, thus ensuring a clean and healthy environment for citizens.

Support in achieving national environmental objectives:

- Increasing the number of green employees/jobs in priority sectors of social-economic development
- Increasing the number of green SMEs (including those that have received ODA grants or apply eco-innovations or purer production)
- Increasing the rate of eco-innovations/environmental technologies applied in practice by economic agents, including in industrial parks and free economic zones, etc.
- Increasing the rate of sustainable/green public procurement applying eco criteria.
 - Launching the eco-labelling procedure and increasing the number of local products and services that hold the eco-label.

- Increase the rate of recycled waste in the total waste formed (with possible disaggregation by waste category (plastic, glass, paper/cardboard, metal, WEEE, etc.).
- Increasing the number of companies and organisations implementing environmental management standards (ISO 14 001 and EMAS systems)
- Increasing the number of people/public officials/trained on the Green Economy and the Strategic Environmental Assessment.

How can Moldova benefit from the circular economy?

1. Sustainable agriculture

Moldova's agricultural sector can benefit significantly from the principles of the circular economy. For example, farmers can adopt recycling practices for organic waste to create compost or biogas, thereby helping to improve soil fertility and reduce the use of chemical fertilisers. In addition, water reuse and the reduction of plastic waste in agriculture are essential steps for more responsible agriculture.

2. Remanufacturing and Recycling of Materials

The industrial sector can gradually move from the production of single-use products to the remanufacturing of parts and the recycling of materials. Thus, Moldova could adopt more advanced recycling technologies, and industries using recyclable resources could significantly increase, thus reducing production costs and environmental impact.

3. Promoting Responsible Consumption

Encouraging citizens to adopt more responsible consumption behaviour is essential. Campaigns to educate the population on recycling and reuse are essential for the success of the circular economy in Moldova. Thus, a culture of environmental responsibility can be created to support the implementation of this economic model.

Simple Steps for the Implementation of the Circular Economy in Moldova

1. Educating and informing the public

Educational initiatives for farmers, young entrepreneurs and communities will be fundamental to understanding and embracing the circular economy. Creating learning platforms, trainings and seminars can help spread this concept.

2. Supporting Innovation and Green Technologies

Government and financial institutions can support innovators in recycling and green technologies by providing subsidies and tax incentives to develop circular solutions.

3. Improving Waste Management Infrastructure

For the circular economy to be successful, it is essential to modernise waste collection and recycling infrastructure. Investments in recycling centres and waste management solutions will make a significant contribution to reducing pollution and saving resources.

The basic normative and political framework that helps Moldova in promoting the transition to a green and circular economy are:

1. Law 1515/1993 on environmental protection;
2. Law No 98/2022 on atmospheric air quality
3. Law 277/2018 on chemicals;

4. Law 227/2022 on industrial emissions;
5. Law No 10/2016 on the promotion of the use of energy from renewable sources;
6. Law no.209/2016 on waste;
7. Law no.139/2018 on energy efficiency
8. National Development Strategy "European Moldova 2030";
9. National Environment Strategy 2014-2023 (new strategy to be developed);
10. Waste management strategy in the Republic of Moldova for the years 2013-2027;
11. The low-emission development strategy of the Republic of Moldova until 2030;
12. Energy Strategy of the Republic of Moldova until 2030;
13. National strategy for agricultural and rural development for the years 2023 to 2030;
14. National Regional Development Strategy of the Republic of Moldova for 2022 – 2028, etc.



AUTO-EVALUE QUESTIONS

A. Areas and examples of projects

1. What are the main areas in which the circular economy is applied in the Republic of Moldova?
2. Give examples of waste management projects in Moldova.
3. Which renewable energy projects contribute to the circular economy in Moldova?
4. How do the principles of the circular economy apply to agriculture and the recovery of agricultural waste?
5. Give examples of local projects promoting recycling and reuse of materials.

B. Benefits and results

6. What are the main benefits of circular economy projects for the environment and society in Moldova?
7. How do green energy projects contribute to reducing greenhouse gas emissions?
8. How do composting and recycling projects reduce the environmental impact of waste?
9. How do these projects support local economic development and job creation?

C. Education, Awareness and Engagement

10. What role do environmental education campaigns play in the success of circular economy projects?
11. How can the public be involved in local circular economy initiatives?
12. What are the roles of NGOs and academic institutions in promoting circular practices in Moldova?

Topic 9: Education and environmental awareness. Education campaigns.

Green education: The process of informing, training and raising citizens' awareness on a global, regional and local scale on environmental issues, sustainable development and sustainable practices.

The effectiveness of environmental policies is based on data, indicators, information and assessments related to the implementation of environmental legislation, as well as on the results of scientific research in the field. Considerable progress has been made in strengthening this knowledge base, informing and raising public awareness and improving the confidence of decision-makers and the public in the data and environmental information-based approach. This has facilitated greater understanding of environmental and societal challenges.

Various tools are used to raise awareness of environmental protection and promote compliance with environmental requirements, including official websites of environmental authorities, information campaigns, training activities on environmental regulations, communication platforms and targeted letters. Thus, information on the decision-making process, on the official websites of public authorities, is published.

the activity plans and reports, with regard to authorisation procedures, inspection plans, environmental actions carried out, etc. However, in order to be well informed, the flow of published environmental information needs to be optimised and redesigned so that it can be easily found and accessed from a user's perspective, and the quantity and quality of information published on the authorities' official websites needs to be continuously improved.

Awareness-raising activities on existing environmental regulations, as well as on the institutions involved in ensuring this process, are also insufficient. Digital opportunities should be harnessed to better inform the public about the current state of the environment at local and national level, thereby stimulating behavioural change in the population.

Environmental education and awareness involves providing people with organised information about the environment, ecosystems and sustainable development, using various methods such as advertising campaigns, information publications and web pages. These efforts expand formal education in schools, providing access to information about the environment and human-ecosystem interaction.

What is green education

- **Environmental information:** It focuses on the functions of the environment.
- **Awareness:** It aims to raise public awareness of the importance of preserving the environment.
- **Sustainable development:** Stresses the importance of human interaction with ecosystems in a balanced way that enables sustainability.

Environmental education campaign methods

- **Advertising campaigns:** Ads and advertisements conveying ecological messages.
- **Printed materials:** Brochures, posters, guides and other informative publications.
- **Online platforms:** Web pages, blogs and social networks can be used to disseminate information and create online communities.
- **Formal education:** School and university programs that integrate the discipline of ecology into the curriculum.

The ultimate aim is to shape responsible behaviour and promote actions in favour of environmental protection.

The situation created obliges human society, more than ever, to form a system of complex knowledge about the integrity of nature, about the unity of man, society and nature, to form the respective competences, value guidelines, conduct and activity that would ensure a responsible attitude towards nature, focused on **ecological culture**. **Green education plays a key role in solving these problems.** William Stapp was one of the promoters of international programmes and meetings that ultimately led to the worldwide recognition of the need for green education. He was thus the director of the first International Environmental Education Programme launched in 1975 by the United Nations

Educational, Scientific and Cultural Organisation – UNESCO, in collaboration with the United Nations Environment Programme – UNEP. The Tbilisi Declaration followed (UNESCO, 1978: 25), including in Recommendation 1(3) the purpose and objectives of green education: “*The basic purpose of environmental education is to enable individuals and communities to understand the complex nature of the natural and built environment resulting from the interaction of biological, physical, social, economic and cultural aspects, and to acquire knowledge, values, attitudes and practical skills, with a view to participating in a responsible and effective way in anticipating and solving environmental problems and in managing environmental quality*”.

The ecological personality of contemporary man should be, as the subject of environmental protection and conservation actions, the one who voluntarily controls and adapts his own activities according to the requirements, the contemporary ecological standards, the one who is aware of the environmental problems, being able to find the right solutions, to develop projects and make appropriate decisions regarding their implementation, to express critical attitudes in the appreciation of his own facts and those of his fellow men, to be capable of self-education and continuous improvement in the ecological field.

Our great national poet Grigore Vieru described the irrational activity of man in relation to nature in the following words: *I am afraid of the war of nature that has already begun. God's judgment will not forgive us for the barbaric damage we have done to the International Homeland that is Nature*. It is time to arm ourselves willingly, knowingly and wisely to protect, but not to destroy, nature.

Example of environmental awareness based on waste management:

To support the achievement of future waste management tasks are mandatory measures to communicate and involve the population:

Awareness-raising and information campaign: an important tool in local development activities, promoting the formation of skills and attitudes necessary to understand the importance of environmental issues and to develop the conscious and responsible activity of citizens.

Public involvement: A successful planning process not only defines programs, but often opens paths of communication between parties who previously did not even speak to each other. This communication leads to consensus building. As a result, it will help define the management practices that are truly necessary and most appropriate to succeed. Effective public involvement in waste management planning and program development is the mechanism for addressing public concerns and values at every stage of the planning and decision-making process.

Rules underpinning public awareness and information campaigns

In the field of waste management are:

Rule 1: Public awareness of waste management depends on education strategies and programmes defined at local, regional and/or national level!

Rule 2: A successful public awareness campaign will increase knowledge and motivate changes in the behaviour of waste generators. It is necessary that this:

- be simple and easy to create with practical information relevant to the target audience;
- be in connection with convenient collection facilities;
- provide interactive information material at regular intervals;
- to show people that their support is valued and contributes to real change no matter how small;
- demonstrate the link between micro (small actions) and macro (huge consequences).

The purpose of a public awareness and information campaign is to:

- Conservation and sustainable management of natural resources;
- Reducing health risks and problems associated with poor waste management (e.g. spreading, illegal landfilling, burning of waste, etc.);
- Compliance with legislation in the field of waste management;

- Create an increased understanding of the need for waste management means and personal property vis-à-vis waste responsibility;
- Improve understanding of waste reduction concepts, i.e.: Discount, Reuse, Recycling, Composting.

Awareness and public awareness about biodiversity protection, following the example of the Republic of Moldova, the Botanical Garden.

As clearly stated in a number of international (Convention on the Conservation of Biodiversity, Agenda 21, etc.) and European Union (Habitats Directive, Action Plan for Botanical Gardens, etc.) documents, a number of major tasks and responsibilities lie with botanical gardens around the world. This project is oriented towards the major issues of conservation of phytodiversity through ecological education, issues in which the Botanical Garden of the Republic of Moldova must also be involved. The Botanical Gardens have historically played a significant role in the history and cultural development of peoples. Today, in a changing world, heavily affected by the anthropogenic impact, the tasks of these institutions are increasing and diversifying, in the tendency to contribute as effectively as possible to the preservation of the planet's natural heritage. In a rather generous and acceptable approach, Botanical Gardens are considered 'institutions housing well-identified collections of living plants used for the purposes of scientific research, conservation of plant diversity, information and education'. Some of the activities carried out by botanical gardens can be mentioned as particularly significant, namely the following:

- Environmental education for children and adults;
- Informing the public using documentation centres, museums and libraries;
- Training of trainers;
- Tourism, promotion of cultural values and recreation of the public;
- Spontaneous flora research associated with *ex-situ* and *in-situ* conservation projects;
- Tissue and seed banks.

At the same time, the Botanical Garden through everything it has accumulated over time (plant collection, herbarium library, etc.) In this context, we have the responsibility to preserve, enrich and transmit these dowries to future generations.

the value of existing assets;

its value in the history and historical development of botany;

the value of the collections housed in the field, herbarium, library;

-tourist and recreational value.

Dissemination of this information in various forms (electronic, publications, celebration of significant anniversaries, exhibitions symposiums, access to the collection, etc.) is a prerogative to both specialists and non-specialists, society the need for knowledge, understanding and appreciation of the right value of everything that shelters the botanical garden.

Non-formal education has always existed, but today it has to become increasingly organized and planned. In the context of increasing needs for lifelong learning, non-formal learning is taking an increasingly important place. In the field of environmental education, it is important not only to validate non-formal learning through certificates or diplomas, but also to create a training methodological framework that allows the development of coherent and effective educational programs by the institution and the stakeholders (NGO and Botanical Garden) is a necessity.

Given the complexity of ecological education on biodiversity protection, this project aims to start at the same time **the acquisition of knowledge , but also the formation of values , attitudes and compartments .**

The advantages of ecological education in the Botanical Garden are:

- to enable the discovery of knowledge based on concrete realities;
- provide opportunities to practice and change behaviour or skills (e.g. education programme on plant diversity conservation education);

- ensure rapid updating of knowledge in several areas of environmental protection;
- to provide concrete possibilities for action in the environment (plant cultivation programmes for children, plant protection);
- to develop the citizenship spirit through active participation in the life of communities;
- to contribute to the awareness and development of complex situations or realities;
- to ensure educational influences on a wider audience or disadvantaged families;
- to create opportunities for leisure (guided tours in the plant world, organizing exhibitions, etc.).

International and national environmental awareness campaigns with description and results

Table 13

Campaign	Description	Results / Benefits
Earth Day	Global annual event, April 22, with planting, recycling and environmental education activities.	Mobilising millions of people worldwide to protect the environment.
Fridays for Future	Global youth-led movement to fight climate change.	Increasing pressure on governments for climate action and green education.
Let's Do It! world	Environmental clean-up and environmental education in more than 190 countries.	Reducing waste and engaging communities in sustainable action.
UNESCO - Education for Sustainable Development (EDD)	Integrating green education into schools and universities.	Formation of generations aware of the impact on the environment and adoption of sustainable practices.
Global Climate Strike	Protests and campaigns to raise awareness of climate change.	Increased awareness and civic engagement globally.

Campaigns in the Republic of Moldova

Table 14

Campaign / Project	Description	Results / Benefits
"Green School"	Practical activities in schools: recycling, saving energy and water, planting trees.	Ecologically educate students and adopt sustainable habits.
Let's Do It, Moldova	Sanitation and waste collection activities, organised annually.	Reducing waste and involving communities in environmental protection.
Urban awareness campaigns	Promote reuse, recycling, energy and water saving through posters, social media and events.	Increasing public engagement and changing environmental behaviour.
Green competitions and projects for young people	Green Ideas and Projects Competitions in Schools and High Schools.	Fostering creativity and innovation in environmental protection.
Selective collection in Chisinau	Pilot programme for separate collection of paper, plastic, glass and metal	Increase recycling rate and reduce landfill waste

Public awareness campaigns on environmental protection

How to reduce air pollution.

-Environmental information, awareness and education campaign "Learning to collect selectively".

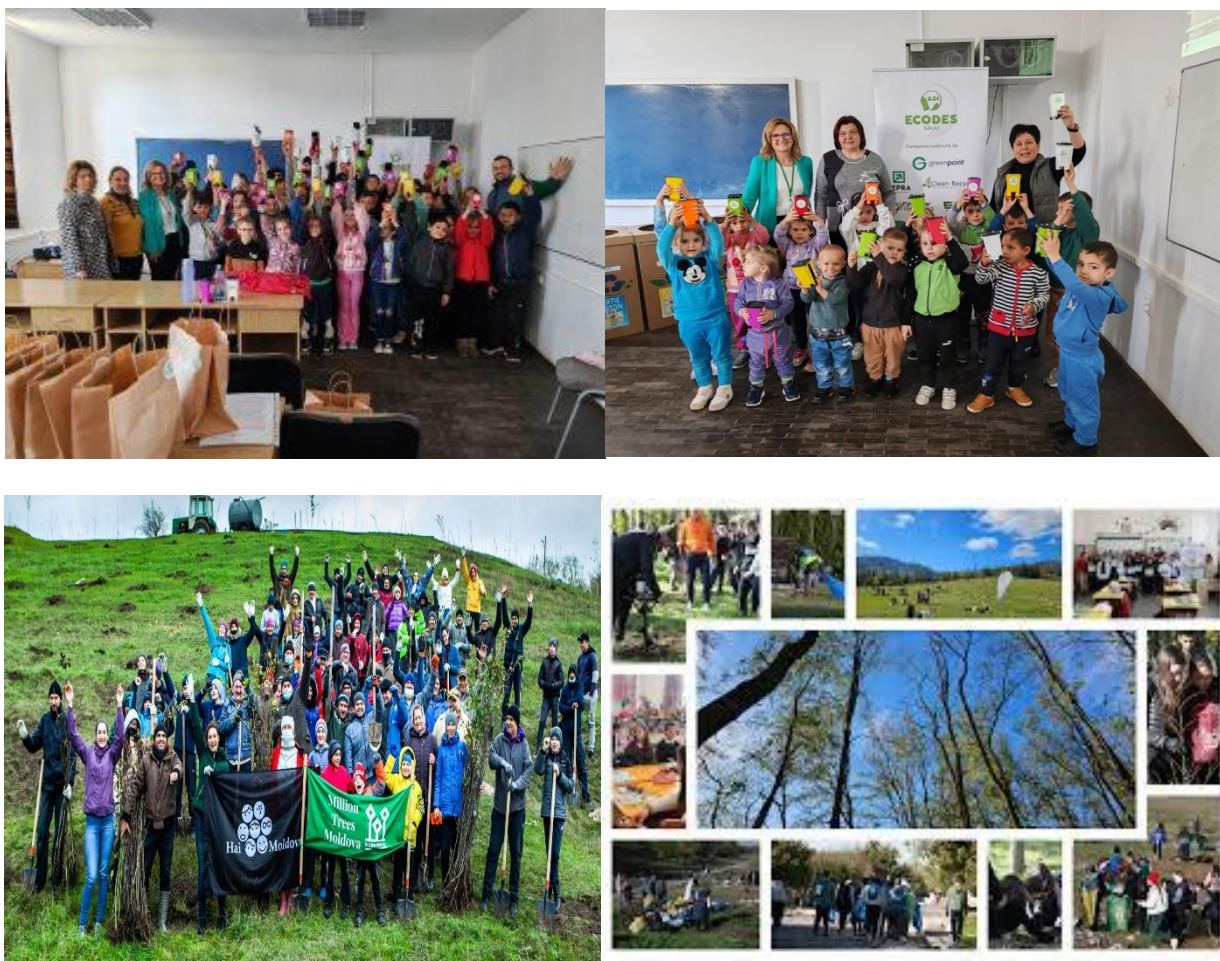


Figure 3.Source:Google.md. Public awareness campaigns on environmental protection.



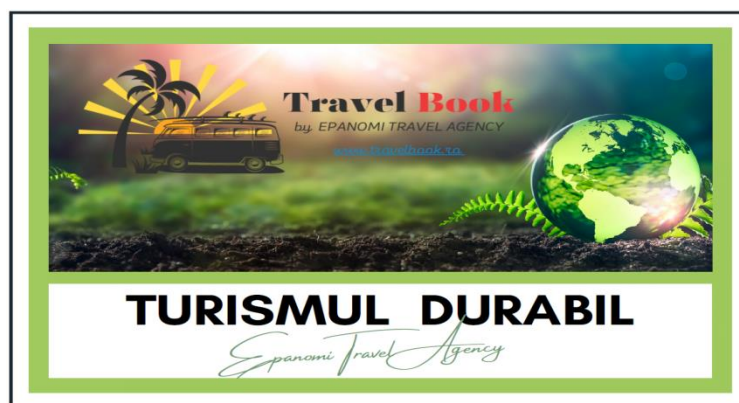


Figure 4. Source: National Network for Rural Development. Public awareness campaigns on the World Day for Sustainable Tourism and the Eco-Tourism Compass.



AUTO-EVALUE QUESTIONS

A. Concept and purpose

1. What is green education and what is its main purpose?
2. Why is environmental awareness important at individual and community level?
3. How does green education contribute to promoting sustainable development?

B. International campaigns

4. Give examples of international environmental education and awareness campaigns.
5. What is Earth Day's role in global environmental education?
6. How does the Fridays for Future movement involve young people in climate issues?
7. What have been the results of UNESCO's Education for Sustainable Development (EDD) projects?

C. Campaigns and projects in the Republic of Moldova

8. What are the objectives of the Green School Programme?
9. How does the "Let's Do It, Moldova" campaign work and what impact does it have on communities?
10. Give examples of recycling and resource-saving activities in schools and high schools.
11. How do urban awareness campaigns contribute to changing the ecological behaviour of the population?

D. Analysis and reflection

12. What are the main differences between international and national campaigns in Moldova?
13. How can the impact of an environmental education campaign be measured?
14. Propose an idea for an environmental campaign for the local community, taking into account the principles of sustainable development and circular economy.

Topic 10. Specific terms and concepts of an environmental management system.

Environmental Management System (EMS) - An organisational framework that allows an organisation to identify, control and improve its environmental impact.

Environmental policy – Formal statement by the organisation on its commitment to environmental protection and sustainable development.

Environmental aspect: Element of the organisation's activities, products or services that may interact with the environment (e.g.: energy consumption, emissions, waste).

Environmental impact: Any change in the environment, positive or negative, caused by environmental aspects.

Environmental objectives and targets – Specific and measurable results that the organisation aims to achieve to improve environmental performance.

Environmental programme – Concrete plan to achieve environmental objectives and targets, with responsibilities and deadlines.

Operational procedures – Instructions and rules for carrying out activities in an environmentally friendly and compliant manner.

Environmental performance indicators (KPIs) – Quantifiable measures that show the organisation's progress in achieving environmental objectives.

Environmental audit – Systematic assessment of the organisation's performance in the field of environmental protection and compliance with EMS.

Managerial review – Regular review of the environmental management system by the organisation's management to ensure efficiency and continuous improvement.

ISO 14001 – International Standard for Environmental Management Systems, which provides requirements and guidelines for implementation.

Legal requirements and environmental regulations – Legislation, directives and rules to be complied with for the protection of the environment.

Continuous improvement – The principle that the organisation continuously optimises its environmental performance through reviews, monitoring and adjustments.

Environmental risk management – Identification and control of risks that may affect the environment or human health.

Environmental Officer – Person in the organisation responsible for the coordination and implementation of EMS.

Stakeholder - Entities that may be affected or have an interest in the activities of the organisation (employees, local communities, authorities, NGOs).

Plan-Do-Check-Act (PDCA) cycle – Methodology used for planning, implementation, verification and corrective action in EMS.

Nowadays, more and more institutions and organisations are concerned about achieving environmental performance by controlling the environmental impact of their activities and at the same time developing their capacity to publicise these performances. These concerns relate to the development of economic and legislative policies, measures to encourage environmental protection, increased stakeholder concern about problems and sustainable environmental development.

Environmental reviews and audits alone are not sufficient to achieve such goals. In order for some companies to meet their legal requirements and environmental objectives, they need to carry out these analyses as part of a structured environmental management system that is integrated into the overall set of management activities.

This structured environmental management system is the objective of international standards included in the ISO 14000 series, which summarise the specific elements of an environmental management system.

The provisions of such a management system may be integrated into the structure of any management requirements in order to achieve the environmental or economic objectives set.

The environmental management system is the working tool that enables an organisation to systematically achieve and control the level of performance it has set itself.

Another important element is the degree of generality of the system presented, applicable to all organisations (of any type and size), adaptable to different geographical, cultural and social conditions.

The success of an environmental management system is to assume responsibility at all levels and functions within the organisation.

The main purpose of an environmental management system is to ensure environmental protection; prevention of pollution; balancing these elements with social and economic needs. The application of such a system allows the organisation to establish and assess the effectiveness of the procedures used to develop its environmental policy, and at the same time to comply with them and demonstrate such compliance.

Scope of the environmental management system

The environmental management system can be applied to *those environmental activities and aspects* that the organisation can control and influence. It must meet a number of requirements in order to enable the organisation applying it to formulate its environmental policy and objectives in the context of compliance with legislation, while taking into account the environmental impact of its activity. The environmental management system is applicable to those organisations that have the following objectives:

- to implement, maintain and improve an environmental management system (EMS);
- compliance with the environmental policy adopted;
- certification/registration of the environmental management system by an external body;
- self-assessment and declaration of compliance with International Standard ISO 14001.

The terms frequently used in this context can be defined as follows:

- *Continuous improvement* is the process of developing and extending the environmental management system to improve overall environmental performance in line with the organisation's environmental policy.
- *The environment* is the place where an organisation operates and includes air, water, land, natural resources, flora, fauna, human beings and their relationships with each other, i.e. the natural and artificial environments.
- *The environmental aspect* is that element of an organisation's activities, products or services that can interact with the environment.
- *Environmental impact* is any change in the environment (harmful or beneficial, total or partial) resulting from an organisation's activities, products or services.
- *The environmental management system* is part of the general management system, which includes the organisational structure, planning activities, responsibilities, practices, procedures, processes and resources necessary to develop, implement, conduct, analyse and maintain environmental policy.
- *Environmental management system audit* is the systematic and documented verification process that enables the objective evidence necessary to establish whether an organisation's environmental management system complies with the environmental management system criteria to be obtained and assessed by that organisation, including the communication of the results of that process to the organisation's management.
- *The environmental objective* is the overall environmental objective resulting from the environmental policy that an organisation aims to achieve and which is usually quantified where possible.
- *Environmental performance*, is the measurable results of the environmental management system, related to the organisation's control over its environmental aspects, based on its environmental policy, objectives and targets.
- *Environmental policy* is the set of intentions and principles stated by the organisation with regard to overall environmental performance, which form the framework for action and for setting the organisation's environmental objectives and targets.
- *The environmental target* is the quantified performance requirement, applicable to all or part of the organisation, resulting from the environmental objectives and which must be set and met in order to achieve those objectives.
- *The stakeholder* is the individual or group concerned or affected by the environmental performance of an organisation.

– *An organisation may be a company, company, firm, undertaking, authority or institution, part or combination thereof (public or private), with limited liability or any other legal status, with its own functional and administrative structure.*

-*Prevention of pollution is the use of processes, practices, materials or products that prevent, reduce or control pollution, which may include recycling, treatment, process modification, control mechanisms, resource efficiency, material substitution, and any other measures in this regard.*



AUTO-EVALUE QUESTIONS

A. Definitions and concepts

1. What is an Environmental Management System (EMS) and what is its main purpose?
2. Explain the difference between environmental aspect and environmental impact.
3. What is an organization's environmental policy?

B. Procedures and planning

4. What is the role of environmental objectives and targets in an EMS?
5. What elements does an environmental programme contain?
6. What does the Plan-Do-Check-Act (PDCA) cycle mean for environmental management?

C. Monitoring and control

7. What are environmental performance indicators (KPIs) and how is it used?
8. What is an environmental audit and what is its purpose?
9. What is the management review in an EMS?

D. Compliance and standards

10. What is ISO 14001 and why is it important?
11. What does the principle of 'continuous improvement' mean in the context of an EMS?
12. What are the main legal obligations of an organisation in the field of environmental management?

E. Actors and Responsibilities

13. Who are the stakeholders in an EMS and what role do they play?
14. What are the duties of the environmental officer in an organisation?
15. How do public institutions and NGOs contribute to the implementation of an EMS?

Topic 11. Requirements of the environmental management system.

Requirements of the environmental management system

4.1. General requirements

Any organisation interested in implementing an environmental management system must meet a number of requirements.

The implementation of an environmental management system aims to improve environmental performance. The organisation should regularly review and evaluate the environmental management system in order to identify opportunities for further and continuous improvements in environmental performance.

An organisation may define limits of application and choose to implement the system throughout the organisation, in certain of its operational units or in specific activities.

The requirements for an environmental management system based on planning, implementation, verification and analysis are in principle the following:

- establishing an appropriate environmental policy;
 - identifying environmental aspects resulting from (existing, past or planned) activities, products or services in order to determine their significant environmental impact;
 - identification of the relevant legislative provisions;
 - identifying priorities and setting appropriate environmental objectives;
 - the establishment of the structure and programmes for the implementation and achievement of the objectives and targets set;
-
- facilitating planning, control, monitoring, audit and review activities to ensure that environmental policy is respected and the environmental management system is appropriate;
 - the possibility for EMS to adapt to any type of change.

4.2. Environmental policy

An organisation's environmental policy must be clearly defined by the organisation's management, who must specify its environmental objectives and priorities.

Environmental policy, in order to be effective, must meet the following *requirements*:

- correspond to the nature, size and environmental impact of the organisation's activities, products or services;
- Include a commitment to continuous improvement and pollution prevention;
- include a commitment to comply with existing environmental legislation and regulations;
- provide the necessary framework for setting and analysing environmental objectives and targets;
- addresses all staff;
- be available to the public.

Environmental policy is seen as the driving force behind the implementation and improvement of an organisation's environmental management system. It must reflect the commitment of the organisation's management to comply with the legislation in force and to pursue performance and continuous improvement. Environmental policy is the basis on which the organisation relies to set its environmental objectives and targets. Environmental policy therefore needs to be sufficiently clear to be understood by stakeholders (both within the organisation and externally), regularly reviewed and revised to reflect changing conditions and information. It is also recommended that its scope be clearly identified.

The organisation's management must define and adapt its environmental policy in the context of the environmental policy of any organisational group to which it belongs.

In order to achieve the objectives set by the environmental policy, it is necessary for the organisation to identify both the environmental aspects, the existing legal provisions, the objectives and targets, as well as the established responsibilities and the planned implementation deadlines.

In order to highlight *environmental issues*, the organisation must establish and apply procedures to identify them in relation to activities and products or services which can be controlled and influenced by the organisation.

The aim of such procedures is to identify and update those environmental aspects that have a significant impact. Issues related to the process of identifying significant environmental issues that should be prioritised by an organisation's environmental management system are:

- the cost and time needed to carry out the analyses;

- the actual degree of control over the environmental aspects considered;
- determining environmental aspects by inputs and outputs associated with their relevant activities, products and/or services (current and past);
- a preliminary environmental analysis to take into account all environmental aspects of the organisation.

The analysis of these issues should mainly cover the following areas:

- legislative provisions as well as regulations;
- identification of significant environmental aspects;
- reviewing existing environmental management procedures and practices;
- analysis and evaluation of the follow-up to the investigation of previous incidents;
- operating conditions within the organisation and possible emergency situations.

An appropriate approach for this preliminary environmental review may include checklists, interviews, measurements and direct inspections, results of previous audits or other analyses that depend on the nature of the organisation's activities.

The process of identifying significant environmental aspects associated with activities in the organisation's business units shall take into account, if necessary, the following *factors*: emissions to air, discharges to water, waste management, soil contamination, other community and local environmental issues.

Organisations may select categories of activities, products or services to identify those aspects that are likely to have a significant impact, or assess each product input and output.

Therefore, in setting and analysing its objectives, an organisation must take into account both legal provisions and significant environmental aspects, technological choices, its financial, operational, commercial requirements, as well as the views of stakeholders.

All environmental objectives and targets must be consistent with environmental policy.

4.3. Environmental management programmes – applicability

In order to set environmental objectives and targets, any organisation must establish and implement one or more *programmes* which must include: the designation of responsibilities and the means and deadlines for achieving them.

The creation and use of one or more programmes is a key element of the success of implementing an environmental management system. It is recommended that the programme describes how the objectives and targets set by the organisation will be achieved and also indicates the deadlines and staff responsible for implementing the organisation's environmental policy for new activities.

Such a programme may also include consideration of the planning, design, production, marketing and disposal phases.

In order to ensure the effectiveness of environmental management, the tasks, responsibilities and authority must be defined, properly documented and communicated to those concerned.

The organisation's management must provide the resources (human, technological and financial) needed to implement and control the environmental management system.

Successful implementation of an environmental management system requires the commitment of all organisational staff, environmental managers and other organisational structures or other functions involved in environmental matters.

This commitment should start from the highest level of management, which should determine the organisation's environmental policy and ensure the implementation of the environmental management system, and it is therefore recommended that representatives with different responsibilities and authorities be appointed to implement the environmental management system.

The management of the organisation must also ensure that resources are allocated in order for the environmental management system to be able to start its work and to maintain, define and communicate the responsibilities of the environmental management system.

Appropriate training needs are also needed to ensure the implementation and operation of an environmental management system.

At the same time, the organisation must set up a procedure for internal communication, reception, documentation and response to relevant information and requests from interested parties.

In order to promote an environmental management system, it is necessary to draw up documents, to maintain and to train a system for their control.

The organisation must establish, analyse and review the emergency preparedness procedures.

Any organisation promoting an environmental management system must establish and maintain procedures for defining the responsibilities of decision-making steps, as well as for dealing with and analysing non-compliance, taking action to reduce its impact, initiating and completing corrective and preventive actions.

ELEMENTS OF THE ENVIRONMENT MANAGEMENT SYSTEM

Preliminary clarifications

S.M.M. is a complex process that ensures order and consistency within organisations, as well as their concerns about the environment, the allocation of resources, the attribution of responsibilities, the correct and continuous assessment of different internal practices and processes aimed at ensuring the smooth running of activities. S.M.M. is considered to be compatible with the concept of *sustainable development* and is essential for strengthening an organisation's ability to meet its environmental objectives and to guarantee existing national and/or international requirements.

The most important *principles* to be respected in a S.M.M. are:

- considering environmental management as one of the organisation's top priorities;
- establish and maintain communication with interested parties;
- determining legal requirements and environmental aspects;
- determining the responsibilities and responsibilities of management and staff for environmental protection;
- encourage environmental planning throughout the life cycle of the product or process;
- ensuring sufficient and adequate resources, training staff to achieve the performance levels set on a continuous basis;
- assessing the environmental performance against the organisation's environmental policy;
- Establish a management process to audit and analyse SMM in order to identify opportunities for system improvement and environmental performance.

2. Advantages of the environmental management system

The main purpose of introducing an effective environmental management system is to protect human health and the environment against the potential impacts of the activities, products or services that an organisation provides, and also to help maintain and improve the quality of the environment in general. The main advantages of introducing an S.M.M. are as follows:

- achieving greater competitiveness in a competitive market;
- obtaining benefits from an economic point of view;

- there is a clear commitment on the part of the organisation's management to achieving its own environmental policy and objectives;
- proof of the organisation's compliance with legislation and regulations
- a process of continuous improvement, etc.

3. Principles and elements of the environmental management system

The basic principles of S.M.M. are as follows:

- Environmental engagement and policy;
- Environmental policy planning;
- Putting environmental policy and targets into practice;
- Measurement and assessment of environmental performance;
- Continuous analysis and improvement of EMS.

3.1. Principle of commitment and environmental policy

In line with this principle, it is recommended that any organisation should define its environmental policy and commit to the introduction of its own S.M.M.

Once the organisation's experience has grown, it is considered that the S.M.M. will start to take shape, enabling it to introduce procedures, programmes and technologies to improve its environmental performance.

The commitment and involvement of the organisation's management in the exercise of environmental management is considered essential for the success of the introduction of an S.M.M.

The environmental policy sets the overall direction for the organisation and at the same time sets out its principles for action. It determines the purpose, the level of environmental responsibility and the desired performance, against which all subsequent actions of the organisation will be assessed.

The responsibility for setting the environmental policy lies with the organisation's management, who is responsible for implementing the environmental policy and also for making available the data and information that will enable it to be formulated or amended.

Environmental policy, in addition to specific environmental regulations, may also include a number of commitments such as:

- reducing the negative environmental impact of new activities through the use of integrated environmental management and planning procedures;
- improving the procedures for assessing environmental performance and related indicators.
- creating products in such a way as to reduce their environmental impact both in production and in use and disposal;
- prevention of pollution, reduction of waste and consumption of resources and raw materials;
- environmental education and training for all the organisation's staff, as well as for other outsiders;
- involving stakeholders and establishing good communication;
- work orientation towards sustainable development;
- encouraging suppliers and contractors as partners to adopt a similar S.M.M.

3.2. Principle of planning

In line with this principle, it is recommended that an organisation establishes an effective plan to meet its environmental policy.

To this end, it is necessary to identify environmental aspects and to assess the environmental impact of these aspects.

This also requires a continuous process that determines the past, present and future environmental impact of all the activities of an organisation and also includes the identification of the conditions imposed by regulations, legislation and business that influence the organisation, as well as the identification of the impact on the health and safety of individuals, together with the environmental risk assessment.

It is recommended that the organisation establish, implement and maintain procedures for the identification, access and knowledge of legal and other requirements adopted that relate directly to the environmental aspects of its activities, products or services.

In order to achieve an organisation's environmental policy, it is recommended to plan and set a number of objectives, which are the overall goals and level of environmental performance that the organisation has set itself as part of its environmental policy. In the same vein, the organisation is required to take into account both the findings of the initial environmental analyses and the issues identified and the environmental impacts associated with those issues.

As part of the planning action, the organisation is also required to draw up an environmental management programme covering all its environmental objectives.

3.3. Principle of implementation

In order to implement the environmental management system, it is recommended that the organisation develops the necessary capacities and support mechanisms to achieve its environmental policy, objectives and targets.

It also requires that appropriate resources (human, material and financial) important for the implementation of the organisation's environmental policy and the achievement of the intended objectives be established and made available to those concerned.

In order for an environmental management to be effective, it is recommended that the elements of the S.M.M. are designed and developed in such a way that they are effectively integrated and harmonised in the elements of the general management system.

An important element of MSM implementation is the development of contingency plans and procedures to ensure **adequate response capacity** in the event of unforeseen or accidental situations, whereby the organisation must develop and maintain procedures to deal with environmental incidents and possible emergency situations.

3.4. Principle of measurement and evaluation

This principle requires the organisation to measure, monitor and assess its environmental performance. These are key activities of an S.M.M., which ensures that the organisation operates in accordance with the established environmental management programme.

There is a need for a system to measure and monitor actual performance against the organisation's environmental objectives and targets in the areas of management system and operational processes, which includes assessing compliance with existing environmental legislation and regulations.

S.M.M. audits must be carried out periodically to prove and determine whether the system is in line with the planned measures and whether it is properly implemented and maintained. They may be carried out by the staff of the organisation, and/or by external participants chosen by the organisation, in an objective and unbiased manner and with appropriate training.

The frequency of audits shall be determined on the basis of the results of previous audits.

3.5. Principle of continuous analysis and improvement

In line with this principle, an organisation (through its management) is recommended to continuously analyse and improve its environmental management system, with the objective of improving its overall environmental performance. For continuous adaptation and efficiency, the management of the organisation must analyse the SMM at appropriate intervals.

The analysis carried out, depending on the results obtained, will address possible needs for changes in environmental policy, objectives and other S.M.M. elements.

The concept of continuous improvement is an integral part of S.M.M. and is obtained through a continuous assessment of S.M.M.'s environmental performance against environmental policies, objectives and targets in order to identify opportunities for improvement.



AUTO-EVALUE QUESTIONS

- ☐ What is an Environmental Management System (EMS) and what is its main purpose?
- ☐ What are the main international standards governing the requirements of an EMS?
- ☐ What is 'environmental policy' and what role does it play in an environmental management system?
- ☐ How to identify and assess significant environmental aspects in an organisation?
- ☐ What are the legal and other requirements applicable in an EMS and why is it important to comply with them?
- ☐ What are the environmental objectives and targets and how are they set?
- ☐ What does the implementation of the environmental management plan entail within an organisation?
- ☐ What are the key elements of the 'Plan – Accomplish – Check – Act' (PDCA) cycle in the EMS?
- ☐ Why is staff training and awareness of environmental requirements important?

Subject 12: The stages of implementing an EMS in tourism. Areas of application in tourism.

I. Stages of implementing an Environmental Management System (EMS) in tourism

(according to the principles of ISO 14001 and adapted to the tourism sector)

1. Management commitment

- Establishing the vision and the environmental policy within the touristic unit (hotel, hostel, agency, resort).
- Providing the necessary resources (human, financial, technical).

2. Initial analysis

- Identification of significant environmental aspects: water consumption, energy, waste management, impact on biodiversity, noise pollution, etc.
- Assessment of compliance with environmental legislation.

3. Planning

- Setting environmental objectives and targets (e.g.: reduction of water consumption by 15% in 2 years).
- Developing management programs to achieve these goals.

4. Implementation and operation

- Introduction of environmentally friendly working procedures (e.g.: recycling, plastic reduction, efficient energy management).
- Training and awareness of staff and tourists on good environmental practices.
- Communicating environmental policy and actions to customers.

5. Monitoring and evaluation

- Collection of data on environmental performance indicators (consumption, emissions, waste).
- Carrying out internal audits to verify compliance.

6. Continuous review and improvement

- Management analysis of the results achieved.
- Adjusting environmental policies and objectives to new conditions and technologies.

II. Scopes of EMS in tourism

1. Hotels and pensions

- Reducing energy and water consumption.
- Implementation of recycling programs.
- Use of renewable sources (solar panels, heat pumps).

2. Travel agencies

- Promoting sustainable tourism offers.
- Collaborate with partners applying environmentally friendly practices.
- Reducing paper consumption through digitalisation.

3. Tourist transport

- Use of low-emission or electric vehicles.
- Optimising routes to reduce fuel consumption.
- Informing tourists about ecological alternatives (bicycles, public transport).

4. Tourist resorts and leisure parks

- Protecting biodiversity and the natural landscape.
- Environmentally friendly facilities (eco-paths, selective collection systems).
- Manage the flow of tourists to avoid overloading resources.

5. Rural tourism and ecotourism

- Promoting local products and organic farming.
- Traditional and sustainable construction.
- Preservation of traditions and natural resources.

III. Examples of the application of EMS in tourism

1. Hotels and pensions

- The implementation of electronic cards that turn off electricity when the tourist leaves the room.
- Installation of air conditioning with motion and temperature sensors to reduce consumption.
- Use of biodegradable cleaning products.
- Replacement of single-use plastic with reusable materials (glass cups, refill containers).
- Selective collection and recycling of waste.

2. Travel agencies

- Promoting **ecotourism** and rural tourism packages.
- Reduce paper consumption by implementing electronic documents and tickets.
- Collaboration only with ecologically certified accommodation units.

3. Tourist transport

- Use of buses and minibuses with Euro 6 or electric pollution standards.
- Organizing tours with green trains or local public transport.
- Renting bicycles or electric scooters to tourists.

4. Tourist resorts and leisure parks

- Installation of solar panels for public lighting and water heating.
- Arranging marked ecotourism routes to avoid habitat destruction.
- Waste water treatment systems prior to discharge.
- Tourist awareness campaigns: “Take only memories with you, leave only footprints.”

5. Rural tourism and ecotourism

- Accommodation in traditional households with natural materials (wood, stone).
- Preparation of food with local and seasonal products to reduce the carbon footprint.
- Organizing traditional workshops (potting, weaving, beekeeping) to promote cultural heritage and reduce mass tourism.
- Programs for reforestation or cleaning of natural areas in which tourists can participate.

Synthesis answers

1. **EMS stages in tourism:** management commitment → initial analysis → planning → implementation and operation → monitoring and evaluation → continuous review and improvement.
2. **Role of management:** determines the environmental policy, provides the resources and motivation for the application of the EMS.
3. **Initial analysis:** identify significant environmental aspects (water, energy, waste) and the degree of legal compliance.
4. **Objectives and targets:** are determined on the basis of impact and legislation. E.g.: Reduce water consumption by 10% in a year.
5. **Implementing measures:** recycling, use of renewable sources, reduction of plastic, training of staff.
6. **Monitoring:** through indicators (water consumption, energy, emissions), regular reports and checks.
7. **Internal audit:** verify compliance with procedures, identify non-compliances and propose improvements.
8. **Review and improvement:** analysis of results and adaptation of measures to increase efficiency and sustainability.
9. **Involvement of staff and tourists:** information campaigns, trainings, environmental signs (e.g. reusable towels).
10. **Scope:** hotels/pensions, travel agencies, tourist transport, resorts/parks, rural tourism and ecotourism.
11. **Examples of hotel/pension:** cards for energy saving, use of biodegradable cleaning products.
12. **Travel agents:** e-tickets, promotion of ecotourism offers, collaboration with eco-certified partners.
13. **Tourist transport:** use of electric or hybrid vehicles, optimisation of routes, promotion of bicycles.

14. **Stations/parks:** ecotourism routes, selective collection, solar panels, protection of biodiversity.
15. **Rural tourism and ecotourism:** supporting local products, sustainable traditional construction, preserving traditions and natural resources.



AUTO-EVALUE QUESTIONS

1. What are the main stages of implementing an environmental management system (EMS) in a tourist establishment?
2. What role does leadership have in the implementation of an EMS?
3. Why is an initial analysis of environmental aspects necessary in a tourism organisation?
4. How are environmental objectives and targets set in a tourist establishment? Give an example.
5. What measures can be included in the implementation and operation phase of an EMS in a hotel?
6. How is environmental performance monitoring carried out in a tourist resort?
7. What is internal environmental auditing and what benefits does it bring to tourism?
8. How does the review and continuous improvement phase contribute to the efficiency of an EMS?
9. How can staff and tourists be involved in the application of an EMS?
10. What are the main areas of application of an EMS in tourism?
11. It provides two examples of environmental measures applicable in hotels or hostels.

Topic 13: Common benefits and features of successful environmental management. Examples of good practice.

Benefits of successful environmental management

Economic

- Cost reduction through resource efficiency (water, energy, raw materials).
- Increase competitiveness and attractiveness in the market.
- Easier access to finance, green funds or eco-certifications.

Ecological

- Reducing pollution and impacts on ecosystems.
- Conservation of natural resources and biodiversity.
- Promoting the circular economy and recycling.

Social and Image

- Improve the reputation and public image of the organization.
- Increase customer satisfaction, especially for those concerned with sustainable tourism.
- Involvement of local communities in environmental protection.

Common characteristics of successful environmental management

- Involvement of management – **strong support and dedicated resources.**
- Employee and community participation – **training, motivation, collaboration.**
- Compliance with legislation **and anticipation of future regulations.**
- Continuous improvement orientation – **regular assessments and adjustments.**
- Integration into the organisation's strategy – **not only as an isolated action, but as part of the institutional culture.**

- Transparency and communication – **informing customers, partners and authorities about environmental measures.**
- Performance measurement – **monitoring of indicators (consumption, emissions, waste).**

Designing and implementing an EMS can have tangible benefits for companies. One EMS can help organizations increase efficiency and minimize their use of resources and waste, thereby reducing costs, helping to ensure compliance with legal requirements, encouraging employee engagement, and improving customer relationships.

Benefits of Environmental Management Systems

Various books, articles and studies have identified the benefits that an environmental management system can have for a company. In this section, these benefits are classified into several main areas that are relevant to organisations.

Improved efficiency and lower costs. Environmental management manuals and case studies most commonly indicate financial benefits as the main benefit of implementing an environmental management system. Cost savings are often linked to the consumption of fewer resources and producing less waste, but savings can also result from operational efficiency and a higher level of management efficiency.

Operational efficiency usually involves replacing or repairing equipment and installations, as well as improving the design of the production process and paying greater attention to inputs and outputs. Such changes can reduce inputs of raw materials (energy, water, etc.) or achieve more efficient operations so that production is higher, faster or cheaper than before. Costs are compared with those before the implementation of the EMS. Even small changes in operational efficiency can lead to significant results. Reduce resource consumption, reduce emissions and waste. Many organizations evaluate the success of EMS by monitoring the consumption of resources used and minimizing the waste produced, both of which are closely linked to cost reduction. Implementing an EMS allows companies to identify opportunities for business improvement and cost planning. Key performance indicators include: volume of raw materials, water and energy, recycling rate, production of hazardous and non-hazardous waste and number and volume of emissions. Organizations use self-generated records, invoices, or data from various utilities to measure resource consumption and waste volume before and after EMS implementation.

All organisations, from large corporations to small and medium-sized enterprises, use EMS to reduce resource consumption and the volume and toxicity of waste. Fourteen out of 15 International Finance Corporation case studies support the reduction of waste, consumption or toxicity as the main objectives of companies in the design and implementation of EMS, as well as the main criteria for assessing the utility of EMS.

Compliance with regulations. Another frequent indicator of a successful EMS is the achievement of the objective of compliance with the legal regulations in force. The criteria an organization selects to measure improvements resulting from the implementation of EMS may vary widely and depend on the company's history of compliance with legislative requirements and regulatory burdens. Management can use an EMS to monitor legal requirements and therefore expenditure on the authorisation, reporting and monitoring plan to ensure compliance with the law, ideally reducing the frequency and severity of infringements and the related costs. An EMS can also help a company prepare for stricter enforcement of environmental regulations.

Involvement of employees. Many companies recognize that the success of an EMS depends on the participation of all employees. Indeed, employee engagement is at the heart of the Total Quality Management (TQM) process, on which the principles of EMS depend. Different types of employees have different perspectives on environmental performance and suggestions for improvement.

Implementation

The correctness of an EMS implies the involvement of employees and, if successful, creates as a benefit an

A sense of responsibility and fulfillment among employees.

Common characteristics of successful environmental management

The success of an organisation's EMS can be assessed by monitoring the organisation's progress towards meeting its environmental objectives. Understanding the common features of a successful EMS will help ensure that the necessary conditions to support the success of EMS design and implementation are present.

Management support and resource commitment. If the owner and senior management do not engage and support the EMS, it is extremely difficult to obtain the resources and cooperation necessary for the successful development and implementation of an efficient system. The environmental policy, approved and supported by management, defines the organization's strategy and specifies the scope and commitments of the EMS for employees, customers and those outside the company, such as local agencies, investors and community groups.

Integrated into business. The most successful EMS are not stand-alone projects or initiatives; they are part of the standard decision-making process within a company and are integrated into all aspects of a company's activities, products and services. In the NDSMM study, all companies that adopted SMM said they saw business growth by improving their environmental performance.

Clearly defined objectives. A successful EMS tends to set both global/abstract and specific/measurable objectives. An abstract/global goal could be "transparency", while a certain/measurable goal could be "Reducing air emissions by 35 percent by 2030. Abstract/global goals allow creativity in problem solving, as managers and employees are not required to respect certain measurable results. Specific and measurable objectives aim to ensure that results are feasible and achievable. This duality also places smaller goals in the context of larger goals.

Continuous monitoring and measurement. Monitoring and measurement are always cited in SMM success stories, but companies choose different paths to monitor and measure their progress. Once targets have been set, a company should develop a means of monitoring and measuring, preferably in quantifiable terms. Are there any changes in the process of implementation? Are the right policies being pursued? Is the amount of waste reduced, and if so, by how much? How much money has been saved by reducing waste? Are the targets met? Are other more effective means of reducing waste available? Should objectives and targets be reviewed? Questions like these should be asked daily by any company and not limited to the start-up period of the EMS. A key element of any management system is the opportunity it offers to learn from experience. Given the size, resources and variety of structures, as well as the obstacles organizations face in implementing environmental management systems, it is important that these systems are flexible. Whenever possible, the objectives and complexity of an EMS must be determined by the company. These objectives will necessarily be limited by economic and financial considerations, including the organization's profitability requirements.

Incentive factors and barriers in the implementation of EMS

Incentive factors are factors that create or change an organization's environmental performance by incentivizing the use of environmental management tools, including environmental management systems. Stimulants are usually directly linked to the benefits of adopting environmental management:

- increased efficiency and lower costs;
- reducing resource use, waste and emissions;
- compliance with legal regulations;
- Engage employees and improve customer relationships.

Other stimulative factors could be related to:

- building better relations with government agencies/organisations,
- faster project approval,

- fewer inspections and controls,
- Creating a better public image
- pressure from stakeholders.

An EMS can, in many cases, create real value for a business in reducing risk, increasing revenue and reducing costs. Among the factors that can lead to the adoption of EMS in organizations we can mention:

1. the economic benefits of an EMS
2. tax incentives for SMM implementation
3. Reduction of insurance premiums
4. a performance-based regulatory system. In highly regulated sectors, a EMS can be a way to demonstrate to regulators, creditors, insurers and buyers that a company is managed in an environmentally responsible way.

Barriers to adopting EMS are factors that hinder the design, implementation and operation of an environmental management system. Even when there are driving forces, organisations can face a number of barriers in designing and implementing an EMS.

Lack of knowledge about environmental management and awareness of its importance are great barriers that hinder its implementation. Studies and academic articles also highlight that in the case of some organisations, especially SMEs, the implementation of an EMS is less probable, as they are mostly occupied with the day-to-day concerns of keeping businesses viable and retaining existing customers.

The main barriers to adopting an EMS can be grouped into three categories:

- Motivation
- Resources
- Implementation.

MOTIVATION

- Lack of customer requirements or demand to have an environmental management system
- The view that environmental issues have low organisational priority or are considered to be under control
- Belief that an EMS is not important or relevant to the work of the organisation or that it cannot add value
- Lack of pressure from public or non-governmental organizations to implement an EMS
- The idea that SMM is just a new trend in management
- Belief that an EMS is not widely accepted or used in a problem in this industry or geographical area resource

RESOURCES

- Concern about the cost and time needed to implement an EMS
- Concern about operational costs after implementation
- The perception that an EMS is complicated and difficult to implement

IMPLEMENTATION

- Fear of discovering non-compliance with legal regulations
- Fear of discovering internal problems within the organization (staff issues, process issues, company policies, etc.).

Examples of good practice:

?? In tourism and hotels

- Installation of solar panels for hot water and lighting.
- Policy of 're-use of towels and linen' to reduce water and detergent consumption.
- Disposal of single-use plastic (replacement with glass or biodegradable materials).
- Implementation of eco-certifications (**e.g. Eco-Hotel, EU Ecolabel, Green Key**).

?? In tourist transportation

- Introduction of electric or hybrid vehicles.
- Organizing bicycle tours and clean alternative transport.
- Optimising routes to reduce fuel consumption.

?? ☑ In resorts and tourist areas

- Creation of marked ecotourism routes to protect habitats.
- Tourist awareness campaigns: "Don't leave traces – just take memories."
- Selective collection and composting of organic waste.

?? In rural tourism and ecotourism

- Promoting local and organic food products.
- The use of traditional constructions and natural materials.
- Involvement of tourists in environmental protection activities (planting trees, cleaning in nature).

International examples:

1. Green Hotel project – Scandic Hotels (Sweden and Finland)

- **Measures:** reduction of water and energy consumption, use of environmentally friendly products, recycling of waste.
- **Results:** more than 90% of the waste generated is recycled; Significant decrease in water consumption per tourist.
- **Success:** Recognized as a European leader in sustainable tourism.

2. Zermatt Car-Free Resort (Switzerland)

- **Measures:** ban on polluting vehicles, transport only by electric vehicles and carriages.
- **Results:** reducing emissions and protecting clean air in the Alpine area.
- **Success:** model for other European mountain resorts.

3. Costa Rica - Certificate for Sustainable Tourism (CST)

- **Measures:** classifying hotels and travel agencies by environmental impact and community involvement.
- **Results:** 25% of protected territory, ecotourism is the main attraction of the country.
- **Success:** Costa Rica is a global example of integrating tourism with environmental protection.

4. Blue Flag programme - Green Beaches and Ports (Globally Expanded Europe)

- **Measures:** certification of beaches and ports that comply with environmental standards (clean water, waste management, environmental education).
- **Results:** More than 5,000 beaches and ports in 50+ countries are certified.
- **Success:** Global symbol of quality and environmental protection in coastal tourism.

5. Yellowstone National Park – Zero Waste Programme (USA)

- **Measures:** waste reduction, recycling, disposal of single-use plastic in visitation centres.
- **Results:** a reduction of more than 60% in waste sent to landfill.
- **Success:** replicated in other U.S. national parks.

Examples from the Republic of Moldova:

6. Eco-Pensions in rural areas

- **Measures:** use of biomass energy, promotion of local products, reduction of plastic.

- **Results:** attract tourists interested in authentic and ecological experiences.
- **Success:** Old Orhei and pensions in the Dniester area have become recognized destinations for sustainable tourism.

7. "Waste management in Chisinau" - Pilot projects

- **Measures:** containers for separate collection of plastic, paper and metal.
- **Results:** increasing recycling in urban areas.
- **Success:** An important step towards the application of the principles of circular economy in the Republic of Moldova.



AUTO-EVALUE QUESTIONS

A. Objective items (short answer/correct-false/multiple choice)

1. List three economic benefits of an EMS.
2. Mention two environmental benefits of effective environmental management.
3. Identify three common characteristics of a successful EMS.
4. Please fill in: "One of the social benefits of an EMS is..."
5. What types of good practices apply in hotels and hostels to reduce energy and water consumption?
6. Give an example of an internationally recognised environmental certification (e.g. Blue Flag, Green Key).
7. What is the main purpose of monitoring environmental performance in a tourist establishment?

B. Subjective items (elaborated answer / argument / example)

1. Explain why management involvement and staff training are essential to the success of an EMS.
2. Argue how applying an EMS can improve the image of a tourism organisation.
3. Provide two examples of good practice in tourism transport and explain their impact on the environment.
4. Consider how rural tourism or ecotourism can benefit from a well-implemented EMS.
5. Give an international example of a successful project in environmental management applied to tourism and explain what measures have been implemented.
6. Propose a method by which an international EMS can be adapted to the context of the Republic of Moldova.
7. Argue how measuring and monitoring the performance of the EMS contributes to continuous improvement.

Subject 14: Opportunities for sustainable tourism. International trends (Green Tourism, Sustainable Destinations).

Sustainable development is the most important concern of all inhabitants of the Earth, regardless of country, gender, race, ethnic origin, social blanket, etc. The role of tourism in sustainable development is an essential one. Quality is considered to be the defining and indispensable factor of sustainable tourism. We cannot achieve sustainability in tourism without attributing quality to the services provided, to tourism products, in particular, and to tourist destinations in general. But how can quality be ensured in tourism?

Standards are one way of ensuring the quality of services provided, including in the field of tourism. Quality standards in tourism are on the same level as a value system dictated by each institution, being applied for all structural and organizational levels.

In order to monitor the effects and the level of sustainable development of tourism in quantitative terms, the following factors shall be analysed:

- the level of tourism, reflected by both the demand and the tourist offer;
- the state of the environment and the local community;
- profile and level of satisfaction of tourists;
- performance of the companies involved.

In Bulgaria there is a law that allows the municipality to keep the revenues from the collection of local taxes in order to use them for the purpose of improving infrastructure. Ecotourism companies are also supported by the capital collected through pollution and fuel consumption taxes. At the same time, it was decided at national level not only to integrate ecotourism into the strategies of regional tourism associations, but also to develop a strategy for the development of ecotourism in parallel with the implementation of concrete action plans.

A sustainability study conducted by Booking.com shows that more sustainable tourism continues to be at the top of priorities for travelers around the world.

- 74% of travelers believe that people need to act now and make more sustainable choices to save the planet for future generations.
- Moreover, 74% also want tourism companies to offer sustainable tourism options.
- 65% said they would prefer to stay at a specific property if they knew it had a certification or a sustainability label.

What can hoteliers do?

- Remove single-use plastics
- use energy efficient LED bulbs.
- provide local artists with a platform to showcase their talents.
- implement a food waste policy.
- provide waste bins for recycling to guests.

Sustainable tourism does not necessarily mean higher costs - this can help bridge the gap between the desire to make conscious choices and the perception that it is too expensive. Often, it's more about making small changes in behavior, such as giving up housekeeping and reusing towels. These changes do not mean additional spending, but brought together they can have a significant positive impact. There are many ways you can promote behaviors that make guests more respectful of the environment. For example, you might encourage guests to:

- turn off lights and other appliances when they are not at the accommodation (77% of global travellers say they are already doing so).
- Turn off the air conditioning or heating system when not in the accommodation (67%).
- Use the same towel several times (60%).
- recycling garbage (45%).

Each of us can take action to reduce carbon emissions and help the travel industry achieve net-zero emissions.

Opportunities for sustainable tourism include involving local communities and stakeholders in decision-making processes, promoting cultural heritage conservation practices, supporting the local

economy and providing authentic interpretations that allow a balance between development and the protection of cultural and natural resources.

Key opportunities:

- **Involvement of local communities:**

Gaining the support and participation of the local community in tourism planning and management processes is essential to ensure that benefits reach them and practices benefit them.

- **Preservation of cultural heritage:**

Sustainable tourism focuses on protecting cultural heritage, preventing overcrowding, loss of authenticity and cultural appropriation.

- **Supporting the local economy:**

It aims to create jobs and generate income for local economies, ensuring that the money brought by tourism remains in the community.

- **Authentic interpretation:**

The focus is on providing tourist experiences that reflect cultural and natural authenticity, providing visitors with a deep and respectful understanding of the place.

- **Good practice:**

Promoting tourism conservation and management practices that minimise negative impacts on the environment and culture.

In the Republic of Moldova, but also in the European Union, rural tourism is considered to be sustainable, as it meets the criteria of the quality of services strategy, namely:

- making the best use of tourism resources;
- minimising the overconsumption of tourism resources;
- protection of national cultural heritage;
- improving the infrastructure situation;
- incorporating agro-tourism into the tourism development strategy;
- focusing on ethical values between man and nature;
- involving local public authorities in support of rural tourism;
- encouraging national socio-economic development.

From a socio-economic point of view, local authorities are interested in preserving the historical and cultural heritage, the authenticity of culture and the integration of technical and material facilities into the environment, in order to mitigate the negative effects of the touristic dynamism. Concrete environmental protection and environmental management measures are also being taken: non-polluting means of transport, flexible provision of tourist equipment, specific infrastructure elements, etc. In order to manage sustainable rural tourism and help local public authorities control rural areas, UNWTO has created a number of fundamental indicators:

- pressure (number of tourists visiting the site during the month/year);
- protection of the site (following the indications of the International Union for the Protection of Nature);
- social impact (number of local residents during the peak period and in a number of years);
- control of development (control of density of use of space and existence of controls);
- intensity of use (intensity of use during the peak period, persons/ha);
- planning process (approval of a development plan for the tourist destination);
- consumer satisfaction (the level of consumer satisfaction achieved after the questionnaire);
- satisfaction of the local population (degree of satisfaction of local people achieved after the questionnaire);
- the contribution of tourism to the local economy (the proportion of tourism in local economic activity as a whole).

Tourism is the best education. No matter where we take up educational tourism, there is always a lot to learn during the journey. A few decades ago, people were just happy to read a book by the sea, as consumer expectations have changed – people are curious to experience something different – they want adventure, enthusiasm and, at the same time, education!

Educational tourism can be defined as a form of tourism in which travel and excursions are used as important but also effective methods of learning. The goal of educational tourism is to make the learning process more practical and interactive, as well as to introduce students to different cultures. Practicing educational tourism enriches knowledge, because traveling, we get to know about new people, languages, lifestyles, landscapes, cultures, customs and traditions. This increases our knowledge of other destinations. Travel has an important impact on our education and is an essential part of the education system. Educational tourism involves the following tourism services and products: educational programmes, intercultural student exchange programmes, tours, excursions, scientific mobility and new types of activities related to educational tourism, e.g. ethnic workshops and field study trips. Another opinion says that educational cruises, school trips, seminars and self-improvement holidays are other examples of educational tourism. Promoting educational tourism involves developing strategies to attract tourists who want to combine travel with learning and education opportunities. This form of tourism can include school trips, language courses, participation in conferences or workshops, visits to museums and cultural institutions, and more.

The benefits of building an international dialogue in the field of tourism are numerous. First, it promotes mutual understanding and cooperation between countries. When tourism officials and other industry stakeholders come together to discuss the challenges and opportunities facing the sector, they can share their experience, knowledge and expertise. This can lead to the development of new initiatives, partnerships and policies that will help improve the overall tourism experience for both visitors and local communities. One of the main obstacles is the lack of coordination and cooperation between countries. Although tourism is a global industry, many countries still approach it from a narrow national rather than a more holistic international perspective. This can lead to conflicting policies, limited communication and misunderstanding of the wider context in which the tourism industry exists.

At the moment, there are a large number of countries and organizations involved in the international dialogue on tourism. Examples include: United Nations World Tourism Organization (UNWTO); Lucerne World Tourism Forum; the European Tourism Forum; Asia Pacific Tourism Association, etc. These organizations unite countries in solving some of the most important tasks facing the tourism industry. The United Nations World Tourism Organization (UNWTO) is a specialized agency of the United Nations working to promote responsible, sustainable and inclusive tourism. UNWTO regularly hosts international conferences and seminars to promote the exchange of ideas and information between countries and other stakeholders. The most significant examples may be the development of sustainable tourism, destination management programmes, consolidation programmes

The tourist capacity. All of this aims to improve the efficiency of tourism for stakeholders in the absence of harmful effects on the environment and on tourist sites of historical value.

Cultural, architectural.

Sustainable tourism development programmes aim to promote the development of ecological and cultural tourism, as well as to create economic opportunities for local communities. These programs often involve collaboration between government agencies, industry associations and local communities to develop specific policies and practices of sustainable tourism.

Destination management programs are designed to improve the overall experience of tourists and local communities by promoting sustainable tourism development, reducing overcrowding and improving cultural heritage and the environment. They often involve collaboration between stakeholders to develop and implement destination management plans.

Tourism capacity building programmes aim to improve the skills and knowledge of tourism professionals and local communities to support the sustainable development of tourism. Programmes typically contain training, workshops and other capacity-building activities designed to help tourism stakeholders better perceive and manage the impact of tourism.

One factor influencing the building of international dialogue in the field of tourism is the development of digital technologies and their widespread use, which fundamentally changes the way people travel and know their destinations. An example of the impact of digital technologies on the tourism industry can be the creation of models of digital ecosystems in the tourism industry. The digital ecosystem model of the tourism industry refers to an interconnected network of digital technologies, platforms and systems that support and manage the operations and interactions of different stakeholders in the tourism sector. This model includes various components such as travel booking systems, destination management systems, customer relationship management systems, media platforms and big data analytics.

In the digital tourism ecosystem, travel service providers, intermediaries and customers are digitally connected. For example, travel service providers can use digital tools to manage their inventory and distribute their products to resellers. Intermediaries such as travel agents, tour operators and online travel agencies use digital platforms to aggregate travel products from different suppliers and offer them to customers. Customers, in turn, use digital tools to search, compare and book travel products and services. The data generated from these interactions is used by the travel industry to understand customer behavior and preferences, inform product development and marketing strategies, and improve customer experience. The use of big data analytics and artificial intelligence also allows the industry to personalise experiences and offer personalised travel products and services. The digital ecosystem of the travel industry is essential for the competitiveness and success of the travel industry in the digital age.

Sustainable tourism, sustainable communities – Good practice examples Vancouver, Green City – Sustainable tourism model in Canada Vancouver is a Canadian city off the coast of British Columbia, being the largest city in the area. According to official data, Vancouver was home to more than 700,000 inhabitants in 2022, making it the fifth largest city in Canada (City of Vancouver, 2022). Vancouver is famous for its spectacular landscapes, natural parks and diverse cultural heritage (Royal Carribean, 2023). Thus, in 2023, Vancouver registered approx. 10 million domestic and international tourists, making it one of Canada's most visited cities (Road Genius, 2025). Tourism is one of the key pillars of the city's economy, ranking third in gross domestic product revenue after the real estate and construction industries. In 2017, tourism contributed more than \$9 billion to the city's revenues, as well as more than 137,000 tourism jobs. Thus, in 2017, 1 in 16 people in Vancouver worked in tourism (City of Vancouver, 2020). Vancouver is a very strict city in terms of protecting local communities, supporting sustainable tourism. Tourists are encouraged to treat the indigenous community with respect in order to maintain a balanced balance between history and modernity. Moreover, tourists must be aware that the lands they visit are sacred and that they represent the home of millions of residents of the indigenous community. Their lands have been sacred and protected for generations, so tourists must give respect to both the community and the environment that indigenous peoples protect. At the same time, tourists must bear in mind that the customs of the indigenous community are very different from the customs of European or American peoples, so it is advisable for them to document the customs of the community in order to fully honor the traditions (Indigenous Tourism British Columbia, 2023). In addition, the Canadian government and Vancouver city management encourage tourists to support local businesses and stay in hotels owned by indigenous owners, such as Tin Wis Resort, Kwa'lilas Hotel, Himwitsa Lodge or Hacas Inn (Indigenous Tourism British Columbia, 2022). So one can see how Vancouver is an admirable model in terms of good sustainable tourism practices. The city pursues green development, both in terms of infrastructure and

environmental conservation. Vancouver is a city that directs a large part of its resources towards the development and economic flourishing of local communities, thus protecting their customs and traditions. Moreover, Vancouver's indigenous communities have the opportunity to expand, economically and culturally, through government support, but also through the increasing flow of tourists interested in cultural tourism, eager to take part in an authentic cultural/historical experience.

Another example of growing sustainable tourism is the **Maasai tribal community in Kenya**, where both authorities and tourists are working to protect invaluable cultural heritage. Thus, the tribes benefit from millions of hectares of land they manage and share with the thousands of animal species in Africa, both communities being protected by local authorities. In addition, there are a lot of accommodation units owned and managed by Maasi people, through which residents have the opportunity to develop financially and have a stable job. On the coast of the gorgeous Indian Ocean 13, tourists have the unique opportunity to interact with a civilization from the past, but which continues to exist today, knowing traditions and customs dating back tens of thousands of years. Tourists also have the opportunity to contribute to the development of this community by supporting local businesses and respecting cultural heritage.

At the same time, as a counter example is **the city of Barcelona**, visited by millions of tourists annually and part of one of the most powerful European economies. However, sustainable tourism practices are almost non-existent, which over time has generated waves of protests and dissatisfaction from locals. Inefficient public transport, unbearable pollution and exaggerated cost of living are just some of the problems that Barcelona residents face on a daily basis due to the phenomenon of mass tourism. Despite the fact that sustainable tourism cannot be implemented to the same extent as in smaller cities and less frequented by tourists, there are a number of good practices that the Spanish authorities can implement, in order to continue to benefit from the economic advantage brought by tourism, but also to minimise the negative effects of mass tourism.

Sustainable cultural tourism. Sustainable cultural tourism offers a new perspective, placing cultural heritage and local communities at the heart of decision-making processes.

Involving local communities and other stakeholders in decision-making processes is essential to benefit both cultural heritage and the local population. The objective of sustainable cultural tourism is to ensure good conservation practices, together with a genuine interpretation that supports the local economy.

Projects, opportunities:

SmartCulTour

Funded by Horizon 2020, this project supports development in European regions with important cultural heritage, both tangible and intangible, through sustainable cultural tourism. <http://www.smartcultour.eu/> (project details).

IMPACTOUR

Funded by Horizon 2020, this project brings together cultural tourism stakeholders and researchers with new approaches and methods to support European cultural tourism. The aim of the project is to strengthen the sense of belonging and highlight the cultures of minorities. <https://www.impactour.eu/>

European Destinations of Excellence (EDEN)

EDEN promotes sustainable tourism models at EU level. Under this initiative, partner countries select and promote 'destinations of excellence'.

EDEN draws attention to emerging non-traditional European destinations, highlighting their values and character. It also acts as a platform for the exchange of best practices between award-winning

destinations. The European Commission and national tourism bodies choose a theme each year. https://ec.europa.eu/growth/sectors/tourism/eden/about/themes_en#y2017

European Regional Development Fund (ERDF) and cultural heritage:

This fund supports cultural heritage through actions that fund the protection, development and promotion of cultural goods at local level.

Actions carried out between 2007-2013 and 2014-2020 include:

- a major conservation project for the Pompeii archaeological site
- a state-of-the-art museum in Lascaux, France
- the renovation of the abandoned mining village of Nant Gwrtheyrn in North West Wales, which received the RegioStars Excellence Award in 2018.

See the projects on the website: <https://ec.europa.eu/>.

Urban Agenda for the EU

EU Member States initiated a new partnership on culture and cultural heritage in 2018. This multilevel working method promotes cooperation between cities, EU Member States, the European Commission and other stakeholders in the framework of the Urban Agenda for the EU.

The Urban Agenda for the EU aims to improve EU policy-making and implementation in its 3 aspects

1. better regulation
2. improving funding
3. improving knowledge

During its lifetime, each partnership proposes voluntary action plans with concrete initiatives to be implemented by its members. The Action Plans are the main delivery mechanism under the Urban Agenda for the EU.

"Cultural **Heritage in Action**" is a mutual learning programme for policy-makers at local and regional level to share knowledge on cultural heritage. The action, funded by the Creative Europe programme, was launched in January 2020.

The Directorate-General for Education, Youth, Sport and Culture (DG EAC) oversees the implementation of this action by a consortium of partners led by EUROCITIES in cooperation with Europa Nostra, the European Regions Research and Innovation Network (ERRIN), KEA European Affairs and the Architects' Council of Europe (ACE).

This project produced a catalogue of 30 good practices from cities, regions, non-urban and rural areas in the European Union, organised 12 peer learning visits to the targeted locations, each with more than 20 participants.

RURITAGE

The project transforms rural areas into case studies to demonstrate how cultural and natural heritage can become a driver of regeneration. See the actions of the project: <https://www.ruritage.eu/>

ROCK

The ROCK project focuses on historic city centres as laboratories to demonstrate how cultural heritage can become a unique and powerful engine for the regeneration, sustainable development and economic growth of the entire city. [https://rockproject.eu/project /](https://rockproject.eu/project/)

CLIC

CLIC is a transdisciplinary project that aims to identify evaluation tools to test, implement, validate and share innovative 'circular' funding, business and governance models for the re-use of cultural heritage and landscapes.

A Task Force on "Financing and business models for the reuse of built heritage in cities" was created under Horizon 2020. It aims to provide expertise and advice on financing and managing the reuse of

buildings and spaces according to a circular economy approach. The CLIC project leads the Task Force. <https://www.clicproject.eu/>

Open Heritage

Open Heritage identifies and tests best practices for adaptive heritage reuse in Europe. <https://openheritage.eu/>

Implementing sustainable tourism can significantly improve the reputation of your properties. Today's travelers are increasingly aware and prefer to support businesses that demonstrate a concrete commitment to sustainability. Obtaining sustainability certifications, such as **the Green Key** or **the EarthCheck** label, can be a great competitive advantage. In addition, adhering to international standards and working with organisations promoting responsible tourism can lead to greater recognition from the tourism sector and the global community, thus increasing the visibility and attractiveness of accommodation.

Sustainable practices for accommodation providers

Adopting sustainable practices is essential for accommodation providers who want to stand out in the market and contribute positively to the environment and society. Here are some of the most effective practices that can be implemented:

- **Energy efficiency:** Invest in technologies that reduce energy consumption, such as LED lights, motion sensors for lighting, efficient heating and cooling systems. The use of renewable energy sources, such as solar panels or wind turbines, can significantly reduce the environmental impact.
- **Water management:** Install water-saving devices such as low-flow taps and double-discharge toilets. It is recommended to implement rainwater collection and reuse systems for irrigation and provide the option for guests to avoid daily changes of towels and linen to reduce water consumption and detergents.
- **Waste reduction:** Eliminates the use of single-use plastics and encourages the use of reusable materials. For example, make sure your **aparthotel, boutique hotel or eco-friendly hotel** is equipped with everything you need for proper waste management. It also creates visible and easily accessible recycling stations for guests and staff.
- **Recycling:** Create visible and easily accessible recycling stations for guests and staff. Educate guests on the importance of recycling and provide clear information on how to properly separate waste.
- **Supporting the local economy:** It works with local suppliers to promote proximity products, reducing the environmental impact of transport and supporting the local economy. Offers menus with organic and seasonal ingredients.
- **Authentic experiences:** It promotes activities that highlight local culture and traditions, thereby improving **the guest experience**, such as visits to farmers' markets, craft workshops and residents' guided tours.

Implementation of green initiatives

The implementation of green initiatives requires planning, investment and the involvement of all stakeholders. Here are some essential steps for accommodation providers to start:

- **Certifications:** Obtaining recognised sustainability certifications, such as **Green Key**, **EarthCheck** or **ISO 14001**, can demonstrate commitment to sustainable practices and attract a sensitive audience to these issues. These certifications require compliance with strict environmental and social standards and can improve the credibility and reputation of the accommodation.

- **Quality labels:** Adhering to eco-quality programs that provide training, support and recognition for sustainable practices. These labels can be used in marketing to distinguish accommodation from competitors.
- **Education:** Inform guests about sustainable accommodation practices and how they can contribute during their stay. This can be done through information brochures, room signage and on-arrival information sessions.
- **Involvement:** Provide opportunities for guests to participate in green initiatives such as volunteering programmes, eco-tourisms and conservation activities. The active involvement of guests makes them more aware and encourages them to further support sustainable practices.
- **Partnerships:** Establish collaborations with local entities, non-governmental organizations and environmental associations to develop and implement sustainable projects. Such partnerships may include the conservation of natural areas, environmental education programmes and community development projects.
- **Support:** Participate in local sustainability initiatives and support events and campaigns promoting environmental conservation and sustainable development. This not only strengthens ties with the community, but also demonstrates the commitment of accommodation to a sustainable future.

Efficient management of green initiatives, communicating with environmentally conscious guests and optimizing daily operations in sustainable key are essential to ensure an excellent guest experience. **Octorate** is here to facilitate this task by providing innovative solutions that will help you navigate the dynamic world of sustainable hospitality. With tools like Channel Manager, Booking Engine, PMS, Owner Portal and Automatic Check-in, Octorate can revolutionize the way you manage eco-friendly properties, saving you precious time you can dedicate to continuously improving your guests' sustainable experience. <https://octorate.com/en/sustainable-tourism/>.

Opportunities for sustainable tourism

1. Economic opportunities

- Diversifying the tourism offer through the development of **ecotourism, rural tourism, agrotourism**.
- Reduce costs by implementing green practices (energy efficiency, recycling, renewable resources).
- Creating **new green jobs** in local communities (eco guides, local producers, craftsmen).
- Access to international funding (EU, UN, World Bank) for sustainable tourism projects.

2. Green Opportunities

- Conservation of biodiversity and protected areas through responsible tourism valorisation.
- Reducing pollution through green transport, eco-infrastructure and environmental certification.
- Promoting renewable energies in tourism infrastructure (hotels, chalets, campsites).

3. Social and cultural opportunities

- Involvement of local communities in tourism development (community tourism).
- Revitalising traditions and cultural heritage by integrating them into tourism packages.
- Improving the quality of life for locals through modernised infrastructure (roads, water, energy).

4. Opportunities for image and marketing

- Destinations that adopt sustainable policies improve their **international image**.
- Increasing attractiveness for **eco-conscious tourists** (a constantly expanding segment).
- International certifications (GreenKey, Blue Flag, GSTC) become a competitive advantage.

5. Educational and innovation opportunities

- Ecological education programs for tourists and communities.
- Innovations in transport, energy and digitalisation applied to tourism.
- Promotion of scientific and research tourism in protected areas.

International instruments and certifications:

?? Green Key

- **What is it:** the largest international environmental certification programme for tourist establishments (hotels, hostels, campsites, restaurants, conference centres).
- **Objective:** reducing environmental impacts and promoting responsible tourism.
- **Criteria:** energy, water, waste management, sustainable food, environmental education of employees and tourists.
- **Benefit:** increases tourist confidence and helps establishments reduce costs through green practices.
- **Examples:** many hotels in Europe, including Greece, Denmark, France, but also in other regions.

?? Blue Flag (Blue Flag)

- **What is it:** an international certification programme for **beaches, marinas and tourist boats**.
- **Objective:** ensuring clean and safe seaside tourism.
- **Criteria:** water quality, tourist safety, environmental education and information, environmental management.
- **Benefit:** attracts tourists concerned about safety and the environment, improves the image of coastal destinations.
- **Examples:** beaches in Spain, Portugal, France, Greece, Romania (e.g. Mamaia, Mangalia).

?? GSTC – Global Sustainable Tourism Council

- **What is it:** An international organisation that sets **global standards** for sustainable tourism.
- **Objective:** promoting a unified certification framework for tourist destinations and operators.
- **Criteria:**
 - Sustainable management
 - Maximising social and economic benefits for communities
 - Preservation of cultural heritage
 - Reducing environmental impact
- **Benefit:** provides credibility and global recognition to certified tourist destinations.
- **Examples:** Slovenia ('Slovenia Green'), Azores (Portugal), Costa Rica – all recognised as **sustainable destinations** below GSTC standards.

GSTC standards

The GSTC has developed a set of globally recognised international criteria for sustainable tourism that apply to both **destinations and tour operators (hotels, travel agencies)**.

✓ 1. Sustainable management

- Clear sustainable tourism policies.
- Involvement of local communities and stakeholders.
- Monitoring and reporting progress.
- Long-term planning to reduce the impact of tourism.

✓ 2. Socio-economic benefits for the community

- Creation of local jobs.
- Supporting small businesses and local producers.

- Respect for employees' rights and social fairness.
- Reducing poverty by integrating communities into the tourism value chain.
- ✓ **3. Preservation of cultural heritage**
 - Protection of material heritage (monuments, historical sites).
 - Respect and promote local traditions and customs.
 - Involvement of communities in the interpretation and presentation of culture.
 - Avoiding the degradation or excessive commercialization of cultural resources.
- ✓ **4. Protection of the environment and natural resources**
 - Resource efficiency (water, energy, land).
 - Reducing pollution (air, water, soil, noise, light).
 - Conservation of biodiversity and natural habitats.
 - Promoting green mobility and reducing the carbon footprint.

Case studies – GSTC and sustainable tourism:

1. Slovenia – Slovenia Green

- **Background:** Slovenia has implemented a national sustainable tourism programme based on GSTC standards.
- **Measures:**
 - Certification of municipalities and accommodation units with *Slovenia Green* brand .
 - Promoting eco-friendly transport and cycling routes.
 - Conservation of natural parks (e.g. Triglav National Park).
- **Result:** Slovenia has been named one of the greenest destinations in the world and is in the *Top 100 Sustainable Destinations*.

2. Costa Rica – Pioneer in ecotourism

- **Background:** 25% of the country's territory is protected area.
- **Measures:**
 - Implementation of community tourism and ecotourism programs.
 - Massive investment in renewable energy (over 95% of electricity comes from renewable sources).
 - Sustainability certification policies for hotels and agencies.
- **Result:** Costa Rica has become a **global sustainable tourism brand**, attracting millions of tourists interested in nature and biodiversity.

3. Azores (Portugal)

- **Background:** An Atlantic archipelago with fragile ecosystems.
- **Measures:**
 - Limit mass tourism and promote ecotourism.
 - Protection of marine biodiversity and water resources.
 - Certification of the destination as ‘Sustainable Destination’ under the GSTC criteria.
- **Result:** Azores was included in the *Top 100 Sustainable Destinations* and promoted as a European model of sustainable tourism.

4. Bali (Indonesia) – Management of tourism challenges

- **Background:** Mass tourism → pressure on resources.
- **Measures:**
 - Implementation of environmental taxes for tourists.
 - Waste reduction programmes and a ban on single-use plastic.
 - Diversification of supply through cultural and rural tourism.

- **Result:** A balance is sought between mass tourism and sustainability, with the support of the GSTC.

5. Romania – Danube Delta (*regional example*)

- **Background:** Biosphere Reserve, UNESCO heritage.
- **Measures:**
 - Developing ecotourism and community tourism programs (local households, traditional boat tours).
 - European projects to protect biodiversity and reduce water pollution.
 - Promoting the Danube Delta as a ‘green’ destination according to international criteria.
- **Result:** The destination is increasingly present in international ecotourism circuits.

Examples in the Republic of Moldova:

Eco-village Văleni (Lower Prut Biosphere Reserve)

- **Background:** Village located in the south of Moldova, near Beleu Lake and Prut Delta.
- **Measures:**
 - Development of an ecological village (accommodation in renovated traditional houses).
 - Use of renewable energy and natural materials.
 - Promotion of local products (gastronomy, crafts).
- **Link with the GSTC:** Community integration, preservation of natural and cultural heritage.
- **Result:** It has become an internationally recognized model of community ecotourism.

2. Pension Butuceni (Orheiul Vechi)

- **Background:** Archaeological area and cultural landscape of world importance.
- **Measures:**
 - Guest houses built and furnished in traditional style.
 - Promotion of local gastronomy and wines from the micro-region.
 - Community participation in tourism activities.
- **Link with the GSTC:** Preservation of cultural heritage, socio-economic benefits for the community.
- **Result:** Butuceni is one of the most visited rural destinations in Moldova.

3. Tourist wineries (Purcari, Cricova, Castel Mimi)

- **Background:** Wine tourism – an important part of the country brand.
- **Measures:**
 - Investments in sustainable tourism infrastructure.
 - Promotion of cultural heritage (architecture, wine traditions).
 - Ecological practices in viticulture (pesticide limitation, water recycling).
- **Link with the GSTC:** Sustainable management, heritage protection and local community involvement.
- **Result:** Moldova has become a recognized pole of **oenological tourism** in Eastern Europe.

4. Codrii reserve and ecotourism routes

- **Background:** The oldest scientific reserve in Moldova.
- **Measures:**
 - Creation of ecotourism routes and visitation centers.
 - Ecological education for students and tourists.
 - Promoting responsible tourism (limiting visitors, local guides).
- **Link with the GSTC:** Biodiversity conservation and education for sustainability.
- **Result:** The area is becoming attractive for domestic and educational tourism.

5. National Rural Tourism Development Program (ODIMM + USAID)

- **Background:** Support rural guesthouses and traditional crafts.
- **Measures:**
 - Guides and trainings for pension owners on sustainable tourism.
 - Certification of hostels according to international quality and sustainability criteria.
- **Link with the GSTC:** Local development, economic and social benefits.
- **Result:** Increasing the number of rural guesthouses with ecotourism services.



AUTO-EVALUE QUESTIONS

- ☐ What is sustainable tourism and what are its fundamental principles?
- ☐ What are the main **opportunities** that sustainable tourism brings to local communities?
- ☐ How does sustainable tourism contribute to the protection of the environment and natural resources?
- ☐ How does sustainable tourism support the preservation of cultural heritage?
- ☐ What economic benefits can destinations that implement sustainable tourism practices get?
- ☐ What is the concept of **Green Tourism** and what is its value for the international tourism market?
- ☐ What criteria define a **Sustainable Destination**?
- ☐ How are sustainable destinations recognised and certified internationally? (e.g. Green Key, Blue Flag, GSTC)
- ☐ What are the main current international trends in sustainable tourism?
- ☐ Why is the demand for ecotourism and sustainable experiences increasing?
- ☐ What role do international organisations (UNWTO, GSTC, UNEP) play in promoting sustainable tourism?
- ☐ How can international best practices for sustainable tourism be adapted to the context of the Republic of Moldova?
- ☐ Provides examples of international destinations that successfully apply the principles of sustainable tourism.
- ☐ What are the main challenges in implementing sustainable tourism at global and local level?

Topic 15: Partnerships, collaborations with authorities, NGOs. The role of tourism managers.

Tourism and tourism destination:

The tourist destination. The definitions given over time to the tourist destination have been diverse, but the destination is mostly associated with a geographical area or with a locality/area/region/country where

Tourists stay at least one night.

Destinations are a mix of tourism products that offer an integrated experience to consumers.”

(Buhalis, 2000).

‘The destination is a set of products, services, natural and artificial tourist attractions, capable of attracting tourists to a specific place.’ (Leiper et al., 1995).

Stephen Page and Joanne Connell (2006) consider that the destination consists of the following elements:

- Available packages
- Accessibility
- Attractions
- Facilities (amenities)
- Activities
- Auxiliary services

The quality and size of these elements will influence the decision of visitors to make the trip or not.

Attractions: They are usually the focus of visitors' attention and can determine the initial motivation of tourists to visit the destination. They can be classified into attractions:

- Natural: beaches, mountains, nature parks, etc.;
- Constructed: conventional buildings, heritage monuments, religious buildings, conference and sports facilities;
- Cultural: museums, theatres, art galleries, cultural events.

These attractions are often managed by the local public administration (natural parks, cultural or historical centers, etc.).

Public and private services/facilities Include basic infrastructure such as: utilities, transport public, transport network, but also services specifically developed for visitors (tourist infrastructure): accommodation, tourist information services, recreation opportunities, guide services, catering and shopping facilities, etc.

Accessibility

The destination should be easily accessible by various means of transport. Visitors should be able to easily reach their destination, and this is all the more important as travel trends show that short and frequent holidays are preferred by most tourists. On the other hand, the problem is to ‘aggress’ the environment as little as possible through the holidays we take and to support the sustainable development of destinations. Transportation within the destination is also important: tourists must easily move from one location to another using public transport.

Human resources

The interaction of tourists with those working in tourism and with the local community is extremely important and shapes the tourist experience in the destination. A good preparation of human resources in tourism, but also an openness of inhabitants to tourism (informed and aware of the benefits of tourism for the area) must be managed in accordance with the destination strategy.

TOURIST DESTINATION AND DESTINATION MANAGEMENT ORGANISATIONS

Price -Price is an important aspect of destination competitiveness and positioning vis-à-vis other destinations. The price factor is often linked to the cost of transport to and from the destination, the cost of accommodation, attractions, the value of meals served, etc.

Image

A unique brand built around unique values (USP – Unique Selling Proposal) or a good image is crucial in attracting tourists. It is not enough to have a wide range of attractions and facilities, if visitors are not informed of their existence. There are multiple alternatives to destination promotion (advertising tools, PR and branding, media, e-marketing) and you need to opt for an optimal combination of all these techniques, as they complement each other. The destination image includes uniqueness, views, environmental quality, safety, service level, friendship and hospitality of people.

Local destinations include many decision-makers and interest groups, a host community, and can form a network, forming, together with other local destinations, a larger destination.

Cities, in turn, can be tourist attractions. In order to attract tourists, destinations must offer an attractive cost, a good price-quality ratio and experiences worth the time invested. Like other consumers, tourists balance the price with the benefits obtained in a specific destination. The effort and resources expended must return in a reasonable way through the knowledge gained, the experiences lived, the fun, the relaxation and the memories accumulated during the holiday. The word ‘*ventajas*’ has various meanings in holiday decisions, meanings given *inter alia* by: transfer time from the airport to the accommodation facility, language barriers, hygiene and cleanliness, access to leisure (beaches, attractions, etc.), special needs.

In the European area, Tourist Destination Management Organisations have different structures and vary in size, location and legal form. Worldwide, MDGs are often initiated by local public authorities, professional associations, destination associations or public-private partnerships.

Partnerships and collaborations for sustainable tourism

Sustainable tourism cannot be achieved individually, but through a **system of collaborations**:

- **Public authorities (local, national, international):**
 - establish the legislative and fiscal framework;
 - develop sustainable tourism strategies and policies;
 - support destination infrastructure and branding.
- **NGOs and professional associations:**
 - promotes good practices and certifications (Green Key, Blue Flag, etc.);
 - provides advice, trainings and guides for tour operators;
 - runs environmental and social awareness campaigns.
- **Private sector (tour agencies, hotels, restaurants, wineries):**
 - invest in green technologies (renewable energy, energy efficiency);
 - promotes local products and ecotourism;
 - may enter into environmental certification schemes.
- **Local community:**
 - benefit directly from tourism through employment and income;
 - preserves and transmits traditions;
 - participates in the development of rural and cultural tourism.

The role of tourism managers

Managers are the key link for the concrete application of sustainability principles:

- **Leadership and Strategy:**
 - set clear environmental and sustainability objectives;
 - Integrates CSR (Corporate Social Responsibility) principles.
- **Practical implementation:**
 - reducing energy and water consumption in tourist establishments;
 - waste management and recycling;
 - Promote eco-friendly products and services.
- **Training and involvement:**

- training employees on good practices;
- involving tourists in responsible behaviours (eco-tips, nature-friendly regulations).
- **External collaboration:**
 - participation in international certification programmes (e.g. GSTC, Green Key);
 - development of public-private partnerships;
 - supporting environmental NGOs through joint sponsorships and projects.

?? Practical examples

- **Green Key hotels in Europe** → managers have implemented strict standards of energy efficiency and education for tourists.
- **Blue Flag** for beaches → success due to collaboration between local authorities, NGOs and tour operators.
- **Republic of Moldova** → tourist wineries (e.g. Castel Mimi, Purcari) collaborate with authorities and NGOs to promote responsible tourism and eco events.

the Castel Mimi Winery

- **Actors involved:** Ministry of Culture and Tourism, cultural promotion NGOs, winery managers.
- **Collaboration:**
 - Managers restored the building in historical style and introduced ecological practices in viticulture.
 - NGOs have promoted architectural heritage.
 - The authorities have included the winery in the official tourist routes.
- **Result:** Castel Mimi is included in the top European tourist destinations and promotes sustainable wine tourism.

Partnerships, collaborations with authorities, NGOs. Role of tourism managers'

Table 15

Destination / Project	Actors involved	Actions / Collaboration	Result
Blue Flag – sustainable beaches and ports	NGO FEE, local authorities, beach managers	NGO certifies, authorities invest in infrastructure, managers implement eco-measures (cleaning, safety, education)	More than 5,000 beaches and ports in 51 Blue Flag-certified countries
Costa Rica – ecotourism	Government, Rainforest Alliance (NGO), eco-lodge managers	Government introduces CST certification, NGO trains operators, managers protect biodiversity	Global Ecotourism Model, Recognized Green Destination
Green Key programme – green hotels	NGO FEE, hotel managers, local authorities	NGO certifies, managers implement eco standards,	4,000+ tourist structures in 60

Destination / Project	Actors involved	Actions / Collaboration	Result
		authorities promote certified units	countries with the "Green Key" label
Eco-village Valeni (Moldova)	Ecological NGOs, Lower Prut Reservation Administration, Local Managers	NGOs train the community, authorities facilitate funding, managers develop eco-pensions and local activities	Eco-village-model of community ecotourism
Pensions Butuceni (Orheiul Vechi, Moldova)	Site administration, cultural NGOs, local managers	NGOs promote traditions, authorities regulate the protection of the site, managers create traditional guesthouses	Top rural destination in Moldova, international visibility
Castel Mimi Winery (Moldova)	Ministry of Culture and Tourism, cultural NGOs, winery managers	Managers restore the building and apply eco practices, NGOs promote heritage, authorities integrate into tourist routes	European tourist destination, promoting sustainable wine tourism

The role of tourism managers

1. Strategic

- Integrate the **principles of sustainable tourism** into your business plan.
- They set **environmental, social and economic objectives** for the tourist unit.
- I choose international certifications and standards (e.g. Green Key, ISO 14001, GSTC).

2. Operational

- Reduce resource consumption (water, energy).
- I introduce **recycling and waste reduction** systems .
- Apply technical solutions: LED lighting, solar panels, digitalized energy management.
- Supervise compliance with hygiene and environmental standards.

3. Collaborative

- Work with **local authorities** to develop sustainable tourism infrastructure.
- Works with **NGOs** for staff training and environmental awareness campaigns.
- Establish **partnerships with the local community** (gastronomy, crafts, cultural events).

4. Educational

- It trains and motivates employees in the spirit **of environmental responsibility**.
- Provides information to tourists about responsible behavior (eco-tips, local rules).
- Supports educational activities and awareness-raising campaigns.

5. Image and Marketing

- Promotes the tourism structure as ‘eco-friendly’ and ‘responsible’.
- They get international certifications for attracting environmentally-conscious tourists.
- Contribute to the strengthening **of the sustainable destination brand**.

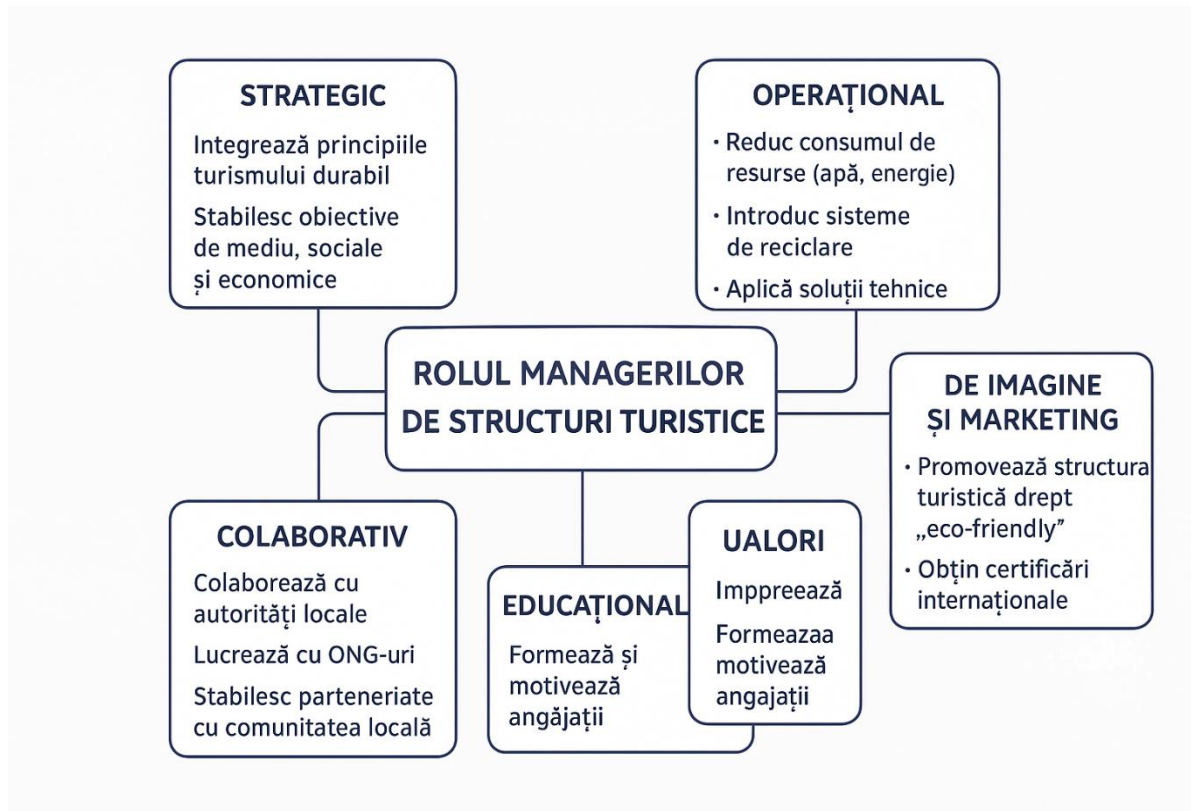


Figure 5. Source: OMT. The Role of Managers of Tourist Structures

Examples of clear and structured description of objectives from the perspective of tourism structure managers:

1. Increasing the attractiveness of tourism

- **Description:** Managers aim to develop and promote tourist attractions to attract more visitors.
- **Examples of actions:** Organizing thematic events, arranging tourism infrastructure, promoting online and offline.

2. Quality assurance of services

- **Description:** Maintaining high standards in the services offered is essential for the satisfaction of tourists and their loyalty.
- **Examples of actions:** Professional training of staff, implementation of feedback systems, compliance with hospitality standards.

3. Sustainable development of tourism

- **Description:** Managers must balance tourism activity with the protection of the environment and local cultural values.
- **Examples of actions:** Promoting eco-tourism, reducing negative environmental impacts, working with the local community.

4. Optimization of resources and costs

- **Description:** Administrative and financial efficiency is a central objective for the sustainability of the tourism business.
- **Examples of actions:** Budget planning, expenditure monitoring, efficient use of infrastructure and human resources.

5. Increasing visibility and competitiveness

- **Description:** In a competitive tourism market, managers aim to position their tourism structure as their preferred option.
- **Examples of actions:** Participation in international fairs, collaboration with travel agencies, development of innovative tourist packages.

6. Involvement and development of the local community

- **Description:** Managers promote community engagement to create authentic experiences and support the local economy.
- **Examples of actions:** Collaboration with local producers, involvement in cultural projects, support of traditional handicrafts.

Establishing partnerships by managers of tourist structures:

1. Purpose of partnerships

- Tourism structure managers seek to develop collaborations that bring added value to their business and community.
- **Objectives:** increasing visibility, attracting tourists, diversifying supply, sharing costs and resources.

2. Types of partnerships

1. With local and regional authorities

- Purpose: supporting tourism infrastructure, promoting the destination, obtaining support for cultural or ecological projects.
- Examples: municipalities, local tourism agencies, regional councils.

2. With NGOs and environmental organisations

- Purpose: implementing sustainable tourism and green projects.
- Examples: environmental organisations, cultural foundations.

3. With other tourist structures and agencies

- Purpose: creation of joint tourism packages, exchange of best practices, market expansion.

- Examples: hotels, hostels, local guides, travel agencies.
- 4. With the local community**
 - Purpose: involving local people in tourism activities and promoting cultural heritage.
 - Examples: artisans, local producers, cultural groups.

3. Stages of establishing partnerships

- 1. Identifying opportunities**
 - Analysis of local and regional actors relevant to tourism objectives.
- 2. Initiation of contact**
 - Preliminary discussions, proposals for collaboration and identification of common interests.
- 3. Negotiation and definition of objectives**
 - Establish clear roles, responsibilities and mutual benefits.
- 4. Implementation of collaboration**
 - Development of joint projects, mutual promotion, monitoring of results.
- 5. Evaluating and Maintaining Relationships**
 - Constant feedback, fine-tuning collaborations and strengthening long-term partnerships.

4. Benefits of Partnerships

- Access to additional resources and know-how.
- Increasing the attractiveness of the tourist destination.
- Strengthening sustainable and responsible tourism.
- Improve the reputation and credibility of the tourism manager and structure.

Stages of Establishing a Partnership

- 1. Identification of potential partners** – analysis of relevant actors.
- 2. Initiation of contact** – presentation of interests and potential benefits.
- 3. Negotiating collaboration** – clarifying roles, responsibilities and objectives.
- 4. Partnership implementation** – development of joint projects or services.
- 5. Monitoring and evaluation** – tracking results and fine-tuning collaboration.

Examples of operational activities in tourist structures

- 1. Reception and accommodation:**
 - Registration of tourists, allocation of rooms, management of reservations.
- 2. Food services:**
 - Preparing menus, serving meals, managing food stocks.
- 3. Guided and guided tourism:**
 - Organisation of tours, coordination of tourist groups, compliance with schedules and routes.
- 4. Maintenance and cleaning:**
 - Cleaning and maintenance of common and private spaces, maintenance of equipment and infrastructure.

5. Resource and staff management:

- Planning employee shifts, allocating responsibilities, monitoring performance.

6. Marketing and customer relations:

- Communicate with tourists, promote services, manage feedback and complaints.

Features

- Concrete and applicable, not theoretical.
- Execution **and efficiency** oriented.
- It includes the management of material and human resources.
- Monitorable and assessable in real time.

Examples of operational image activities

1. Promotion and marketing

- Creating promotional materials (brochures, leaflets, social media posts).
- Participation in tourist fairs and exhibitions.

2. Public Relations and Communication

- Managing customer feedback and online reviews.
- Organizing special events or thematic campaigns.

3. Collaborations and partnerships

- Partnerships with travel agencies, NGOs, local communities for joint projects that increase visibility.

4. Maintaining visual and experiential standards

- Care of touristic spaces (cleaning, aesthetic arrangement).
- Ensuring a quality service that reflects the professionalism and image of the unit.

Features

- Oriented to the **external perception** and attractiveness of the touristic unit.
- Includes concrete, measurable and repetitive activities.
- It contributes directly to **attracting and retaining tourists** .

Examples of values in tourist structures

1. Quality of service

- Providing professional services and meeting the needs of tourists.

2. Customer orientation

- Prioritize visitor experience and satisfaction.

3. Social and environmental responsibility

- Respecting the environment, promoting sustainable tourism and working with the local community.

4. Innovation and adaptability

- Developing new offers and services, adapting to market trends and tourist preferences.

5. Ethics and Integrity

- Compliance with laws, norms and professional standards.

6. Collaboration and partnerships

- Build trusting relationships with partners, authorities and local communities.

Importance of Values

- Creates **identity and image** for the tourist structure.
- It guides **managerial and operational decisions**.
- Contributes to **tourist loyalty and positive reputation**.
- I support the implementation of **sustainable and responsible tourism**.

The role of tourism managers, illustrated by concrete examples and European best practices:

1. Strategic planning and development

- **Role:** Managers develop strategic plans for developing tourism services, diversifying the offer and increasing the attractiveness of the destination.
- **European example:**
 - In **Spain**, natural park managers develop ecotourism programmes, combining tourism responsible for environmental protection.
- **Good practice:** Creating quinquennale plans that include sustainability, infrastructure and tourism marketing goals.

2. Operational management and quality of service

- **Role:** Managers coordinate daily activities, ensuring quality services for tourists and operational efficiency.
- **European example:**
 - In **Italy**, family hotels implement online feedback systems and customer satisfaction monitoring to constantly improve services.
- **Good practice:** Standardization of internal processes, continuous training of personnel and implementation of ISO 9001 quality procedures.

3. Promotion of image and marketing

- **Role:** Managers develop marketing strategies and promotion campaigns, online and offline, to attract tourists.
- **European example:**
 - In **France**, the Provence region promotes local experiences through social networks, gastronomic festivals and thematic tours.
- **Good practice:** Creation of local brands and participation in international tourism fairs.

4. Sustainable tourism development

- **Role:** Managers integrate sustainable and environmentally friendly practices, protecting natural and cultural heritage.
- **European example:**
 - In **Denmark**, tourist establishments adopt Green Key certifications and programmes to reduce waste and energy consumption.
- **Good practice:** The implementation of recycling programs, the use of renewable energy and the involvement of the local community.

5. Establishing partnerships and collaborations

- **Role:** Managers develop relationships with authorities, NGOs, local communities and other tourist structures for joint projects.
- **European example:**
 - In **Austria**, hotels and local guides work with municipalities to organise guided mountain trails and cultural events.
- **Good practice:** Creation of local tourism networks, partnerships with local producers and suppliers, participation in transnational projects.

6. Performance monitoring and innovation

- **Role:** Managers follow performance indicators (number of tourists, degree of satisfaction, profitability) and introduce innovations for competitiveness.
- **European example:**
 - In the **Netherlands**, tourist centres use mobile applications and AR technologies to offer interactive experiences to visitors.
- **Good practice:** Deploy digital tools to manage bookings, feedback and promote personalized experiences.

Concrete example for a European tourist destination, illustrating the role of managers and good practices:

Tourist destination: Ljubljana, Slovenia

1. Strategic planning and development

- The managers of the municipality and local tourism structures developed **the Sustainable Tourism Development Strategy in Ljubljana**, focusing on urban mobility, cultural tourism and eco-tourism.
- **Result:** Increasing the attractiveness of the city for tourists without affecting the quality of life of the inhabitants.

2. Operational management and quality of service

- Hotels and hostels in Ljubljana implement **Green Key quality standards** and continuous staff training programs.
- **Result:** Constant positive feedback from tourists and good reviews online.

3. Promotion of image and marketing

- Digital marketing campaigns and participation in international fairs promote **local experiences**: walks along the river Ljubljanica, cultural and gastronomic tours.
- **Result:** Increasing the visibility of the city as an attractive and sustainable European urban destination.

4. Sustainable tourism development

- Managers promote **environmentally friendly transport** (bicycles, public transport) and the reduction of resource consumption in tourist structures.

- **Result:** The city is recognized for its responsible tourism and has won international sustainability certifications.

5. Establishing partnerships and collaborations

- Partnerships between the municipality, NGOs and local tour operators to organise cultural festivals and thematic routes.
- **Result:** Authentic tourism experiences and involvement of the local community.

6. Performance monitoring and innovation

- Use of digital apps and online platforms for bookings, tour guides and visitor feedback.
- **Result:** Personalized tourism and increased tourist satisfaction.

Tourist destination: the Old Orhei

1. Strategic planning and development

- The managers of the Orheiul Vechi tourist complex draw up **plans for the development of cultural and ecological tourism**, focusing on the valorisation of the archaeological and natural heritage.
- **Result:** Increase the number of visitors by developing thematic routes and tourist infrastructure (information panels, visitation centres).

2. Operational management and quality of service

- Coordination of daily activities: tourist guide, organisation of cultural events, maintenance of cleaning and infrastructure.
- **Result:** Pleasant experience for tourists, positive reviews and visitor loyalty.

3. Promotion of image and marketing

- Promotion of the destination through **official websites, social networks and collaborations with travel agencies**.
- **Result:** Increasing the visibility of Old Orhei at national and international level.

4. Sustainable tourism development

- Managers implement eco practices: selective waste collection, promotion of pedestrian and ecological tourism, protection of the natural landscape and cultural heritage.
- **Result:** Responsible tourism, protecting historic sites and attracting tourists interested in ecotourism.

5. Establishing partnerships and collaborations

- Collaboration with local authorities, cultural NGOs and heritage organisations.
- **Result:** Organizing festivals, cultural events and exhibitions that involve the local community and attract tourists.

6. Performance monitoring and innovation

- Use online apps and platforms for bookings, feedback from tourists and promoting personalized travel experiences.
- **Result:** Increase the satisfaction of tourists and adjust the services offered according to preferences.

Table 16

The role of the manager	Operational activities	Examples in Old Orhei
Strategic planning and development	Development of tourist plans, development of infrastructure, creation of thematic routes	Development of cultural and ecological routes; arranging the information panels and the visitation centre
Operational management and quality of service	Staff coordination, tour guide, maintenance of premises and infrastructure	Organisation of guided tours, cleaning and maintenance of historical sites; Coordination of cultural events
Promotion of image and marketing	Creation of promotion campaigns, management of social networks, participation in tourism fairs	Official website and social media pages, collaborations with travel agencies, promotion of local events
Sustainable tourism development	Implementation of eco-practices, protection of natural and cultural heritage	Selective waste collection, promotion of pedestrian and ecological tourism, protection of landscape and monuments
Establishing partnerships and collaborations	Working with authorities, NGOs and the local community	Organizing cultural festivals and thematic events in partnership with the community and cultural organizations
Performance monitoring and innovation	Collect feedback, monitor visitors, implement digital solutions	Use of online platforms for bookings and feedback, adjusting services according to tourists' preferences



AUTO-EVALUE QUESTIONS

Short-answered questions

1. Defines what partnership means **in** a tourist structure.
2. What is **the role of the manager** in establishing collaborations with local authorities?
3. It gives **two concrete examples of collaboration** between a tourist structure and an NGO.
4. Why is it important for the manager of a tourism structure to promote **sustainable tourism** through partnerships?
5. It lists **three benefits of working with** authorities or NGOs for a tourist structure.

Applicative questions

6. Imagine that you are the manager of a tourist center in the Republic of Moldova. Proposes a **plan of collaboration with a local authority** for the organization of a cultural festival.
7. Present a **collaboration strategy with an environmental NGO** to promote ecotourism in your tourist area.
8. Choose a local tourist destination (e.g.: Old Orhei) and identifies **at least two types of existing partnerships**: with authorities, NGOs or the local community.

Analysis and reflection

9. It explains how **partnerships and collaborations influence the image** of a tourist structure.
10. Reflect on the role of the manager: **How can a manager stimulate effective collaboration** between the tourist structure and the local community?

Topic 16: Reducing the use of plastic. Reducing food waste in hotels. Efficient waste management and recycling.

Legislative acts: EU

Reducing the use of plastic

Table 17

Legislation / EU Directive	Scope	Practical example in hotels/tourism structures
EU Directive 2019/904 on the reduction of the impact of certain plastic products	Limitation of single-use plastic products (glasses, cutlery, straws, chopsticks)	Elimination of cutlery, cups and plastic packaging in restaurants and hotels
EU Strategy for Plastics (Circular Economy Action Plan)	Promoting the circular economy and reducing plastic waste	Use of reusable or biodegradable alternatives in tourism facilities

2.Reducing food waste

Table 18

Legislative act / EU initiative	Scope	Practical example
EU Directive 2018/851 – amending the Waste Directive	Includes food waste reduction targets and efficient management of organic waste	Hotel menu planning, redistribution of uneaten food to charities
EU Strategy "Farm to Fork"	Reducing food waste throughout the food chain	Monitoring and reporting of food waste in tourist establishments

3.Efficient waste management and recycling

Table 19

Legislation / EU Standard	Scope	Practical example
EU Directive 2008/98/EC on waste	Selective collection, recycling and management of household and commercial waste	Deployment of separate baskets for paper, plastic, metal and composting in hotels
Circular Economy Package (2015 and 2020)	Promoting the reuse and recycling of materials	Collaboration of hotels with companies specialized in recycling and education of tourists on selective collection
International certifications (Green Key, Blue Flag)	Promoting good environmental practices	Application of standards for plastic reduction, waste management and sustainable tourism

Legislative acts: Republic of Moldova

Reducing the use of plastic

Table 20

Legislation / Standard	Scope	Practical example in hotels/tourism structures
Environmental Protection Act No 71/1994	Regulates environmental protection and pollution reduction	Replacing plastic bottles and bags with reusable or biodegradable materials
Government Decisions on the Reduction of Single-Use Plastics	Limiting single-use plastics in trade and services	Elimination of plastic cutlery, cups and packaging in tourist restaurants and hotels
Green Key International Standard	Environmental standard for hotels and tourist facilities	Implementation of plastic reduction programmes and use of environmentally friendly materials

2.Reducing food waste

Table 21

Legislation / Standard	Scope	Practical example in hotels/tourism structures
Food Safety Act No 139/2011	Waste prevention and food safety	Planning menus and adjusting quantities to avoid expired products
Contravention Code - Food Handling Sanctions	Compliance with rules on storage and use of food	Redistribution of unconsumed food to charitable organisations in accordance with the legislation

3.Efficient waste management and recycling

Table 22

Legislation / Standard	Scope	Practical example in hotels/tourism structures
Law on waste management no. 209/2016	Collection, recycling and disposal of solid and hazardous waste	Deployment of separate baskets for paper, plastic, metal and household waste
Environmental Protection Act No 71/1994	Reducing environmental impact and promoting sustainable tourism	Collaborating with recycling companies and educating tourists and staff on selective collection
International Standards Green Key / Blue Flag	Ecological and sustainable practices in tourism	Hotels and tourist facilities that systematically apply recycling, composting and waste reduction

The tourism industry has become a powerful engine of the economy in recent years, bringing significant financial benefits, but at the same time putting considerable pressure on the environment. One of the biggest threats to local ecosystems, including in the tourism industry, is PLASTIC pollution. Plastics, especially disposable ones, have become ubiquitous in our lives and have significant effects on the environment.

The devastating impact of plastic pollution is directly felt on the well-being of the population and tourists who choose to visit a country every year. The plastic accumulated in rivers, lakes and soil turns into microplastics, then infiltrates the food chain and affects human health. Faced with this reality, it is absolutely necessary to address this issue firmly and to take concrete and effective measures.

Key terms:

Recyclable plastic - plastic that can be recycled and reused.

RECYCLED PLASTIC - objects made of recycled plastics.

BIOPLASTIC - any type of plastic made partly or entirely from renewable natural resources, such as corn starch, corn dextrose, potato starch, sugar cane, jute or palm leaves. Bioplastics may include materials that are not necessarily biodegradable.

PLA (Polylactic acid) - a specific type of bioplastic, namely a thermoplastic polymer derived from corn starch or other vegetable sources rich in sugars. PLA should be composted in a composting plant under the right conditions and should not end up in landfills.

BIODEGRADABLE PLASTIC - plastic with biodegradable properties and which is designed to decompose in a relatively short time. However, this can only be achieved under the right industrial conditions and by a specialized company. It is important to note that some, but not all, bioplastics are biodegradable/compostable.

COMPOSTABLE PLASTIC - Plastic that can be decomposed into industrial composting facilities that meet a recognised standard for compostability (e.g. EN13432). For many standards, independent certification organizations provide assessment and certification services products, often identified by a logo. In the EU, the OK Compost logo is a good example.

Terms such as biodegradable plastic, compostable plastic, and bioplastic suggest an environmentally friendly approach, but these materials are not completely plastic-free alternatives and may still contain plastic elements. Biodegradation or composting processes may require specific conditions. Careful assessment of available options is crucial to understand their environmental impact before considering them as plastic-free solutions. Awareness and education about the diversity of plastics and the right ways to manage them are essential for sustainable decisions in an environment-conscious world. The correct thing is to keep in mind that terms such as biodegradable and compostable do not imply the same recycling process as traditional single-use plastic, and the proper management of these materials

depends on local waste management policy. In reality, most biodegradable plastic is incinerated or accumulates at landfills.

The plastic is marked with symbols numbered from 1 to 7. The most common types of plastics include:

- **PET (1)** – Polyethylene terephthalate, used for beverage bottles;
- **HDPE (2)** – High density polyethylene for use in detergent containers;
- **PVC (3)** – Polyvinyl chloride, used for pipes, cables;
- **LDPE (4)** – Low density polyethylene, used for bags, foils;
- **PP (5)** – Polypropylene, used for food packaging;
- **PS (6)** – Polystyrene, used for casseroles, disposable cups;
- **Other (7)** – material combinations

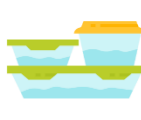
 PET	 HDPE	 PVC	 LDPE	 PP	 PS	 OTHER
POLYETHYLENE TEREPHTHALATE	HIGH-DENSITY POLYETHYLENE	POLYVINYL CHLORIDE	LOW-DENSITY POLYETHYLENE	POLYPROPYLENE	POLYSTYRENE	OTHER
WATER BOTTLES; JARS; CAPS	SHAMPOO BOTTLES; GROCEY BAGS	CLEANING PRODUCTS; SHEETINGS	BREAD BAGS; PLASTIC FILMS	YOGURT CUPS; STRAWS; HANGERS	TAKE-AWAY AND HARD PACKAGING; TOYS	BABY BOTTLES; NYLON; CDS
						

Figure 6. Source: Google.com. Numerical symbols for recycling the plastic.

PLASTIC PET - the most widely used type of plastic worldwide: Bottles of water and other drinks. Recyclable.

PLASTIC HDPE: bottles for shampoo, detergent and milk, etc. RECYCLABLE

PLASTIC PVC: plumbing pipes, bank cards, etc. RARELY RECYCLED

PLASTIC LDPE: shopping bags, garbage bags, plastic foil, etc.

PLASTIC PP: single-use items: straw, food containers, etc. DIFFICULT TO RECYCLE

PLASTIC PS: cutlery, yogurt containers, etc. VERY DIFFICULT TO RECYCLE

PLASTIC OTHERS (OTHER): other plastics and mixed plastics. Rarely recycled

Did you know that: 116 thousand tons of PLASTIC waste were generated in 2022 in the Republic of Moldova. It takes up to 450 years for a bottle of plastic to break down. Single-use plastic items such as straws and bottles are among the most common waste found in bins and landfills.

Recommendations for reducing plastic waste in the tourism industry:

- 1.Recommendations for reception
2. Recommended accommodation (including bathroom)
- 3.Recommendations for restaurant, bar, cafeteria
- 4.Recommendations for housekeeping services
- 5.Recommendations for the conference room
- 6.Recommendations for swimming pool, SPA and gym

Recommendations for reducing plastic waste in the tourism industry

Table 23

Plastic article	Alternatives	Examples
1.Recommendations for reception:		
Key cards	Key wooden cards; Metal key.	
Pens	Bamboo/wood pens; Electronic signature on tablet or mobile devices.	
Access bracelets	Textile bracelets	
Gifts	Gifts made of durable materials.	
2. Recommended accommodation (including bathroom)		
Drinks in single-use plastic bottles/minibar	Glass of glass; Water jug; Water dispenser or refill station close to the room.	

		
Disposable cups (containing plastic film internally)	Hard plastic cups (polycarbonate or other); Glass/ceramic mugs; Promotion of own/reusable packaging.	
Toiletries	Soap dispensers, shampoo, shower gel; Provision of toiletries only on request.	
Door information sign	Reusable information sign (wood/bamboo); Electronic indicator.	
Packed room slippers	Slippers in bathrobe (in pockets, in basket) without plastic packaging; Slippers in cotton bags; Slippers on request.	
3.Recommendations for restaurant, bar, cafeteria		
Coffee capsules	Reusable coffee press / coffee maker; Coffee beans; Reusable/compostable capsules.	

Disposable cups	Hard plastic cups for all beverages; Glass glasses; Ceramic/metal cups; Biodegradable cups (paper/natural starch).	 
Straw	Strawless policy (available on request); Reusable straw (steel/glass); Disposable straw (paper/edible from pasta/bamboo).	
Plates and cutlery	Reusable cutlery (metal) and tableware of porcelain or china; Reusable hard plastic plates and cutlery; Compostable/biodegradable disposable plates and cutlery (wood/cardboard/bamboo/ palm leaves/ maize/ wheat).	
Mixers	Mixers on request; Reusable mixers (steel/ wood/ bamboo/ glass); Tea/coffee spoons; Disposable mixers (paper/ wood/ bamboo/).	 
Tea bags	Tea infusion; Tea bags packed in paper; Reusable metal infusion containers.	

Plastic bags	Compostable/biodegradable bags (e.g. starch); Reusable bags (e.g. flax)/paper bags	
Plastic decor	Reusable decorations; Wooden / bamboo / paper decorations; Removal of gloss (contains a lot of microplastics); Give up unnecessary and plastic decorations.	
Containers for takeaway food	Recipients of paper; Paper bags; The consumer's own packaging.	
Sugar, salt, pepper, packaged sweeteners individually.	Sugar dispenser; Table sets for salt and pepper.	
4. Recommendations for housekeeping services		
Cleaning products	Use refillable containers; Buy large packaging and containers that can be reused.	
Soap	Refillable vials/dosers	
Gloves	Reusable rubber gloves; Hand washing protocol.	

Plastic bag for trash can	Do not use plastic bags; Biodegradable/compostable bags.	
5.Recommendations for the conference room		
Plastic bottles with water	Water jars; Dispensers and glasses; Glass bottles.	
Plastic Supplies (bottles/pencils)	Wooden/paper/bamboo pens; Pencils.	
Coffee and tea	Coffee machine; Thermos for tea; Sugar containers; Milk jugs.	
Sweets, biscuits, nuts and other foods individually packaged in small plastic packages	Offer snacks without packaging plastic, in bowls/on plates..	
6.Recommendations for swimming pool, SPA and gym		
All liquids/ SPA soaps, gels/oils.	Refillable vials/dispensers.	

Lunch options (cutlery, plates, cups).	Reusable (metal) cutlery and ceramic tableware; Reusable hard plastic plates and cutlery; Compostable/ biodegradable disposable plates and cutlery (wood/ cardboard/ bamboo/ palm leaves/ maize/ wheat).	 Material de calitate superioara - Fabricate din inox alimentar - Robuste si durabile - In siguranta in masina de spalat vase - Rezistente la zgarieturi si rugina
SPA flip-flops packed in plastic	Slippers in bathrobe (in pockets, in basket) without plastic packaging; Slippers in cotton bags; Slippers on request	

Here are some practical tips for entrepreneurs in the tourism industry who want to adopt solutions for green procurement and reduce single-use plastic consumption:

- Analyze suppliers and choose sustainable options (local suppliers, recycle products, eco-products, etc.);
- Promote responsible consumption (display information on sustainable measures taken and encourage guests to actively participate in environmental protection efforts);
- Do not purchase plastic products that are not reusable, recyclable or compostable. Choose to replace them with sustainable and eco-friendly alternatives;
- Deploy waste recycling and recovery systems (separate collection at source, refill stations, reusable product collection facilities, etc.);
- Educate guests about sustainability (guest information material based on the unit's environmental commitment);
- Work with environmental organisations and the local community (active involvement in the community can increase support for your efforts and connect you with valuable resources and partnerships).

ADVICES AND EXAMPLES:

Circular solutions/Remove plastic

1. Avoid new plastic products if possible.
2. Avoid packaging as a solution for fresh food products;
3. Replace single-use packaging with reusable/recyclable packaging (additional costs, to be checked with suppliers);
4. Give up single-use plastic at events/gifts/marketing.

Examples

1. Use reusable water bottles (functional if the quality of drinking water is good).
2. Use reusable soap dispensers. Keep in mind that they contain many pieces made of different materials.

Benefits

- Reduce the carbon footprint of purchased packaging;

- Contribute to increasing recycling rates and reducing littering or incineration;
- Reduce waste disposal costs.

Circular solutions/ Reduce consumption

- Select reuse models/systems that best fit your business;
- If plastic items and packaging cannot be avoided, reduce plastic where possible (correct weighting);
- Consider refill (re-use) solutions instead of single-use items;
- Consider bulk purchase options to reduce the need for packaging.

Examples

- Use reusable primary packaging where possible;
- Use concentrated products that can be diluted during use, if necessary;
- Use spice (sugar, salt, pepper, sauces in unit container, large volume) to Avoid disposable packaging;
- Use reusable tableware (cutlery, glassware, tablecloths, etc.) instead of disposable items.

Benefits

- Reduce the amount of waste resulting from purchased products;
- Implement effective policies to reduce the quantities of single-use plastics purchased.

5 STEPS OF ORGANIZING THE PREVENTION/REDUCTION OF PLASTIC WASTE

1.AUTO-EVALUE: Analyze in detail how you use plastic and the available alternatives. What quantities and types of plastic do you use?

2. ESTABLISHMENT OF OBJECTIVES: What do you want to achieve and how long do you plan to achieve these goals?

3. IMPLICATION OF INTERESTED PARTIES AND COMMUNICATION: Involve those who can contribute to your strategy and communicate it to them.

4. PROGRESS MEASUREMENT: Measure what you have reduced and what goals have been achieved.

5. RESULTS ASSESSMENT AND IMPROVEMENT CONTINUES: Where are there opportunities for further improvement? What went well and what could be improved? Communicate and share your experiences.

Reducing food waste in hotels.

The issue of food waste is widely discussed in the EU and the Farm to Fork Strategy – the agricultural pillar of the European Green Deal – includes the aim of reducing food waste.

First problem faced by Europeans: We reduce food loss by X percent, but X percent of what? So, in 2019, the Commission adopted a common methodology for measuring food waste levels, and Member States reported the results of these measurements for 2020 only in 2022.

According to the results, 55% of food waste happens in our homes: not in fields, not in factories, not in warehouses, not in shops and not in restaurants. Consumers are responsible for more than half of all food waste. A guide published by the EU Platform on Food Waste recommends changing consumer behaviour through information campaigns, educational programmes, sociological research, changing displays and labels in shops, and more. It's hard to effectively regulate what everyone does with the food in their fridge or closet, so recommendations are rather limited.

The EU recommends that, in addition to adopting legislation on prevention and reduction of food waste, Member States also adopt more comprehensive strategies, including non-legislative tools such

as coordination with food business operators, discussion platforms with stakeholders, information support at every stage of the food chain (e.g. for farmers to adjust their production to market demand forecasts), tax breaks or direct financial support for economic operators to reduce food waste production, and much more. Such a strategy should then be integrated with other sectoral strategies: environment and climate, agriculture, education (e.g. professional courses for trade or HoReCa to include training on waste prevention). However, the key element around which such a strategy can be conceived remains the adoption of a methodology for measuring the level of food waste, the establishment of a baseline and a target for reducing the amount of food waste compared to this benchmark. This approach is also called 'Target-Measure-Act'. <https://champions123.org/publication/call-global-action-food-loss-and-waste>

The good news is that the authorities will have to adopt such a mechanism sooner or later as part of the EU accession process. Ideally, of course, we should move without the EU holding our hand. As for all of us, ordinary consumers, the main thing we can do is to *prevent waste*: not to buy more than we are sure we will consume, to check the shelf life of the products – both at the store when we buy them, but also at home, so as not to let them spoil, and to prioritize the consumption of the products we have before making new purchases. However, regulating food waste is a difficult task even in the EU, as most of this waste occurs at the level of the final consumer. It is easier to regulate the activity of shops and restaurants to prevent waste than what every consumer does with his or her kitchen products. This is why, in parallel with the legislative efforts of the authorities, it is important that we also contribute to reducing food waste: first consume what we have before buying new products, check the shelf life of products – and those at home before making purchases, and at the store before buying them. Finally, if we find ourselves with too many foods, we can share them with family, friends, neighbors or other people in need.

Steps to reduce food waste:

- **Planning and procurement:**

Carefully determine food needs, thus minimizing surplus stocks that can reach expiration.

- **Donation of surplus :**

Donate unused food products that are still good for consumption to social canteens or charities.

- **Waste composting :**

For non-edible food waste, encourage composting, either through the local system, which offers specific dumpsters, or through on-site composting.

- **Education of staff and customers:**

Inform staff about the importance of reducing waste and provide them with tools to reduce excess food.

In order to reduce food waste in hotels, it is recommended to carefully manage stocks, apply the FIFO (First In, First Out) and FEFO (First Expired, First Out) principles, reduce portions to avoid surpluses, replenish unused food, collaborate with charities and inform staff about sustainable practices.

Food waste in the world has become an economic, social, environmental and ethical issue. It goes beyond the borders of states and national laws, being a wake-up call that the entire planet must take seriously and take effective action, both at the level of society and at the level of the individual.

Uneaten, spoiled or wasted food means significant spending on state and company budgets. These are enormous costs of raw materials and critical resources such as water and energy.

Food waste is a major source of plastic waste and also exacerbates climate change, as it has a huge carbon footprint, amounting to 8-9% of the total greenhouse emissions produced by human activity globally.

Socially, food waste deepens the inequities between overconsumption and undernutrition, and combating food waste is considered by the UN to be the most important method of combating poverty and hunger in disadvantaged or even crisis regions in need of humanitarian aid.

Reducing food waste based on a classic restaurant:

Adapt menus to season and demand fluctuations

Among the most effective ways to reduce food waste in restaurants are activities to create and adjust menus according to the season and the number of customers expected for each period.

Smartly compose the menu so that you use the same product for different recipes and make the most of your seasonal fruit and vegetable offer. Give up menu lists with dozens of dishes in favor of a flexible menu, based on offers such as the menu of the day, the preparation of the day, thematic evenings and brunches.

Create children's menus and adjust portion sizes based on feedback from customers and waiters. Avoid cooking in stock and eliminate as much as possible preparations that require pre-production, because this gives you flexibility in creating menus, when demand fluctuates suddenly, due to unforeseen events.

Involve customers in avoiding food waste

It is very important to communicate with the customers in the restaurant and inform them about your efforts and how to reduce food waste by improving the way of sourcing, preparing and serving the products on the menu.

Give them the choice of large, medium or small portions and provide them with the *doggy bag system*, so they can take home the food they did not eat at the restaurant.

Ask for their opinion, they will be delighted to participate in the creation of offers, they will surprise you with new ideas and an objective analysis on how to serve dishes from the menu. Together you can act responsibly for a sustainable approach to consumption in the restaurant, bar, confectionery, terrace or other establishment in the hospitality industry.

Collaborate with software management specialists for Horeca

In the context of the pandemic, consumption habits have changed and this phenomenon has exacerbated food waste. Food stocks were higher than usual, as were online orders of dishes, pre-preparations and menus. In these circumstances, it is necessary to adapt the restaurant's activity to the pandemic conditions with the help of dedicated software, such as [Freya's PandemSafe](#).

Using a [software management for restaurants](#), bars and clubs helps you know at every moment what dishes are favorites, how to form the following orders and especially what is the necessary amount of each food and raw material used to reduce food waste.

Manage stocks carefully to avoid keeping perishable food and ensure fluidity of supply. Apply the FIFO (FirstIn – First Out) and FEFO (FirstExpired – First Out) principles to minimize losses and avoid food waste.

Implement professional hardware solutions, such as those from Freya and [Horeca management software](#) to receive extended functionalities at the right price, along with professional after-sales support.

Optimizes the flow of supply, transport, storage and preparation

Food safety is a basic condition for reducing food waste. Efficiently organizes the flow of supply, transport and storage according to the HACCP quality concept.

It respects the cold chain, the labels for each ingredient, product or preparation and strictly applies the standards and hygiene rules established by the regulations in force.

Plan in detail the food preparation flow and eliminate redundant operations, redistribute resources according to priorities and optimize the efforts of your team of chefs and waiters, and if necessary

turn part of the activity into delivery service, with all the logistics needed for such a business adjacent to the restaurant.

Apply the provisions of the law on food waste reduction

Law 217/2016 on food waste reduction establishes certain obligations for companies in the field of hospitality and catering, including quantification of food waste and measures for redistribution or use of surplus.

Collaborate with food banks to hand over products that are nearing their expiration date. The legislative changes in this area now allow these transfers of perishable food to be carried out under optimal hygiene conditions.

This sponsorship in the form of food products is advantageous from a tax point of view, because it ensures the recovery of the related costs through the tax credit. In addition, there is the possibility of deducting the costs generated by the removal from management of goods that are close to their expiry date or those that can no longer be consumed. They must comply with the rules laid down in the law on food waste and be redistributed to other consumers or transferred to composting or biogas plants. Buy smartly, store food and food in optimal conditions, portion correctly, cook with simple and creative ideas, offer authentic culinary experiences instead of demanding menus. Dosage resources, share surpluses, recycle household waste and food waste, consider that there is a tomorrow for every day today and act in perspective, respecting the principles of sustainability.

How you reduce food waste says a lot about your efficiency as a manager and the economic and social responsibility of your restaurant.

Stock management strategies:

- **Rigorous stock management:**

Carefully monitor the quantities of perishable foods to prevent their expiration and ensure a steady flow of supply.

- **Apply FIFO and FEFO:**

Prioritize the use of First In Stock (FIFO) or Shortest Expiry Date (FEFO) products to minimize losses. Strategies in the kitchen:

- **Reduction of portions:**

Offer smaller portions, allowing customers to ask for a second portion instead of wasting food due to too large portions.

- **Repurposing the Ingredients:**

Turn leftovers into new products, for example, vegetable peels into cream soups or old bread into croutons.

- **Menu planning:**

Adapt the menu to the estimated demand in order to reduce the quantities of food purchased.

Other strategies:

- **Partnerships with charitable organisations:**

Donate the remaining food, but still suitable for consumption, to local organizations that help people in need.

- **Educating and motivating staff:**

Train hotel staff about the importance of reducing food waste and encourage them to adopt sustainable practices in their daily work.

- **Data monitoring and analysis:**

Track the amounts of food wasted to identify causes and adjust strategies.

Food waste costs the EU more than €130 billion every year and affects millions of households. It is estimated that around 10% of the food available in the EU is wasted, while almost 40 million people in

the EU can only afford a quality meal every other day. The European Union aims to prevent and reduce food waste across Europe. In September 2025, the European Parliament approved new binding food waste reduction targets for EU countries by 2030. Every year, around 60 million tonnes of food are wasted in the European Union. This is about 130 kg per capita.

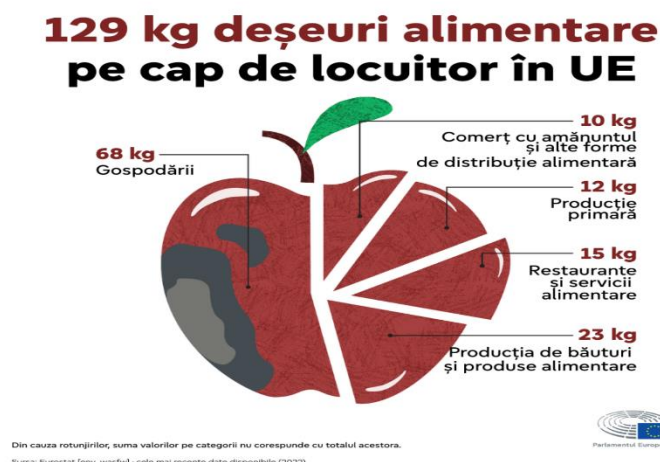


Figure 7. Source: <https://www.europarl.europa.eu/> European Parliament. EU food waste.

Households generate more than half of food waste in the EU (53%). Approximately 9% of waste (12 kg per capita) comes from primary production of food, such as agriculture, and 18% (23 kg per capita) comes from the processing and production sector.

Restaurants and food services account for 12% of food waste (15 kg per capita) and retail and food distribution for an additional 8% (10 kg per capita).

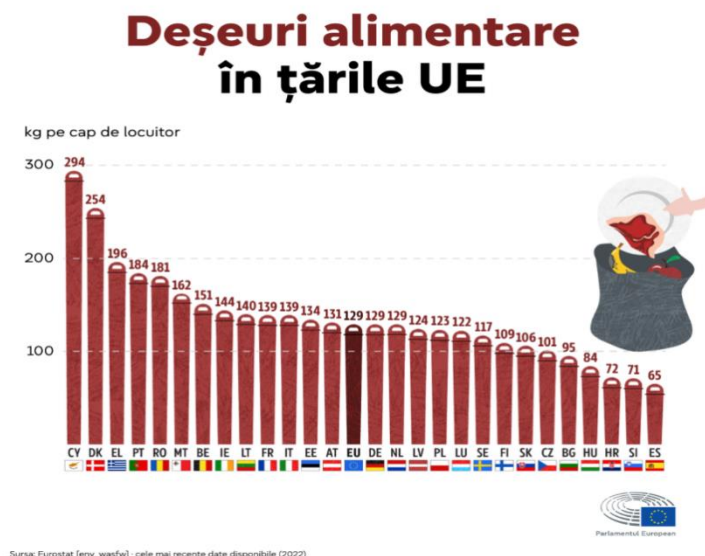


Figure 8. Source: <https://www.europarl.europa.eu/> European Parliament. EU food waste.

In 2023, the EU countries that generated the highest amount of food waste per capita were Cyprus, Denmark and Greece, followed by Portugal and Romania. The countries that generated the least food waste were Spain, Slovenia and Croatia.

Environmental impact:

Food waste accounts for about 16% of total greenhouse gas emissions in the EU food system. Reducing this waste would lead to fewer emissions and support climate action.

According to the Food and Agriculture Organization, the production and transport of food that is subsequently discarded accounts for 8% of global greenhouse gas emissions. Wasted food also consumes scarce natural resources. For example, water used to produce end-of-waste food accounts for 12% of all water used in food production and consumption in the EU.

Economic cost

Food waste is also an economic problem. Households pay for food they never eat, and farmers and companies lose money at every stage of the food supply chain because some of it ends up in the trash. The costs associated with food waste are estimated at around €132 billion in market value.

In addition, surveys cited by the European Commission in its impact assessment estimate additional costs of around €9.3 billion related to the collection and management of food waste.

The Social Consequences

Food waste has important social effects. It wastes resources that could be better used. In the EU, people spend around 13% of their income on food, according to Eurostat.

Throwing away consumable foods instead of donating them is a major missed opportunity to improve food security and help people struggling to get quality meals.

What are the causes of food waste?

Various actors in the food chain contribute to food waste.

At the consumer level, impulsive shopping due to retail promotions, inadequate packaging size, lack of access to a refrigerator or freezer, inadequate planning of purchases and meals or refusal to buy ‘ugly’ looking fruit and vegetables are just some of the reasons leading to food waste in households.

Labelling with the date of validity of food can also be a problem. In the EU, food bears different labels with shelf-life. The ‘best before’ label on foods such as pasta, rice, canned food, frozen food and snacks means that after the indicated date the food may lose some of its taste or freshness but is still safe for consumption. The label ‘to be consumed by’ (on meat, fish, salads or milk) means that the food must not be consumed after the indicated date.

How to reduce food waste? EU solutions

Reducing food waste and food loss are two of the EU’s main objectives to achieve a circular economy by 2050.

Country-specific reduction targets required by law

The Commission put forward a proposal to revise the Waste Framework Directive in July 2023 to optimise measures to reduce textile and food waste. Among the changes, binding waste reduction targets were proposed at national level by the end of 2030.

The European Parliament and EU governments reached an agreement on legislative updates in February 2025. They were then adopted by Parliament in September 2025.

By 2030, waste should be reduced by 10% in food processing and manufacturing and by 30% in retail, restaurants, food services and households, compared to the annual average of food waste between 2021 and 2024.

Facilitating food donation

Food donation is another way to reduce unnecessary food waste. The EU Food Donation Guide was adopted in 2017 with the aim of facilitating the recovery and redistribution of safe and edible food to those in need.

During the negotiations on the update of the Waste Framework Directive in 2025, MEPs obtained measures that will facilitate the donation of unsold food that is safe for human consumption.

A common method for measuring food waste

In addition, a common EU methodology <https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=CELEX:32019D1597> was adopted in 2019 to measure food waste at each stage of the food supply chain. The common methodology facilitates the monitoring and reporting of food waste across the EU.

Waste management and recycling.

2.1 billion tonnes of waste is generated in the EU every year. There are large differences between EU countries in the quantity and management of waste, but there is a trend towards more recycling and less use of landfills. To reduce waste and its environmental impact, the EU has adopted ambitious recycling and landfill targets and is working on packaging waste. The aim is to promote a more sustainable model known as the circular economy.

Waste management arrangements vary between different Member States. The EU wants to promote waste prevention and product reuse as much as possible. If this is not possible, they prefer recycling (including composting), followed by the use of waste in energy production. The most harmful option for the environment and human health is simply dumping waste, for example in landfills, even if it is also one of the cheapest solutions.

Although the amount of waste generated per capita has increased, ways of managing it have improved - with more recycling and composting and a decrease in landfill use.

60% of waste collected and treated daily by municipalities must be reused or recycled by 2030, in line with EU targets. Under the EU Landfill Directive, EU countries must also reduce the amount of municipal waste landfilled to 10% of all municipal waste generated by 2035.

Exporting waste outside the EU

Principalele destinații ale deșeurilor din UE (în milioane tone)

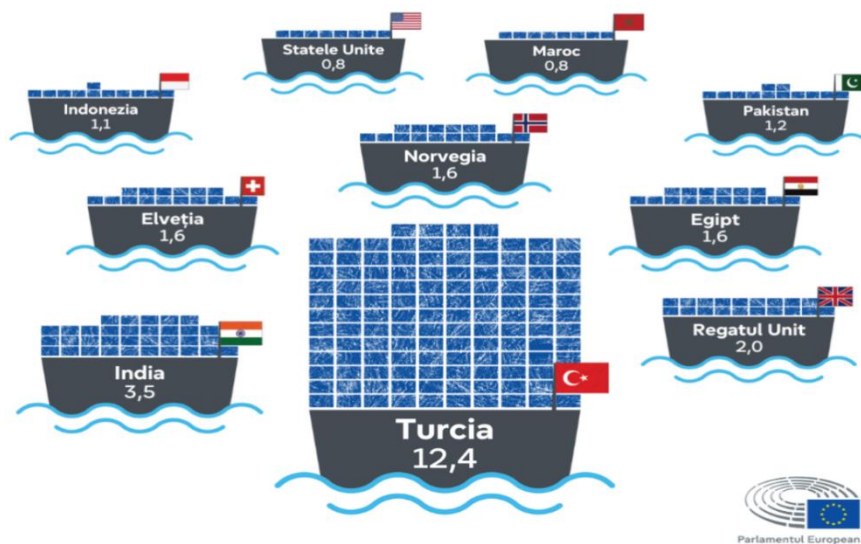


Figure 9. Source: <https://www.europarl.europa.eu/> European Parliament. Destinations of EU waste.

Some of the waste is exported. In 2022, [EU exports to non-EU countries reached](#) 32.1 million tonnes. This represents a slight decrease of 3% compared to 2021. Most of them (55%) consist of scrap ferrous metals (steel and iron) that arrive mainly in Turkey. The EU also exported a significant amount of paper waste (15%), with India being the main destination. In 2022, 39% of exported EU waste went to Turkey (12.4 million tonnes), followed by India (3.5 million tonnes), the United Kingdom (2 million tonnes), Switzerland (1.6 million tonnes) and Norway (1.6 million tonnes).

The EU wants to combat illegal exports and ensure that waste is managed in an environmentally safe manner in the countries of destination. In February 2024, Parliament approved [stricter rules for exports of waste outside the EU](#). These rules will ban exports of plastic waste to non-OECD countries and introduce stricter conditions for exports to OECD countries. Exporting waste to another EU country will only be possible in exceptional circumstances.

What is [the EU doing on plastic waste](#)?

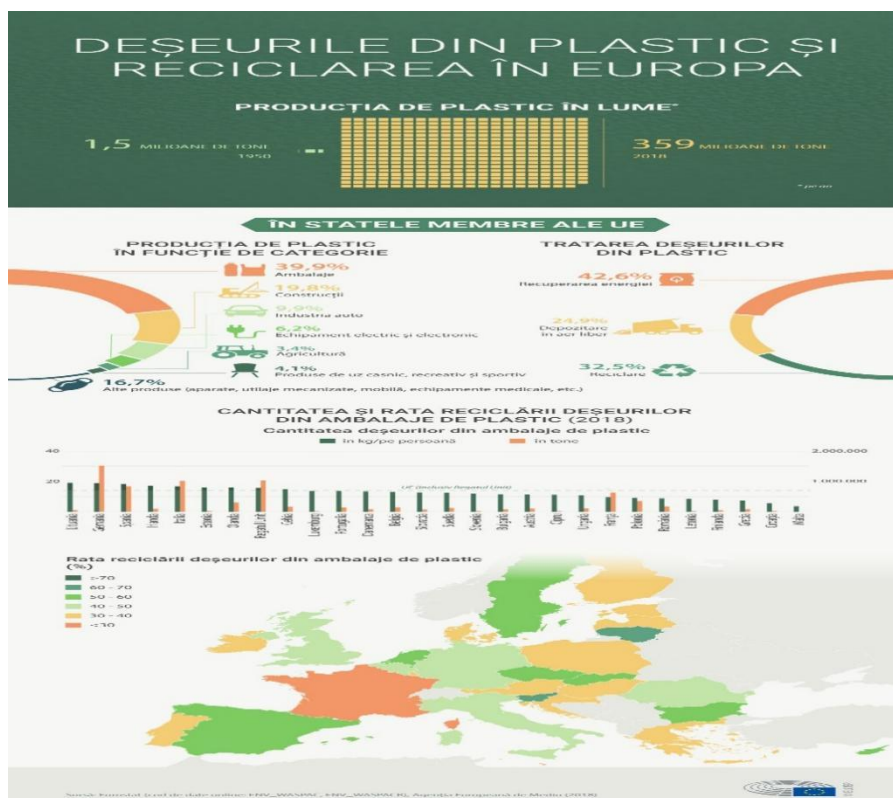


Figure 10. Source: <https://www.europarl.europa.eu/> European Parliament. EU plastic waste.

Treatment of plastic waste in Europe

In Europe, energy recovery is the most widely used way to eliminate plastic waste, followed by recycling. 25% of plastic waste is landfilled. Half of the plastic collected for recycling is exported to non-EU countries for treatment. Reasons for export include lack of capacity, technology or financial resources for local waste treatment. EU exports of waste to non-EU countries reached 32.7 million tonnes in 2020. Most of the waste consists of scrap ferrous and non-ferrous metals, as well as plastic, textiles and glass waste, and these mainly go to Turkey, India and Egypt. The low rate of plastic recycling in the EU leads to high losses for both the economy and the environment. It is estimated that 95% of the value of the plastic packaging material is lost after the short cycle of first use.

Researchers estimate that in 2023, globally, the production and incineration of plastics released more than 850 million tonnes of greenhouse gases into the atmosphere. By 2050, these emissions could reach 2.8 billion tonnes. Some of these can be avoided through better recycling. **EU solutions to increase plastic recycling**

In June 2019, the EU adopted new rules on plastic reaching the seas and oceans. Measures are being taken on the 10 most common single-use plastic products found on European beaches, as well as fishing gear. The measures also include a plastic bottle recycling target of 25% by 2025 and 30% by 2030.

In November 2022, the Commission proposed new EU-wide rules on packaging. These include proposals to improve packaging design, such as clear labelling to promote reuse and recycling. It also calls for a transition to biobased, biodegradable and compostable plastics.

Waste management, also known as **waste management**, refers to education on waste collection, transport, treatment, recycling and landfilling. The term usually refers to materials resulting from human activities and reducing their effect on human health, the environment, or the appearance of a habitat. Waste management also aims to save natural resources by reusing recoverable parts. Managed waste can be both solid, liquid or gaseous, as well as having various properties (e.g. radioactive), requiring treatment methods specific to each.

Since 1970, it has been recognised that waste is a problem and that methods of treatment by landfilling or incineration are not satisfactory. There has also been a question of recycling the materials that make up them. The United Nations Conference on Environment and Development (UNCED) <https://ro.wikipedia.org/w/index.php?title=UNCED&action=edit&redlink=1> in Rio de Janeiro in 1992 adopted policies that were introduced worldwide. In the European Union, concerns were much older, with the European Commission's first waste directives dating back to 1975. People are used to recycling since ancient times. Archaeological studies have shown that in times when raw material resources were diminishing, the landfills of ancient cities contained less waste with potential for recycling (tools, ceramics, etc.).

In pre-industrial times, waste from the processing of bronze and other precious metals was collected in Europe, and melted for continuous reuse, and in some areas the dust and ash from coal or wood fires were reused to obtain the basic material in the manufacture of bricks. The main reason for practicing material recycling was the economic advantage, thus reducing the need for natural raw materials.

An English entrepreneur, Benjamin Law, was the first to turn the recycling of clothes that could no longer be worn into raw materials for new textiles. Thus, he invented two new materials: shoddy and mungo, based on wool recovered from old clothes, combined with new wool. In 1860, in the city of Batley, England, more than 7,000 tons of this material were produced.

The most 'proper' times for mass recycling were war. Nazi Germany is one of the countries where rationalization and recycling were adopted both during and during the pre-war period. In particular, iron is recycled, but also other rare metals, textile fibres or bones from which soap is then made.

The lack of resources caused by the two world wars and other events strongly encouraged recycling. Strong government campaigns were promoted during World War II in every country involved, pushing citizens to donate metals and conserve fibres, as an important matter of patriotism. Resource conservation programmes established during the war were continued and subsequently in some countries that were not very good at natural resources, such as Japan.

Japan is one of the countries where recycling is regulated by law and generally accepted by residents, more than in other countries. In 2007, 802,036 tonnes of plastic were collected for recycling in Japan, which is 429.5% more than in 2000, meaning that every inhabitant of the country recycles about 6.4 kg of plastic per year.

The next big investment in recycling took place in the 1970s, due to rising energy costs (recycling aluminium uses only 5% of the energy needed for virgin production; glass, paper and metals also have low energy consumption when recycling). The 1977 U.S. <https://ro.wikipedia.org/wiki/SUA> adoption of the Clean Water Act created a strong demand for white paper (office paper that had already been bleached increased in value at the time). One-third of all waste in the United States is recycled. Thus, 82 tons of materials are recycled out of a total of 251 tons of garbage that is produced annually. It is estimated that there has been a 100% increase in the amount of recycled materials in the U.S. over the past 10 years.

The U.S. has the highest per capita production of garbage (waste) in the world. Thus, every day, on average, an American produces just over 2 kilograms of garbage.

In the 1970s, the city of Woodbury in New Jersey was the first in the country to introduce mandatory recycling. Soon, other cities followed suit, the main reason for America's new passion for recycling

being the high cost of energy. This would save 95% of energy if recycled aluminium was used to produce aluminium.

The awareness campaign that the most effective form of waste treatment is recycling took place in Europe under the *three R* logo (Reduce, Reuse, Recycling, Reduce, Reuse, Recycle, French Réduire, Réutiliser, Recycler). Although in Romania waste recycling initiatives were started under this generic even before 1989, in the context of the shortages of that period, the action, being imposed from top to bottom, met resistance. Recycling is now resumed, but the success of the recycling policy also depends on the possibility of sorting waste, which must be started from the very first stage, through the separate collection of reusable materials.

Examples of waste recycling:



Figure 11. Source: Wikipedia. Recycling/collection of waste.

Deșeuri electronice și electrocasnice de mici și medii dimensiuni:

- Aparate de uz casnic de mici dimensiuni (de ex. fier de călcat, robot de bucătărie, aspirator etc.):
- Echipament informatic și de telecomunicații (de ex. Laptop, tablete, telefoane mobile, acumulatori, imprimante, copiatoare, etc):
- Echipamente de larg consum (de ex. baterii uzate, camere de filmat/ fotografiat, radio-uri, DVD player, telecomenzi, videocasetofoane, etc.);
- Jucării, echipamente sportive (de ex. console jocuri, etc.);
- Instrumente de supraveghere și control (de ex. cameră de supraveghere, aparate pentru măsurarea curentului electric, etc.);

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Figure 11. Source: Google com. Electronic waste.

Main European Waste Management Directives, which also apply to tourism and hospitality

Waste Framework Directive 2008/98/EC

- It is the main EU act on waste management.
- Provides for the waste hierarchy:
 1. Waste prevention

2. Re-use
 3. Recycling
 4. Other forms of recovery (e.g. energy)
 5. Deletion (last option)
- Introduces the ‘polluter pays’ and ‘extended producer responsibility’ principles.
 - Member countries must organise separate collection for paper, metal, plastic and glass.
- 2. Directive 2018/851/EU (revision of Directive 2008/98/EC)**
- Imposes more ambitious targets for recycling:
 - by 2025 – recycling of 55% of municipal waste;
 - by 2030 – 60%,
 - by 2035 – 65%.
 - It aims to reduce food waste throughout the production and consumption chain.
- 3. Directive 1999/31/EC on the landfill of waste**
- Regulates how to store waste to prevent soil, water and air pollution.
 - Purpose: reducing the amount of biodegradable waste landfilled.
- 4. Directive 94/62/EC on packaging and packaging waste**
- It sets requirements to prevent the generation of packaging and promote its recycling.
 - Member countries must achieve minimum recycling targets for glass, paper, metal, plastic and wood.
- 5. Directive 2019/904/EU on single-use plastic**
- It prohibits the marketing of single-use plastic products (straws, plates, cutlery, cotton buds, etc.).
 - Encourages a shift to reusable and compostable materials.
- 6. Circular Economy Package (2015, 2020)**
- Includes legislation and objectives for:
 - increasing re-use and recycling,
 - reduction of waste,
 - promoting the circular economy.
- ?? In tourism and hospitality, these directives translate into:**
- selective collection in hotels and restaurants,
 - limiting single-use plastic,
 - anti-food waste programmes,
 - Collaborations with recycling companies and environmental NGOs.

<https://youtu.be/ud2dfPeBRPQ> (View underground recycling video from Romania).

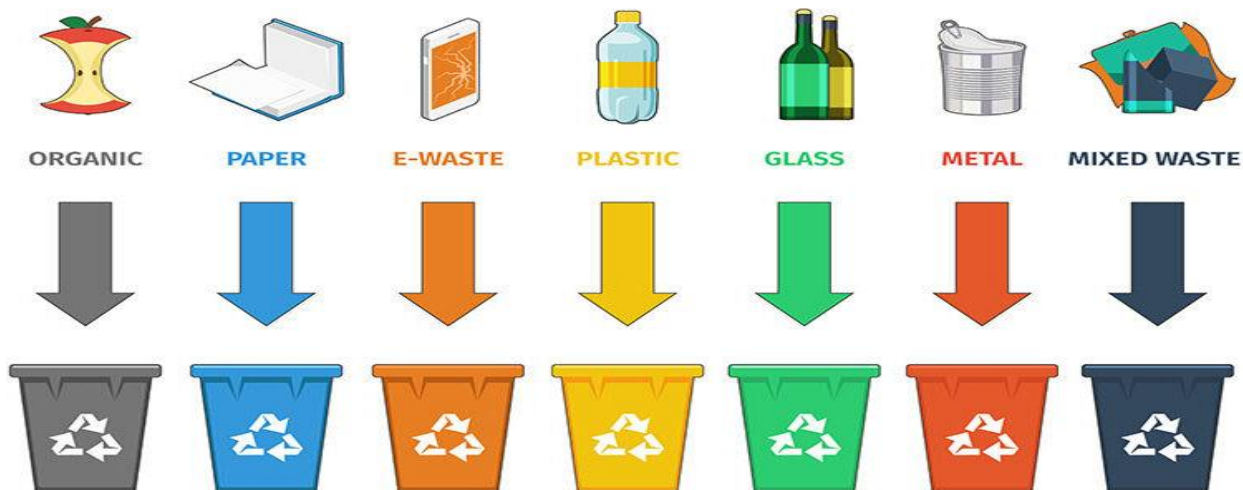


Figure 12. Source: <https://www.greenglobal.ro/blog/entrepreneur-for-recycling> guide



AUTO-EVALUE QUESTIONS

Short-answered questions

1. What types of single-use plastic products are most common in hotels and restaurants?
2. What are the advantages of using reusable containers instead of plastic ones?
3. What does "food waste" mean in the context of tourism structures?
4. Name two ways a hotel can reduce food waste at buffet meals.
5. What are the main categories of waste to be collected separately in a hotel?

?? Applicative questions

6. Imagine you are the manager of a hotel. What steps would you take to remove single-use plastic from your rooms?
7. Suggests a short plan for managing surplus food in a hotel restaurant.
8. How would you organize a selective waste collection system for tourists and staff in your hotel?

?? Reflection questions

9. Why is it important for a hotel to adopt measures to reduce plastic and food waste?
10. How can efficient waste management contribute to the **image and competitiveness** of a tourist structure?

Topic 17: Defining policy and commitments for the introduction of an EMS in tourism. The basis for the development of an EMS in tourism.

Environmental Management Systems (EMS) -Environmental management systems (EMS) are structured tools used by organisations to improve their environmental performance, achieve objectives

and reduce risks. One of the most well-known standards for EMS is [ISO 14001](#), which helps organisations effectively manage environmental impacts, reduce costs and improve their image. The basic principles of an EMS involve planning, carrying out, verifying and acting for continuous improvement.

An EMS is a set of interrelated elements that allow an organisation to:

- Establish environmental policies and objectives .
- Implement processes: to achieve these objectives.
- Control and monitor its performance: with regard to the environment.
- Ensure continuous improvement: of his practices.

Nowadays, more and more institutions and organisations are concerned about achieving environmental performance by controlling the environmental impact of their activities and at the same time developing their capacity to publicise these performances. These concerns relate to the development of economic and legislative policies, measures to encourage environmental protection, increased stakeholder concern about problems and sustainable environmental development. Environmental reviews and audits alone are not sufficient to achieve such goals. In order for some companies to meet their legal requirements and environmental objectives, they need to carry out these analyses as part of a structured environmental management system that is integrated into the overall set of management activities.

The main purpose of an environmental management system is to ensure environmental protection; prevention of pollution; balancing these elements with social and economic needs. The application of such a system allows the organisation to establish and assess the effectiveness of the procedures used to develop its environmental policy, and at the same time to comply with them and demonstrate such compliance.

Scope of the environmental management system

The environmental management system can be applied *to those environmental activities and aspects* that the organisation can control and influence. It must meet a number of requirements in order to enable the organisation applying it to formulate its environmental policy and objectives in the context of compliance with legislation, while taking into account the environmental impact of its activity. The environmental management system is applicable to those organisations that have the following objectives:

- to implement, maintain and improve an environmental management system (EMS);
- compliance with the environmental policy adopted;
- certification/registration of the environmental management system by an external body;
- self-assessment and declaration of compliance with International Standard ISO 14001.

The terms frequently used in this context can be defined as follows:

- ***Continuous improvement***, is the process of developing, expanding the environmental management system to improve overall environmental performance in line with the organisation's environmental policy.

- **The environment**, is the place where an organisation operates and includes air, water, land, natural resources, flora, fauna, human beings and their relations to each other, i.e. the natural and artificial environments.
 - **The environmental aspect**, is that element of an organisation's activities, products or services that can interact with the environment.
 - **Environmental impact** is any change in the environment (harmful or beneficial, total or partial) resulting from an organisation's activities, products or services.
 - **The environmental management system**, is part of the general management system which includes the organisational structure, planning activities, responsibilities, practices, procedures, processes and resources necessary to develop, implement, conduct, analyse and maintain environmental policy.
 - **Environmental management system audit**, is the systematic and documented verification process that makes it possible to obtain and assess the objective evidence necessary to establish whether an organisation's environmental management system complies with the environmental management system criteria by that organisation, including the communication of the results of that process to the organisation's management.
 - **The environmental objective** is the overall environmental objective resulting from the environmental policy that an organisation aims to achieve and which is usually quantified where possible.
 - **Environmental performance**, is the measurable results of the environmental management system, related to the organisation's control over its environmental aspects, based on its environmental policy, objectives and targets.
 - **Environmental policy** is the set of intentions and principles stated by the organisation with regard to its overall environmental performance, which form the framework for action and for setting the organisation's environmental objectives and targets.
 - **The environmental target** is the quantified performance requirement, applicable to all or part of the organisation, resulting from the environmental objectives and which must be set and met in order to achieve those objectives.
 - **The stakeholder** is the individual or group concerned or affected by the environmental performance of an organisation.
 - **An organisation**, may be a company, company, firm, undertaking, authority or institution, part or combination thereof (public or private), with limited liability or any other legal status, with its own functional and administrative structure.
- Pollution prevention** is the use of processes, practices, materials or products that prevent, reduce or control pollution, which may include recycling, treatment, process modification, control mechanisms, resource efficiency, material substitution, and any other measures in this regard.

Requirements of the environmental management system

General requirements

Any organisation interested in implementing an environmental management system must meet a number of requirements.

The implementation of an environmental management system aims to improve environmental performance. The organisation should regularly review and evaluate the environmental management system in order to identify opportunities for further and continuous improvements in environmental performance.

An organisation may define limits of application and choose to implement the system throughout the organisation, in certain of its operational units or in specific activities.

The requirements for an environmental management system based on planning, implementation, verification and analysis are in principle the following:

- establishing an appropriate environmental policy;

- identifying environmental aspects resulting from (existing, past or planned) activities, products or services in order to determine their significant environmental impact;
- identification of the relevant legislative provisions;
- identifying priorities and setting appropriate environmental objectives;
- the establishment of the structure and programmes for the implementation and achievement of the objectives and targets set;
- facilitating planning, control, monitoring, audit and review activities to ensure that environmental policy is respected and the environmental management system is appropriate;
- the possibility for EMS to adapt to any type of change.

Environmental policy

An organisation's environmental policy must be clearly defined by the organisation's management, who must specify its environmental objectives and priorities.

Environmental policy, in order to be effective, must meet the following *requirements*:

- correspond to the nature, size and environmental impact of the organisation's activities, products or services;
- Include a commitment to continuous improvement and pollution prevention;
- include a commitment to comply with existing environmental legislation and regulations;
- provide the necessary framework for setting and analysing environmental objectives and targets;
- addresses all staff;
- be available to the public.

Environmental policy is seen as the driving force behind the implementation and improvement of an organisation's environmental management system. It must reflect the commitment of the organisation's management to comply with the legislation in force and to pursue performance and continuous improvement. Environmental policy is the basis on which the organisation relies to set its environmental objectives and targets. Environmental policy therefore needs to be sufficiently clear to be understood by stakeholders (both within the organisation and externally), regularly reviewed and revised to reflect changing conditions and information. It is also recommended that its scope be clearly identified.

In order to achieve the objectives set by the environmental policy, it is necessary for the organisation to identify both the environmental aspects, the existing legal provisions, the objectives and targets, as well as the established responsibilities and the planned implementation deadlines.

In order to highlight *environmental issues*, the organisation must establish and apply procedures to identify them in relation to activities and products or services which can be controlled and influenced by the organisation.

The aim of such procedures is to identify and update those environmental aspects that have a significant impact. Issues related to the process of identifying significant environmental issues that should be prioritised by an organisation's environmental management system are:

- the cost and time needed to carry out the analyses;
- the actual degree of control over the environmental aspects considered;
- determining environmental aspects by inputs and outputs associated with their relevant activities, products and/or services (current and past);

The analysis of these issues should mainly cover the following areas:

- legislative provisions as well as regulations;
- identification of significant environmental aspects;
- reviewing existing environmental management procedures and practices;
- analysis and evaluation of the follow-up to the investigation of previous incidents;

– operating conditions within the organisation and possible emergency situations.

The process of identifying significant environmental aspects associated with activities in the organisation's business units shall take into account, if necessary, the following *factors*: emissions to air, discharges to water, waste management, soil contamination, other community and local environmental issues.

Organisations may select categories of activities, products or services to identify those aspects that are likely to have a significant impact, or assess each product input and output.

Therefore, in setting and analysing its objectives, an organisation must take into account both legal provisions and significant environmental aspects, technological choices, its financial, operational, commercial requirements, as well as the views of stakeholders.

All environmental objectives and targets must be consistent with environmental policy.

Environmental management programmes – applicability

In order to set environmental objectives and targets, any organisation must establish and implement one or more *programmes* which must include: the designation of responsibilities and the means and deadlines for achieving them.

The creation and use of one or more programmes is a key element of the success of implementing an environmental management system. It is recommended that the programme describes how the objectives and targets set by the organisation will be achieved and also indicates the deadlines and staff responsible for implementing the organisation's environmental policy for new activities.

Such a programme may also include consideration of the planning, design, production, marketing and disposal phases.

In order to ensure the effectiveness of environmental management, the tasks, responsibilities and authority must be defined, properly documented and communicated to those concerned.

The organisation's management must provide the resources (human, technological and financial) needed to implement and control the environmental management system.

Successful implementation of an environmental management system requires the commitment of all organisational staff, environmental managers and other organisational structures or other functions involved in environmental matters.

This commitment should start from the highest level of management, which should determine the organisation's environmental policy and ensure the implementation of the environmental management system, and it is therefore recommended that representatives with different responsibilities and authorities be appointed to implement the environmental management system.

The management of the organisation must also ensure that resources are allocated in order for the environmental management system to be able to start its work and to maintain, define and communicate the responsibilities of the environmental management system.

Appropriate training needs are also needed to ensure the implementation and operation of an environmental management system.

At the same time, the organisation must set up a procedure for internal communication, reception, documentation and response to relevant information and requests from interested parties.

In order to promote an environmental management system, it is necessary to draw up documents, to maintain and to train a system for their control.

The organisation must establish, analyse and review the emergency preparedness procedures.

Any organisation promoting an environmental management system must establish and maintain procedures for defining the responsibilities of decision-making steps, as well as for dealing with and analysing non-compliance, taking action to reduce its impact, initiating and completing corrective and preventive actions.

S.M.M. is a complex process that ensures order and consistency within organisations, as well as their concerns about the environment, the allocation of resources, the attribution of responsibilities, the correct and continuous assessment of different internal practices and processes aimed at ensuring the smooth running of activities. S.M.M. is considered to be compatible with the concept of *sustainable development* and is essential for strengthening an organisation's ability to meet its environmental objectives and to guarantee existing national and/or international requirements.

The most important ***principles*** to be respected in a S.M.M. are:

- considering environmental management as one of the organisation's top priorities;
- establish and maintain communication with interested parties;
- determining legal requirements and environmental aspects;
- determining the responsibilities and responsibilities of management and staff for environmental protection;
- encourage environmental planning throughout the life cycle of the product or process;
- ensuring sufficient and adequate resources, training staff to achieve the performance levels set on a continuous basis;
- assessing the environmental performance against the organisation's environmental policy;
- Establish a management process to audit and analyse SMM in order to identify opportunities for system improvement and environmental performance.

Advantages of the environmental management system:

The main purpose of introducing an effective environmental management system is to protect human health and the environment against the potential impacts of the activities, products or services that an organisation provides, and also to help maintain and improve the quality of the environment in general. The main advantages of introducing an S.M.M. are as follows:

- achieving greater competitiveness in a competitive market;
- obtaining benefits from an economic point of view;
- there is a clear commitment on the part of the organisation's management to achieving its own environmental policy and objectives;
- proof of the organisation's compliance with legislation and regulations
- a process of continuous improvement, etc.

Principles and elements of the environmental management system

The basic principles of S.M.M. are as follows:

- *Environmental engagement and policy;*
- *Environmental policy planning;*
- *Putting environmental policy and targets into practice;*
- *Measurement and assessment of environmental performance;*
- *Continuous analysis and improvement of the EMS.*

Principle of commitment and environmental policy

In line with this principle, it is recommended that any organisation should define its environmental policy and commit to the introduction of its own S.M.M.

Once the organisation's experience has grown, it is considered that the S.M.M. will start to take shape, enabling it to introduce procedures, programmes and technologies to improve its environmental performance.

The commitment and involvement of the organisation's management in the exercise of environmental management is considered essential for the success of the introduction of an S.M.M.

The environmental policy sets the overall direction for the organisation and at the same time sets out its principles for action. It determines the purpose, the level of environmental responsibility and the desired performance, against which all subsequent actions of the organisation will be assessed.

The responsibility for setting the environmental policy lies with the organisation's management, who is responsible for implementing the environmental policy and also for making available the data and information that will enable it to be formulated or amended.

Environmental policy, in addition to specific environmental regulations, may also include a number of *commitments* such as:

- reducing the negative environmental impact of new activities through the use of integrated environmental management and planning procedures;
- improving the procedures for assessing environmental performance and related indicators.
- creating products in such a way as to reduce their environmental impact both in production and in use and disposal;
- prevention of pollution, reduction of waste and consumption of resources and raw materials;
- environmental education and training for all the organisation's staff, as well as for other outsiders;
- involving stakeholders and establishing good communication;
- work orientation towards sustainable development;
- encouraging suppliers and contractors as partners to adopt a similar S.M.M.

Key elements of environmental policy in a tourism structure:

- compliance with environmental legislation and rules;
- Reducing resource consumption (energy, water, materials);
- minimising waste and promoting recycling;
- reduction of pollution (air, water, soil, noise);
- involving employees and tourists in good environmental practices;
- transparency and communication on environmental performance.

?? Commitments of tourism managers:

- the adoption of **the polluter pays** principle and social responsibility;
- implementation of green technologies (e.g. renewable energy, smart consumption systems);
- integrating environmental criteria into partnerships and procurement;
- regular reporting of environmental performance results.

ISO 14001 is the most widely used international standard for environmental management systems. Organizations that implement this standard can gain a number of benefits, such as:

- **Improving the organizational image** by promoting a "green" attitude.
- **Attracting ethical investors** .
- **Cost reduction** : through the efficient use of resources.
- **Risk reduction**: environmental accidents and insurance costs.
- **Demonstration of environmental performance**: to stakeholders.

A simplification of the main aspects of a management system is the 4-item approach "planning, carrying out, verifying, acting". A complete management system covers every aspect of management and focuses on supporting performance management to achieve objectives. The management system should be subject to continuous improvement as the organization improves.

Examples of management system standards include:

- ISO 9000 : Standards for Quality Management Systems (QMS)
- ISO 13485 : standard for medical devices
- ISO 14000 : standards for environmental management systems
- ISO/IEC 20000 : standards for IT service management systems (SMS)
- ISO 22000 : Standards for Food Safety Management Systems (FSMS)
- ISO/IEC 27000 : Information Security Management Systems (ISMS)
- ISO 30301: Standard for records management (information and documentation)
- ISO 37001 : standard for anti-bribery management systems
- ISO 45001 : Standard for occupational health and safety management systems
- ISO 50001 : standard for energy management systems
- ISO 55000 : standards for asset management systems
- ISO 56002: standard for innovation management system
- FitSM : standards for easy IT service management
- ILO-OSH: Occupational safety and health management systems
- SA8000 : Social Responsibility Management System
- IAEA Management System Safety Standards

ISO 14001:2015 is an international standard issued by the International Organization for Standardization for organizations that want to increase their performance while protecting the environment and putting in place an environmental management system for resources to be sustainable.

The activity of any organization uses natural or renewable resources and produces residues that can have an impact on the environment. This risk must be identified, reduced and controlled from an early stage and throughout the cyclical processes, including those eliminated. The implementation and certification of environmental management according to the **ISO 14001:2015** standard, as part of the general management system, provides a systematic approach to dealing with the environmental aspects of the organization.

The environmental management system allows the organization to monitor the impact of activities, products and services on the environment.

ISO 14001:2015 can be implemented to any organization, regardless of size, type, nature and addresses environmental issues that the organization can control or influence with a life cycle perspective. ISO 14001:2015 does not specify environmental performance criteria.

Benefits of ISO 14001:2015:

- Supports the organization's commitment to protect the environment and reduce the environment, pollution by minimizing the activities carried out.
- Increase the trust of customers, community, employees and authorities.
- International recognition of certification, improves the image and reputation of the organization.
- advantage over competitors.
- Obtain and demonstrate environmental performance and reduce costs through a more efficient use of resources and reduce the risk of accident, thereby lowering the cost of insurance.
- Prevent some accidents that may lead to sanctioning of the organization by the authorities due to lack of environmental protection measures.
- Strengthen the confidence of the authorities.
- We also form trusted authorities to monitor the application of the legislation.

- Alignment with market requirements – national and international demonstration of the existence of an environmental management system.

What is the Plan-Do-Check-Act (PDCA) cycle

The Plan-Do-Check-Act (PDCA) cycle is a quality management model used in process management and continuous process improvement. It consists of four interlinked steps as follows:

Planning (Plan): At this stage, the objectives and processes necessary to achieve the desired results are set. Identify and analyse problems and develop action plans to address them.

Output (Do): At this stage, the established plans are implemented. Procedures shall be applied and relevant data shall be collected to assess the performance of processes.

Check: This phase involves evaluating and monitoring the results obtained in the previous phase. Compare the data obtained with the objectives set and the expected results in order to identify any deviations and assess the effectiveness of the actions taken.

Action (Act): At this stage, corrective and preventive measures are taken based on the conclusions drawn at the previous stage. Identify opportunities for improvement and adjust processes to ensure continuous improvements in performance and efficiency.

Basis for the development of an EMS in tourism:

For the introduction and development **of an Environmental Management System in a** touristic structure, the following steps are taken (according to the ISO 14001 model):

- 1. Initial environmental analysis**
 - assessment of the environmental impact of tourism activities (consumption of resources, waste, pollution).
- 2. Establishing environmental policy**
 - Formal declaration by management.
- 3. Planning of EMS**
 - identification of concrete objectives and targets (e.g.: reduction of energy consumption by 15% in 2 years).
- 4. Implementation and operation**
 - procedures to save resources, recycle, reduce waste;
 - training of employees and involvement of tourists.
- 5. Monitoring and corrections**
 - performance measurement by clear indicators (kg of recycled waste, water consumption/per tourist).
- 6. Management review**
 - regular assessment and adjustment of environmental policy.

Example by organisation/hotel

Defining policy and commitments for the introduction of an EMS (Environmental Management System) in tourism

An EMS in tourism is the set of policies, procedures and measures by which a tourism organization (hotel, hostel, agency, tourist destination) manages the environmental impact and aims at continuous improvement of the environmental performance.

1. Definition of environmental policy

Environmental policy is the fundamental document expressing the organization's commitment to environmental protection. It must:

- adapted to the touristic specificity of the organization (hotel, resort, agency, etc.);
- includes compliance with national and European environmental legislation;
- aims at reducing the consumption of natural resources (energy, water, raw materials);
- promote the circular economy (recycling, reuse, waste reduction);
- be communicated to all employees, tourists and partners;
- support the principles of sustainable development and responsible tourism.

Example: A hotel can define its environmental policy by committing to reducing energy and water consumption by 20% by 2030 and eliminating single-use plastic.

2. Commitments of managers and staff

- Implementation of a consumption monitoring system (energy, water, materials).
- Training employees in eco-management and good resource management.
- Engage customers through awareness campaigns (posters, leaflets, mobile applications).
- Collaboration with NGOs and authorities for selective collection, recycling, food waste reduction programs.
- Regular reporting of progress to authorities and partners.

3. The basics of developing an EMS in tourism

- Compliance with environmental legislation: EU directives (waste, plastic, energy efficiency, water) and national framework.
- Environmental impact analysis: identification of significant issues (consumption of resources, emissions, waste).
- Setting objectives and targets: plastic reduction, water saving, energy efficiency, recycling.
- Planning and documentation of procedures: guides for employees and partners.
- Monitoring and internal audit: annual assessment of progress.
- Continuous improvement: tailoring policies to results.

?? Example European good practice:

Scandic Hotels (Sweden) – introduced an ISO 14001 certified SMM, completely eliminating single-use plastic, reducing energy consumption by more than 30% and implementing a digital system to reduce food waste.



AUTO-EVALUE QUESTIONS

- ☐ What is an **Environmental Management System (EMS)** and what is its role in tourism?
- ☐ What are the key elements to be included in an **environmental policy** of a tourism structure?
- ☐ Why is it important to communicate environmental policy to employees and tourists?

- ☐ Gives an example of a **concrete commitment** that a hotel/pension can include in its environmental policy.
- ☐ How can tourism managers involve customers in reducing environmental impact?
- ☐ What are **the fundamental bases** for the development of an EMS in a tourist destination? (list minimum 3)
- ☐ Explains the link between **European environmental legislation** and the implementation of an EMS in tourism.
- ☐ Why is there a need for **regular monitoring and reporting** of environmental policy outcomes?
- ☐ How does **employee training** contribute to the success of the implementation of an EMS?
- ☐ Give an example of **good European practice** on the application of an EMS in tourism and explain why it is considered a model.

Subject 18: Planning the implementation of environmental policy in tourism.

Planning of environmental activities. Planning is one of the most important steps in the process of building and implementing an EMS. To do this, it is necessary to determine:

- Environmental policy of the organisation;
- Environmental aspects;
- Legal provisions and other requirements;
- General objectives and specific objectives;
- Environmental management program.

The organisation's environmental policy must define the objectives and principles for environmental action, including alignment with all regulatory demands relating to the environment. Environmental policy forms the basis on which the organisation sets its objectives and targets. This policy must be sufficiently clear to be easily understood by all stakeholders and must be regularly reviewed and revised to reflect changes in the field. In addition, senior management must ensure that the organisation's environmental policy is appropriate to the nature, size and environmental impacts of its activities, products or services, includes a commitment to continuous improvement, pollution prevention and alignment with relevant environmental legislation is documented and communicated to all its employees and is available to the public.

Environmental policy is defined by the organisation's management in the form of a statement that must reflect the fact that the organisation's principles and intentions relating to environmental performance are identified, documented, implemented and communicated.

Environmental aspects. The organisation must establish and maintain procedures to identify the environmental aspects of its actions, products or services, which it can control and influence, in order to determine those which have or may have a significant impact on the environment.

When setting its environmental objectives, the organisation must take into account all aspects relating to these significant impacts. An organisation without an existing EMS must first establish its current environmental position by means of a review. The aim must be to take into account all environmental aspects of the organisation as a basis for establishing an EMS.

Legal and commercial provisions. An organisation complies with legal environmental requirements if it complies with all laws and regulations relevant to the organisation. An organisation must comply with all relevant legal requirements, even if it does not have an environmental management system (EMS). On the other hand, an organisation may not comply with such regulations, since in different situations the constituent authorities may accept non-compliance.

Environmental objectives and targets. Organisations must set and maintain documented objectives and targets at each relevant level and function within the organisation. When setting and reviewing its objectives, an organisation must also consider legal or other requirements, significant environmental considerations, technological options, financial, operational or business requirements and the views of stakeholders. The objectives and targets must be in line with environmental policy, including the commitment to prevent pollution.

Environmental management programme. The environmental management programme is a description of the specific objectives and activities that a company must set to ensure greater environmental protection in a given location, including a description of the measures taken or envisaged to achieve those objectives. The creation and use of one or more programs is a key element for the successful fulfilment of the Environmental Management Standards.

Principle of planning

In line with this principle, it is recommended that an organisation establishes an effective plan to meet its environmental policy.

To this end, it is necessary to identify environmental aspects and to assess the environmental impact of these aspects.

This also requires a continuous process that determines the past, present and future environmental impact of all the activities of an organisation and also includes the identification of the conditions imposed by regulations, legislation and business that influence the organisation, as well as the identification of the impact on the health and safety of individuals, together with the environmental risk assessment.

It is recommended that the organisation establish, implement and maintain procedures for the identification, access and knowledge of legal and other requirements adopted that relate directly to the environmental aspects of its activities, products or services.

In order to achieve an organisation's environmental policy, it is recommended to plan and set a number of objectives, which are the overall goals and level of environmental performance that the organisation has set itself as part of its environmental policy. In the same vein, the organisation is required to take into account both the findings of the initial environmental analyses and the issues identified and the environmental impacts associated with those issues.

As part of the planning action, the organisation is also required to draw up an environmental management programme covering all its environmental objectives.

Planning an EMS in tourism:

1. Initial environmental analysis

- Identification of environmental aspects and impacts (water consumption, energy, plastic, waste).
- Assessment of compliance with EU and national legislation and regulations.
- Stakeholder analysis (tourists, employees, local authorities, NGOs).

2. Establishing environmental policy

- Definition of management's **vision and commitments** (e.g.: reduction of food waste, 100% recycling, green energy).
- Clear communication to staff and customers.

- Integration of the tourist structure into the overall strategy.

3. Setting objectives and targets

- General objectives (e.g.: reduction of plastic consumption).
- Measurable targets (e.g.: 30% reduction in single-use plastic in 2 years).
- Performance indicators (KPIs).

4. Action Plan

- Concrete measures (installation of water dispensers, partnerships with recycling companies, anti-food waste programs).
- Responsible for every activity.
- Necessary resources (financial, logistics, human resources).
- Implementation schedule.

5. Implementation of the EMS

- Training and motivating employees.
- Introduction of green operational procedures (e.g.: cleanliness, waste management).
- Collaboration with eco-friendly suppliers and partners.

6. Monitoring and reporting

- Data collection (water consumption, energy, waste).
- Periodic analysis of progress.
- Annual environmental report to management and stakeholders.

7. Continuous review and improvement

- Internal environmental audits.
- Correction of deficiencies.
- Updating targets according to results and new regulations.

?? Example applied in tourism:

A hotel in the Republic of Moldova implements an EMS by: removal of plastic straws, installation of solar panels, selective collection in rooms, redistribution of food surpluses to NGOs.

Environmental policy should be built on the following:

- mission of the organisation
- the organisation's vision,
- values and beliefs,
- requirements of interested parties
- guiding principles

Before designing the environmental policy it is good to know the environmental aspects needed to be taken into account and the environmental impact of the organization's activity. Thus, an environmental policy is established that will produce the desired effects with a minimal impact on the environment and with positive results for the organization. The organisation must also establish procedures to identify the environmental aspects of its business that it can control and update as necessary. Once the environmental policy has been established, it is necessary to clearly establish the action plans needed to be undertaken.

In order for the environmental policy to produce the expected effects, it is important that it is supported by the management of the organization. Also for the reduction / elimination of environmental fines or for avoiding the suspension / closure of the important activity to be taken into account are the legal regulations. In order not to pay fines, the environmental impact of the organization's activity must be below the limits set by the regulations in force. After a few years these limits are often reduced and for this reason companies should set a certain level below these limits so that future regulations do not influence the production process and economic activity of the organisation when implementation

is completed. For example, chemicals regulations in the future may not be the same as today. Often these limits are lowered when an analysis of the phases of the production process is carried out. Environmental policy has two *major functions*:

- determine the direction of development in the field of environmental protection;
- Show stakeholders the organization's interest in environmental protection.

Examples of EMS planning in tourism:

1. 4-star urban hotel

Objective: Reduction of electricity consumption

- **Target:** Reduce consumption by 20% in 3 years.
- **Actions:**
 - Installation of LED bulbs in all rooms.
 - Introduction of card systems for the control of electricity in rooms.
 - Solar panels on the roof for hot water.
- **Responsible:** The technical manager.
- **Resources:** Own funds + green grants.
- **Monitoring:** Energy bills and monthly reports.

2. Rural pension

Objective: Reducing the use of single-use plastic.

- **Target:** Complete elimination of plastic straws and cups by the end of the year.
- **Actions:**
 - Replacement with biodegradable straws and reusable cups.
 - Informing tourists through posters and leaflets.
 - Negotiation with suppliers for eco-packaging.
- **Responsible:** The pension manager.
- **Resources:** Additional costs covered by the accommodation price.
- **Monitoring:** Monthly check of stocks of materials.

3. Spa resort

Objective: Reducing food waste.

- **Target:** Reduce waste by 40% in two years.
- **Actions:**
 - Implementation of controlled portions at buffet tables.
 - Redistribution of food surplus through partnerships with NGOs.
 - Composting of plant debris.
- **Responsible:** The head of the restaurant and the environmental manager.
- **Resources:** Collaboration with local NGOs.
- **Monitoring:** Monthly report on the amount of food waste.

4. European example – Accor hotel chain

Objective: Efficient waste management.

- **Target:** 100% selective collection by 2028.
- **Actions:**
 - Separate containers in rooms and public spaces.
 - Training for employees on recycling.
 - Contracts with local recycling companies.
- **Responsible:** Regional SMM Manager.

- **Resources:** Internal funds + partnerships with authorities.
- **Monitoring:** Annual environmental audit.

Table 23

Type of tourist structure	Environmental objective	Target	Planned actions	Responsible	Resources	Monitoring
City Hotel (4★)	Reducing energy consumption	-20% in 3 years	- LED Bulbs- Electricity Control Cards- Solar Panels for Hot Water	Technical Manager	Own funds + green grants	Energy bills, monthly reports
Rural pension	Reduction of single-use plastic	Removal of plastic straws and cups by the end of the year	- Biodegradable straws and reusable cups- Tourist information- Collaboration with eco suppliers	Boarding house manager	Additional costs included in the price	Monthly stock checks
Spa resort	Reducing food waste	-40% in 2 years	- Controlled portions at the buffet- Partnerships with NGOs- Composting of plant residues	Head of Restaurant + Environmental Manager	Partnerships with NGOs	Monthly report on food waste
European hotel chain (Accor)	Efficient waste management	100% selective collection by 2025	- Separate collection- Employee training- Contracts with recycling companies	Regional SMM Manager	Internal funds + partnerships	Annual environmental audit



AUTO-EVALUE QUESTIONS

Short-answered questions

1. What does "planning an EMS" mean and what is its importance for tourism structures?
2. What are the main steps in the process of planning an EMS?
3. Why is it necessary to involve management in environmental policy-making?
4. Give two examples of **measurable targets** that can be set in a hotel.
5. What are the benefits of regular monitoring and reporting in an EMS?

?? Applicative questions

6. Imagine that you are the manager of a rural pension. How would you plan to remove single-use plastic?
7. It proposes three concrete measures to reduce food waste in a hotel restaurant.

8. Develop a mini-action plan to reduce energy consumption in an urban hotel.

?? Reflection questions

9. What do you think are the main obstacles in planning and implementing an EMS in tourism?
10. How can partnerships with NGOs and local authorities support an EMS in a tourist destination?

?? Self-assessment tasks

1. **Fill in the table:** Create a simple table with 3 columns: *Environmental objective* – *Target* – *Planned actions* for a tourist structure of your choice.
2. **Case study:** Analyzes a tourist structure in the Republic of Moldova and proposes two environmental objectives and related plans.
3. **Critical analysis:** Explains why planning an EMS can benefit not only the environment but also the image and competitiveness of a tourist establishment.
4. **Practical exercise:** Establish a short action plan for waste management in a spa resort.
5. **Personal reflection:** Write a paragraph about how you could contribute, as a future tourism professional, to the planning of an EMS in a tourist facility.

Topic 19: Capacities and mechanisms to support the implementation of environmental policy.

Capacities and mechanisms to support the delivery of environmental policy

?? 1. Institutional and organisational capacities

- **Management leadership and commitment** – direct involvement of managers in the implementation of environmental policy.
- **Dedicated internal structures** – department or responsible for environment and sustainability.
- **Partnerships** – working with local authorities, NGOs, green tourism associations.
- **Employee involvement** – training and motivating staff to apply environmental rules.

?? 2. Financial and technical capacities

- **Dedicated financial resources** – budgets for the implementation of environmental measures (e.g.: solar panels, recycling systems).
- **Access to European and national funds** – grants, environmental programmes, sustainable development projects.
- **Green technologies** – energy-efficient equipment, water-saving solutions, digitalisation to reduce paper consumption.

?? 3. Planning and implementation mechanisms

- **Clear objectives and targets** – set according to environmental policy (e.g.: reduction of plastic by 30% in 2 years).
- **Action plans** – concrete measures, responsible, timelines.
- **Monitoring systems** – collecting data on resource consumption and generating regular reports.
- **Standardisation and certification** – implementation of ISO 14001, EU Ecolabel, Green Key, etc.

?? 4. Control and evaluation mechanisms

- **Internal and external environmental audits** – checking compliance with the policy and identifying non-compliances.

- **Performance indicators (KPIs)** – measuring progress (e.g.: water consumption/room, kg recycled waste).
- **Transparent reporting** – informing tourists and authorities of the results achieved.
- **Continuous improvement** – adjustment of plans and adoption of new technologies or practices.

?? 5. *Social and communication capacities*

- **Education and awareness-raising** – internal campaigns for employees and tourists.
- **Ecolabelling** – visible communication of the measures taken (pictograms, posters, brochures).
- **Involvement of the local community** – supporting local tourism, collection and recycling partnerships.

?? **Example applied (good European practice):**

The Scandic Hotels hotel chain (Sweden) has introduced a mechanism to reduce food waste by: daily weighing of debris, reporting by section (breakfast, lunch, dinner) and staff training. Result: a reduction of more than 40% in waste in 5 years.

Institutional and organizational capacities required to support an Environmental Management System (EMS) in tourism:

1. Organisational structure

- Clear organisation of responsibilities and roles for the implementation of the EMS:
 - the designation of an **environmental coordinator** or an **EMS officer**;
 - the establishment of an **environmental committee** or **interdepartmental team** to oversee the implementation of environmental policies;
 - integrating the EMS into the existing management structure in order to avoid conflicts or redundancies.

Practical example: Large hotels have a quality and environmental department, which reports directly to the general manager.

2. Human resources

- Personnel trained and responsible for the implementation of environmental policies:
 - employees with skills in environmental management, environmental audit and tourism impact monitoring;
 - environmental awareness and training programmes for all employees, not just the environmental team;
 - promoting sustainability-oriented organisational culture.

Practical example: Reception, kitchen or maintenance staff can be trained in reducing energy and water consumption or waste management.

3. Technical and logistical capabilities

- Equipping tools and technologies for monitoring and reporting:
 - software for tracking resource consumption (energy, water, consumables);
 - equipment for measuring environmental impact (e.g.: water meters, energy sensors);
 - infrastructure for waste management and efficient recycling.

4. Financial capacities

- Sufficient financial resources to:
 - implementation of environmental measures (installation of solar panels, efficient heating/cooling systems, recycling);
 - environmental audits and certifications (ISO 14001, Green Key, Blue Flag);
 - staff training and awareness campaigns.

Practical example: Allocation of a percentage of the annual profit to investments in sustainable tourism.

5. Control and evaluation systems

- Internal mechanisms to verify compliance with environmental policies:
 - regular internal audits;
 - environmental performance reports and indicators (e.g.: energy consumption per tourist, amount of waste recycled);
 - procedures for correction of deviations and continuous improvement.

6. Planning and implementation mechanisms

- Elaboration of an EMS action plan including:
 - short-, medium- and long-term objectives;
 - clearly defined responsibilities;
 - resources allocated to each action;
 - monitoring progress and adjusting the plan to results.

7. Collaboration and partnerships

- Cooperation with local authorities, NGOs, environmental organisations and other tourism entities to:
 - exchange of best practices;
 - participation in environmental projects and sustainable tourism;
 - promoting social and environmental responsibility in the community.

For an **EMS** to be implemented and maintained effectively in the tourism sector, organisations need to have adequate **financial resources** and **technical capabilities**. They can be structured as follows:

1. Financial capacities

- **Dedicated budget for the environment** – earmarking special funds for activities such as recycling, reducing resource consumption, deploying renewable energy.
- **Investing in green technologies** – purchasing energy-efficient equipment (solar panels, LED lighting, geothermal heating systems).
- **Access to European and international funds** – programmes such as *the Cohesion Fund*, *LIFE Programme*, *Horizon Europe*, grants for green tourism.
- **Public-private partnerships (PPPs)** – involving economic actors and local communities in the co-financing of projects.
- **Cost savings through efficiency** – savings from reduced consumption of water, energy and raw materials can be reinvested in sustainability.

2. Technical capabilities

- **Qualified human resources** – environmental specialists, energy engineers, waste management experts, environmental auditors.
- **Adequate infrastructure** – selective waste collection systems, waste water treatment plants, equipment to monitor resource consumption.
- **Digital technologies** – software for monitoring emissions, resource consumption and reporting environmental indicators.
- **Training and continuous training** – training for staff in the field of energy efficiency, reduction of food waste and application of ISO 14001 standards.
- **Innovation and research** – adoption of smart solutions (consumer sensors, applications for eco-responsible tourists, use of artificial intelligence in resource optimisation).

?? Practical example (tourist sector – hotels):

- **Financial:** Hotel X invests €50,000 in a photovoltaic system, partly funded by an EU grant.
- **Technical:** Staff are trained in reducing water consumption, the hotel installs sensors at taps and intelligent air conditioning systems.

Planning and implementation mechanisms in EMS:

1. Initial environmental analysis

- Identification of **aspects and impacts** of tourism activity on the environment (energy, water, waste, emissions).
- Assessment of compliance with national and European legislation.
- Consultation of stakeholders (customers, employees, authorities, NGOs).

2. Definition of environmental policy

- Establishing **management's vision and commitments** (e.g.: plastic reduction, energy efficiency).
- Integrating sustainability principles into the overall strategy of the tourist establishment.
- Clear communication of the policy to employees and tourists.

3. Setting objectives and targets

- General objectives (e.g.: reduction of food waste).
- **SMART** targets (Specific, Measurable, Approachable, Relevant, Time-bound).
- Examples:
 - Reduce energy consumption by 15% in 2 years.
 - Removal of plastic straws by the end of the year.

4. Development of the action plan

- Establish concrete measures and those responsible.
- Allocation of financial, material and human resources.
- Establish a clear timetable for implementation.

5. Implementation of the plan

- Training and motivating employees.
- Creation of operational procedures (e.g.: selective collection, maintenance of eco equipment).
- Involvement of tourists through awareness and information campaigns.

6. Monitoring and reporting

- Tracking performance indicators (water consumption, energy, amount of waste recycled).
- Produce regular reports for management and stakeholders.
- Communicating results through sustainability reports, posters or online platforms.

7. Continuous review and improvement

- Internal and external environmental audits.
- Regular review of progress against set objectives.
- Adapting the policy and plan to new legislative and technological requirements.

Example applied (Romania – Danube Delta):

Green Village certified tourist establishments implement an SMM plan by:

- removal of plastic,
- use of renewable energy,
- staff training,
- annual reporting of progress to authorities and partners.

Control and evaluation mechanisms in EMS:

1. Regular monitoring

- Continuous tracking of resource consumption (water, energy, materials).
- Records of the waste generated and the degree of recycling.
- Implementation of **performance indicators (KPIs)**, e.g.:
 - energy consumption per occupied room,
 - litres of water/ tourist,
 - kg of waste recycled monthly.

2. Internal environmental audits

- Planned checks by trained personnel within the organisation.
- Objective: identifying deviations, weaknesses and opportunities for improvement.
- It is completed by **internal reports** and recommendations.

3. External audits and certifications

- Independent evaluations (ISO 14001, EMAS, Green Key, EU Ecolabel).
- It provides **credibility and transparency**.
- It helps to gain a competitive advantage in the tourist market.

4. Reporting and communication

- Preparation of **annual sustainability reports**.
- Informing stakeholders (employees, tourists, authorities, NGOs).
- Online publication of results and progress.

5. Benchmarking

- Comparison of own performances with other tourist structures.
- Identify **good practices** and industry standards.
- Adjustment of objectives and targets based on benchmarking.

6. Continuous improvement

- Correction of deficiencies identified through audits and monitoring.
- Updating targets according to results and legislative changes.
- Gradual introduction of new green technologies and sustainable procedures.

Example applied in tourism:

An Austrian spa hotel monitors water and energy consumption on a monthly basis, publishes a **quarterly report** for tourists and goes through an external audit of Green Key on an annual basis. This control mechanism has led to a 25% reduction in water consumption in 3 years.

Social and communication skills are essential for engaging employees, tourists and the local community. We can detail them as follows:

1. Organizational awareness and culture

- Creating a climate in which environmental protection is an integral part of daily work:
 - promoting environmental values among employees and customers;
 - internal campaigns and information materials (posters, newsletters, trainings) on sustainable practices.

Practical example: Posters in hotel rooms about waste recycling and saving water and energy.

2. Internal communication skills

- Clear transmission of environmental policies and procedures to employees:
 - regular meetings and training sessions;
 - internal communication channels (intranet, newsletters, e-mail);
 - continuous feedback to identify problems and suggestions for improvement.

Practical example: The cleaning team reports resource consumption and problems observed during the shift.

3. Staff engagement and motivation

- Active engagement of staff in environmental initiatives:
 - rewards and recognition for environmentally friendly behaviours;
 - involvement in volunteering projects or community actions.

Practical example: ‘Employee of the Month for the Environment’ programme recognising individual contributions.

4. External communication and relations with tourists

- Informing tourists about the environmental commitment of the organization:
 - guides, leaflets, visible signage on good practices;
 - organising educational activities or guided tours on environmental issues;
 - promoting organic certifications (e.g.: Green Key, Blue Flag).

Practical example: The hotel organizes a presentation about local biodiversity and the importance of protecting resources.

5. Relationship with the local community

- Collaboration with authorities and NGOs for environmental projects:
 - participation in greening events, tree plantings or recycling programmes;
 - consultations with the community to minimise the impact of tourism activities.

Practical example: Partnerships with local schools for eco-education workshops or sustainable tours.

6. Ability to feedback and adapt

- Listening to the needs and concerns of stakeholders (employees, tourists, community) to adjust environmental strategies:
 - surveys and questionnaires to assess environmental satisfaction and awareness;
 - Continuous improvement of communication based on suggestions received.



AUTO-EVALUE QUESTIONS

Institutional and organisational capacities

1. What are the main roles and responsibilities within the organization for implementing an Environmental Management System (EMS)?
2. How can the EMS be integrated into the existing management structure of a tourist establishment?
3. What kind of human resources are needed to support an effective environmental policy?
4. Why are financial and technical resources important in implementing an EMS?
5. What are the main mechanisms for controlling and assessing environmental performance in a tourist establishment?

2. Social and communication capacities

6. How can environmental culture be promoted among employees?
7. What are the effective methods of internal communication of environmental policies to staff?
8. What tools and methods can be used to inform and educate tourists about ecological practices?
9. How can the local community and external partners be involved in supporting environmental policy?
10. Why is the capacity for feedback and adaptation in the EMS important?

3. Implementation and monitoring

11. How to set concrete and measurable environmental policy objectives in a tourist establishment?
12. What are the benefits of internal audit and regular environmental reports?
13. How to ensure a continuous improvement of environmentally friendly practices in tourism?

4. Practical assessment

14. A tourist establishment has implemented water and energy saving measures. How would you assess the success of these measures?
15. What would be the main indicators to check if the environmental policy is respected by employees and tourists?

Topic 20-21: Application of EMS in tourist structures. Control of activities and operations carried out in the framework of EMS in tourism. Monitoring and evaluation of the implementation of the EMS.

The concept of EMS in tourism

- EMS is an organised framework for **environmental impact management**, regulatory compliance and continuous improvement of environmental performance.
- The aim of EMS in tourism is to reduce the environmental impact of tourism activities, increase resource efficiency and promote sustainable tourism.

2. Steps to apply EMS in tourism structures

a) Assessment of the existing situation

- Identification of environmental impacts (energy, water, waste, emissions, biodiversity).
- Carrying out an **environmental audit** to establish strengths and weaknesses.

Practical example: A hotel makes an assessment of water and energy consumption in rooms and common areas.

b) Establishing environmental policy

- Define the organization's objectives and commitments to environmental protection.
- The policy must be **clear, communicated internally and published externally**.

Practical example: “Our hotel is committed to reducing water consumption by 20% over the next 3 years and recycling 80% of the waste generated.”

c) Planning and setting objectives

- Definition of **measurable and realistic objectives**.
- Develop an **action plan** with allocated responsibilities and resources.

Practical example: Installing solar panels, implementing LED lighting systems and training staff in reducing resource consumption.

d) Implementation of measures

- Organization of human, technical and financial resources.
- Involvement of staff and tourists in environmentally friendly practices.

Practical example: Selective waste collection in all common rooms and spaces; informative posters for tourists about saving water and energy.

e) Monitoring and evaluation

- Tracking performance through **environmental indicators**: energy/water consumption, amount of recycled waste, reduction of emissions.
- Conducting regular internal audits.

Practical example: The hotel monitors monthly energy and water consumption per tourist and reports on management progress.

f) Continuous improvement

- Analysis of results and adjustment of the action plan.
- Updating objectives and promoting new sustainable practices.

Practical example: After one year, the hotel implements automatic lighting and heating control systems to further reduce consumption.

Table 24

Type of tourist structure	Application of EMS	Result
hotel	Energy audit, solar panels, recycling, staff training	Reduce consumption by 25%, Green Key certification
Rural pension	Wastewater management, composting of food waste, community involvement	Resource conservation and local involvement
Tourist resort	Educational programs for tourists, plastic reduction, eco transport	Increased satisfaction and loyalty of tourists

The application of EMS in tourism structures involves a **cyclical process**: evaluation → planning → implementation → monitoring → continuous improvement. Success depends on the **involvement of staff, tourists and the community**, as well as on the **institutional, technical and financial resources** available.

Implementation and operation of the EMS

For the effective implementation of the environmental management system, it is recommended that the organisation develops the resources and support mechanisms necessary to achieve its environmental policy, objectives and targets in this area.

For the implementation of the EMS it is necessary to define:

- Structure and responsibility;
- Training, competence and awareness;
- Communication (internal and external);
- Documentation of the environmental management system;
- Documentary control;
- Operational control;
- Prevention (Emergency preparedness and response).

Structure and responsibility . A programme must define, document and communicate roles, responsibilities and authorities so as to facilitate effective environmental management. Management will provide essential resources for the implementation and control of EMS. Resources include human, financial, technological and specialised resources. The organisation's senior management will appoint an environmental manager who will have well-defined roles, responsibilities and authority to ensure that the requirements of the EMS are established, implemented and maintained in line with the EMS used, and to report the performance of the EMS to senior management as a basis for improving the EMS.

Training, competence and awareness of training. Staff carrying out tasks likely to have a significant environmental impact must be competent on the basis of appropriate education and training and/or experience. It is essential for employees at each relevant function and level to be aware of:

1. Importance and compliance with environmental policy and EMS requirements.
2. The significant current or potential environmental impact of their activities and the environmental benefits of improved personal performance.
3. Their roles and responsibilities in achieving compliance with environmental policy and procedures and EMS requirements, including emergency preparations and response requirements.
4. Possible consequences of deviation from specified operating procedures.

Communication. In order to achieve the desired quality of communication, the organisation must establish and maintain procedures for internal communication between the different levels and functions of the organisation and for receiving, documenting and being accountable for the relevant communication of interest holders. The organisation must also form an increasing responsibility for 'external' investigations and develop its ability to take into account and record information from sources regulating joint activities.

Documentation of the EMS. In order to document its EMS and describe the basics of the management system and their interaction, an organisation must establish and maintain procedures to control all documents required by the EMS.

The documentation shall also contain records of:

- information on applicable environmental laws and other requirements;
- registration of complaints;
- registration of training;
- process information;
- production-related information;
- inspection and maintenance records;
- pertinent information about suppliers and beneficiaries;
- incident records;
- information on significant environmental aspects;
- the results of the audit;
- management reviews.

Verification and corrective action

This stage is a key element of the environmental management system, which occurs after environmental policy planning and implementation. The aim is to ensure that the organisation controls and corrects, where appropriate, key elements of the environmental management system. To this end, it is recommended that the organisation monitors and assesses its environmental performance.

This phase involves:

- Monitoring and measurement;
- Non-compliance, corrective action and preventive action;
- Records (reporting);
- Audit of the environmental management system (internal and external).

Measurement, monitoring and evaluation are key activities of an environmental management system. Without them, it would not be possible to establish the non-compliances and thus to specify the necessary corrective and/or preventive actions. The audit of the environmental management system also lacks basic elements in establishing its conclusions.

The Environmental Management System (EMS) in tourism, the measurement, monitoring and evaluation section is essential to verify whether environmental objectives are being achieved and to identify opportunities for improvement. Here is a detailed and applied overview:

1. Measurement (Measurement)

Definition: The process of collecting quantitative and qualitative data about the environmental performance of a tourist structure.

What is measured:

- **Resource consumption:** electricity, water, fuel;
- **Waste management:** amount of waste recycled vs. landfilled;
- **Emissions:** greenhouse gases, air and water pollution;
- **Impact on biodiversity:** consumption of natural resources, habitat damage;
- **Satisfaction of tourists and employees:** awareness and respect for environmental practices.

Practical examples:

- Installation of water and energy meters on each sector of the hotel;
- Tracking the amount of waste collected selectively and sent for recycling.

2. Monitoring

Definition: Continuous monitoring of environmental indicators to observe progress and compliance with established standards.

Steps and methods:

1. **Establishing performance indicators:**
 - Water consumption per tourist/nights of accommodation;
 - Energy consumption per room;
 - Percentage of waste recycled;
 - Number of staff training sessions.
2. **Regular data collection:** daily, weekly, monthly;
3. **Use of technical tools and software:** for graphs, reports and comparisons.

Practical examples:

- The hotel monitors daily energy and water consumption and compares with monthly average values;
- Monitoring the implementation of recycling programs in all areas of the tourist establishment.

3. Evaluation

Definition: Analysis and interpretation of the data collected to determine the degree of achievement of the objectives and efficiency of the implemented measures.

Steps:

1. Comparison of results with objectives set in environmental policy;
2. Identification of deviations and their causes;
3. Propose corrective and improvement measures;
4. Reporting results to management and stakeholders.

Practical examples:

- If a hotel aims to reduce water consumption by 20%, the assessment is made by comparing monthly consumption with the previous year;
- Assessment of staff performance in applying environmental procedures (e.g.: Recycling, energy saving).

Sustainable Tourism Performance Indicators (KPIs)

Table 25

Domain	Indicator
Energy	kWh consumed per tourist / per room
Water	m3 consumed per tourist / per room
Waste	% recycled waste vs. total waste generated
Biodiversity	number of conservation or protection projects
Education	number of training sessions for staff and tourists
Satisfaction	Tourist Satisfaction Score on Ecological Measures

Measurement, monitoring and evaluation are the key triad for the effective implementation of EMS. Through these activities, tourist structures can:

- Verify compliance with environmental policy;
- Detect problems and opportunities for improvement;
- Ensure continuous improvement and transparent reporting to tourists and the community.

Management review. The organisation needs to continuously review and improve its environmental management system with the objective of improving overall performance. This last step is decisive

for ensuring continuous improvement in order to achieve the proposed environmental performance. These analyses can be done in conjunction with management's quality management system analyses. In order to maintain the continuous improvement, matching and effectiveness of the EMS and thereby of its performance, the management of the organisation should review and evaluate the EMS at defined intervals. The management review process will ensure that the necessary information is gathered to allow management to continue this assessment.

This review will be documented. The management review will address the possible need to change the strategy, objectives, or other elements of the EMS, in the light of the results of the environmental management audit systems, changing circumstances, and commitment to continuous improvement. The scope of the review must be extended for a period of time. The review of the strategy, objectives and procedures must be carried out at the managerial level that defined them.

The review shall include:

- the results of the audits;
- the extent to which the objectives and targets have been achieved;
- c) the EMS continues to agree on changing and relevant conditions and information among stakeholders.

Observations, conclusions and recommendations need to be documented for the necessary action. The steps required to implement an environmental management system in an organisation are cyclical and repetitive – the Deming cycle of continuous improvement of the organisation's environmental performance. The concept of continuous improvement assumes that no organisation is perfect. However, an EMS will help the organisation to improve environmental compliance and performance, but this does not necessarily mean that environmental problems will no longer arise. A functioning EMS identifies and removes problems and prevents them from reoccurring. Large-scale project promoters and managers are required to exercise caution and address environmental issues from the very beginning of the project planning process.

The implementation of an EMS in accordance with ISO 14001 requires the involvement of all staff of the organisation, regardless of the hierarchical level and functions involved, and in particular the engagement of a dynamic and cyclical process of continuous improvement and self-assessment of environmental impacts.

Environmental management is a continuous process and aims to continuously improve the environmental performance of the organisation. An organisation implementing an effective EMS will help to protect human health and the environment from the potential impacts of its activities, products or services and will help to maintain and improve the quality of the environment.

Implementing an EMS can help an organisation to give stakeholders confidence that:

- There is a managerial effort to ensure that the objectives and policy provisions are achieved.
- The focus is on prevention rather than corrective action.
- Evidence of necessary care and regulatory compliance can be ensured.
- The design of the system includes a process of continuous improvement.

Advantages associated with an effective EMS.

The proper functioning of an EMS ensures the improvement of the performance of the organisation through the positive impact it can have on the following aspects:

1. Improving environmental performance.
2. Motivation, awareness and involvement of employees.
3. Satisfying investor criteria and improving access to capital.
4. Efficient teamwork.
5. Increased competitiveness;
6. Reduction in operating costs as a result of:

- improving environmental performance;
- streamlining existing processes;
- the introduction of new, efficient processes;
- reducing the quantity of raw materials;
- product design;
- waste storage, etc.

7. Reducing incidents resulting from responsibilities.

8. Increased customer confidence.

9. Preservation of raw materials and energy supplies.

10. Facilitating the obtaining of permits and authorisations.

11. Improve the image vis-à-vis customers, partners and the local community.

12. Reduction of environmental risk.

Disadvantages of EMS:

Employees and managers are often reluctant about environmental management standards because certification of the methodology tends to be more document-based. Employees feel overwhelmed by the need to produce additional documents, which can generate long-term resentment and negativity. The limited resources of the organisation are often increasingly redirected towards solving bureaucratic aspects of environmental management at the expense of self-management of the environment.

Model: Monitoring plan for key environmental indicators

Table 26

Domain	Environmental indicator	Unit of measurement	Frequency of monitoring	Responsible
Energy	Total electricity consumption	kWh / month	Monthly	SMM Technical/Responsible Manager
Energy	Energy consumption per room	kWh / room / month	Monthly	SMM Technical/Responsible Manager
Water	Total water consumption	m3 / month	Monthly	Maintenance Officer
Water	Water consumption per tourist	m3 / tourist	Monthly	Maintenance Officer
Waste	Quantity of waste recycled	kg / month	Monthly	Cleaning staff / SMM responsible
Waste	Total amount of waste generated	kg / month	Monthly	Cleaning staff / SMM responsible
Biodiversity	Environmental protection projects implemented	No. of projects / year	Annually	General Manager/Responsible SMM

Domain	Environmental indicator	Unit of measurement	Frequency of monitoring	Responsible
Emissions	Estimated CO2 emissions	kg CO2 / month	Monthly	SMM Technical/Responsible Manager
Education and communication	Training sessions for staff / tourists	No. of sessions/trimester	Quarterly	HR / SMM responsible
Satisfaction of tourists	Feedback on environmental measures	Score 1–5	Monthly	Marketing department / SMM responsible

Monitoring methods and tools

- Meters and sensors: for energy, water and gas;
- Data collection sheets: cleaning and maintenance personnel;
- Questionnaires and surveys: for feedback from tourists and staff;
- Energy and waste management software: for graphs, reports and analyses;
- Regular internal audit: to verify the accuracy of the data and compliance with the procedures.

Frequency and reporting

- Daily monitoring: water and energy consumption in critical areas;
- Weekly monitoring: collection of data on waste and consumption;
- Monthly monitoring: centralized analysis of consumptions and report to management;
- Annual assessment: Comparison of indicators with objectives set in environmental policy and planning of improvement actions.

Corrective measures and continuous improvement

- Comparison of measured values with EMS objectives;
- Identification of deviations and causes;
- Implementation of corrective measures (e.g.: additional training, installation of more efficient equipment);
- Adjustment of objectives and indicators for the following year.

Examples of evaluation of environmental indicators in tourism

Table 27

Indicator	Objective	Measured result	Evaluation	Corrective measures
Energy consumption	-20% compared to the previous year	-15%	Partially achieved	Additional LED installation, personal training
Water consumption	-15%	-17%	Achieved	Maintain existing measures
Recycled waste	80%	70%	Unsatisfactory	Implementation of educational campaigns for tourists

Indicator	Objective	Measured result	Evaluation	Corrective measures
Training sessions	12/year	12	Achieved	Continuation of the annual programme
CO2 emissions	-10%	-8%	Partially achieved	Optimization of internal transport, green energy



AUTO-EVALUE QUESTIONS

Application of EMS in tourism structures

1. What is an Environmental Management System (EMS) and what is its purpose in a tourist structure?
2. What are the main stages of implementation of the EMS in a hotel or hostel?
3. How can EMS be integrated into the day-to-day work of staff and services provided to tourists?
4. Give concrete examples of environmental measures that can be applied in a tourist establishment to reduce resource consumption and environmental impact.
5. What role does employee training and involvement play in the success of EMS implementation?

Control of activities and operations carried out under the EMS

6. What are the main control mechanisms in an EMS to verify compliance with environmental procedures?
7. How to check the correctness of resource management (water, energy, waste) in a tourist establishment?
8. Why are standardised procedures and operating instructions important in the implementation of EMS?
9. How can feedback from staff and tourists be used to improve environmental activities?
10. What are the advantages of internal audit for controlling EMS activities?

Monitoring the implementation of the EMS

11. What environmental indicators can be used to monitor the performance of a tourist structure?
12. What is the difference between measurement and monitoring in the context of EMS?
13. How can regular monitoring of water, energy and waste consumption be organised?
14. Why is it important to use technological tools and methods to monitor environmental indicators?
15. How can monitoring results be interpreted to assess progress towards EMS objectives?

Evaluation of the implementation of the EMS

16. What methods can be used to assess the effectiveness of implemented environmental policies and measures?
17. How do the results of the monitoring compare with the objectives set to determine the degree of achievement of the EMS?

18. What corrective measures can be taken when the assessment shows poor performance?
19. How can environmental performance assessment be reported to management and tourists?
20. What is the role of evaluation in ensuring the continuous improvement of EMS in a tourist establishment?
- 21.

2.2. Practical content

Practical Work No. 1

Theme: Environmental policy of the European Parliament

1. Objectives of the work:

1. Understand the role of the European Parliament in the development and promotion of environmental policies.
2. Analysis of the main directives and regulations adopted in the EU on environmental protection.
3. Assessment of the impact of environmental policies on Member States and citizens

2. Materials proposed for the execution of the work:

Legislative and strategic framework

1. Main legislative acts adopted by the European Parliament:
 - Air and Water Quality Directives;
 - Directives on waste management and recycling;
 - Regulations to reduce greenhouse gas emissions;
 - Environmental Impact Assessment (EIA) Directive.
2. **European strategies and programmes:**
 - the EU Biodiversity Strategy;
 - the European Green Deal;
 - LIFE programme – funding of environmental projects.

3. Recommended bibliography

- European Parliament – Environment and Climate Section: <https://www.europarl.europa.eu>
- European Green Deal - European Commission
- EU Directives and Regulations on environmental protection
- Studies and reports on sustainable tourism in the EU

3. Plan and tasks of the work:

1. Identifies 3 European directives that have a direct impact on tourism activities.
2. Creates a table with the measures adopted by the European Parliament and their effects on the environment.
3. Conducts a short comparative study between two EU Member States on the implementation of environmental policies.
4. Proposes measures that a local tourist structure could adopt to comply with these policies.

5. I identify[3 recommendations for sustainable tourism in the Republic of Moldova inspired by EU policies.

4.Worksheets:

1.Complete the table with information on key EU legislation and strategies:

Act / Strategy	Main objective	Environmental/tourism impact
Air Quality Directives		
Waste management directives		
CO2 emission reduction regulations		
European Green Deal		
LIFE Programme		

2. Give 2 examples of measures implemented by hotels or tourist destinations to comply with EU regulations:

- _____
- _____

3.Choose two EU Member States and note an example of the implementation of an environmental directive or strategy:

Member State	Policy / Applied Directive	Result / Impact
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4.Note a European environmental certification relevant to tourism and briefly describe its benefits:

5 the conclusion.

Practical Work No. 2

Theme: European Agenda for Tourism 2030.

1.Objectives of the work:

- 1.Understanding the concept and objectives of the European Agenda for Tourism 2030.
2. Analysis of EU strategies and policies for the development of sustainable tourism.

3. Assessing the impact of the Agenda on tourism structures, the environment and local communities.

2. Graphical, informative materials, proposed for the realization of the work:

Main objectives of the 2030 Agenda for Tourism

1. Promoting **sustainable and responsible tourism**.
2. Increasing **the competitiveness of the European tourism sector**.
3. Developing **innovation and digitalisation in tourism**.
4. Supporting **social engagement and inclusion of local communities**.
5. Reducing **the impact of tourism on the environment and natural resources**

Strategies and actions

- Developing sustainable infrastructure for tourists and communities.
- Supporting small and medium-sized businesses in tourism through funding and training.
- Deploy digital solutions to promote destinations and optimize resources.
- Promoting sustainable tourism certifications and standards in the EU.

Case studies / concrete examples

- European tourist destinations applying the principles of the Agenda (e.g.: Croatia – eco-tourism; Austria – digitalisation and sustainable mobility).
- Initiatives to reduce the impact of tourism on the environment and biodiversity.
- Projects to involve local communities in sustainable tourism.

Examples of implementation:

2030 Agenda target	Concrete action in the EU	Environmental/tourism impact	Possible local application
Sustainable tourism	Reducing energy and water consumption in hotels	Conservation of natural resources	Implementation in local pensions
Digitalisation	Online booking systems and digital guides	Paper reduction and stream optimisation	Creating the local app for tourists
Involvement of communities	Educational programmes and cultural workshops	Awareness and protection of heritage	Organizing local events for tourists

3. Bibliography/sources

- European Commission – Tourism and the EU 2030 Agenda: <https://ec.europa.eu/tourism>
- Studies on sustainable tourism and digitalisation in Europe
- Projects and reports of European tourist destinations
- EU Sustainable Development Strategy 2030

4. The plan and tasks of the work:

1. Identify 3 objectives of the European Agenda for Tourism 2030 and explain how they can be applied in a hotel or local hostel.
2. Create a table with **concrete strategies and actions** and their impact on the environment and communities.
3. Conduct a **comparative study** between two European destinations on the application of the principles of the Agenda.
4. Proposes 3 measures to promote sustainable tourism in the Republic of Moldova inspired by the EU 2030 Agenda.
5. Create a simple graph showing the evolution of sustainable tourism projects financed in the EU over the last 5 years.
6. Proposes 3 recommendations for sustainable tourism in the Republic of Moldova inspired by the EU 2030 Agenda.

5. Worksheets:

1. Complete the Agenda objectives table and note a concrete example:

2030 Agenda target	Example of application in a tourist destination	Environmental / community impact
Sustainable tourism		
Competitiveness		
Innovation and digitalisation		
Social commitment and inclusion		
Environmental protection		

2. Complete the table with specific actions for each objective:

2030 Agenda target	Strategy/concrete action	Estimated impact	Possible local application
Sustainable tourism			
Competitiveness			
Innovation and digitalisation			
Social commitment and inclusion			
Environmental protection			

3. Choose two European destinations and complete the table:

Destination	Measures implemented	Results / Benefits
1.		
2.		

6. Conclusion.**Practical Work No. 3**

Theme: Ensuring a healthy and safe environment in the National Development Strategy "European Moldova 2030" (Content of **Goal 10**).

1. Objectives of the work

1. Understanding the content of Goal 10 of the European Moldova 2030 Strategy.
2. Analysis of the proposed measures for the protection of the environment, the health of the population and the safety of ecosystems.
3. Assess the applicability of these measures to local communities and the tourism sector.

2. Graphical, informative materials, proposed for the realization of the work:**Content of Objective 10**

1. Protection of natural resources: water, soil, air, biodiversity.
2. Reducing pollution: measures to prevent industrial, agricultural and urban pollution.
3. Waste management: selective collection, recycling and safe disposal of hazardous waste.
4. Population health: prevention of environmental diseases, reduction of exposure to harmful factors.
5. Ecosystem safety: protection of natural habitats and biodiversity.
6. Education and awareness: promoting ecological behaviours in communities.

Analysis of the measures

- Example of measures for communities: planting trees, cleaning rivers, reducing noise pollution.
- Example of measures for the tourism sector: use of renewable energy in hotels, management of waste generated by tourists.
- The impact of the measures on the health and safety of the population.

Case studies / practical examples

- Cities or regions in Moldova implementing environmental protection measures (e.g.: Chisinau – selective waste collection).
- Pilot projects on air or water quality monitoring.
- Local eco-education initiatives in schools or tourist centres

3. Bibliography/sources

- National Development Strategy "European Moldova 2030" - Goal 10
- Environmental Protection Agency – Republic of Moldova
- Studies and reports on air quality, water and waste management in Moldova
- Reports on sustainable tourism and environmental protection

4. Work plan and work tasks:

1. Identify 3 concrete measures to protect the environment in your community and explain the effects on the health of the population.

2. Make a table with actions and their impact on the environment and tourism:

Measure	Affected area	Health/Environmental impact	Possible application in tourism
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3. Propose an educational action or environmental awareness campaign for the local community or tourists.

4. Compare two regions of Moldova on the implementation of measures for a healthy and safe environment.

5. Create a **simple graph** showing reduced pollution or increased green area in your community over the past 5 years.

6. Compare two localities in Moldova on implementing measures for a healthy and safe environment

5. Worksheets:

1. Complete the table with the main areas and examples of actions:

Domain	Examples of actions	Health/Environmental impact
Protection of natural resources (water, air, soil)		

Domain	Examples of actions	Health/Environmental impact
Reducing pollution (industrial, agricultural, urban)		
Waste management		
Population health		
Ecosystem safety and biodiversity		
Education and awareness		

2. Complete the table with two regions or cities in Moldova that apply measures for a healthy environment:

Region/City	Measures implemented	Results / Benefits
1.		
2.		

3. Propose an **educational campaign or** environmental awareness project for the local community or tourists:

6. Conclusion

Practical Work No. 4

Theme: Waste management strategy in the Republic of Moldova for the years 2013-2027.

Purpose of the work: Identification and description of the main elements of the anthropogenic potential in the Republic of Moldova.

1. Objectives of the work

- Understanding the strategic framework on waste management in Moldova.
- Analysis of the main measures and targets proposed for waste prevention, reduction and recovery.
- Assessment of the impact of the implementation of the Strategy on the environment and communities

2. Graphical, informative materials, proposed for the realization of the work:

Strategic objectives

- Prevention of waste generation.
- Reducing the amount of household and industrial waste.

- Increase the recycling and recovery of waste.
- Modernisation of waste management infrastructure (garbage dumps, recycling stations).
- Promoting education and public awareness on waste management.
- Compliance with European standards on environmental protection.

Proposed measures and actions

- Implementation of selective waste collection at local level.
- Construction of recycling and composting centres.
- Reducing the use of polluting materials and promoting biodegradable materials.
- Environmental education campaigns for the population and companies.
- Regular monitoring and reporting of the quantities of waste generated and recycled.

Case studies / practical examples

- Cities in Moldova applying selective waste collection.
- Pilot projects for recycling and recovery of industrial or household waste.
- Educational initiatives for schools and communities on waste reduction.

3. Bibliography/sources

- Waste management strategy in the Republic of Moldova for 2013–2027 – Government of the Republic of Moldova
- Environmental Protection Agency – Republic of Moldova
- Reports on recycling and waste management in Moldova
- Studies on sustainable tourism and environmental protection

4. Plan and work tasks:

1. Identify 3 concrete measures from the Strategy that can be applied in your community.
2. Create a table of **waste types, collection and recovery methods according to the Strategy**:

Type of waste Collection method Method of recovery/recycling Possible local application

3. Propose an educational campaign to reduce waste in schools or communities.
 4. Compare two localities in Moldova on the implementation of the Waste Management Strategy measures.
- Create a **simple graph** showing the evolution of the amount of waste recycled in Moldova in the last 5 years.

5. Worksheets:

1. Complete the table with the main objectives of the Strategy and examples of implementation:

Strategic objective	Examples of measures	Environmental / community impact
Waste prevention		
Reducing the amount of household and industrial waste		
Increasing recycling and recovery		
Modernisation of waste management infrastructure		
Promoting education and public awareness		
Compliance with European standards		

2. Complete the table with two localities in Moldova applying waste management measures:

Locality	Measures implemented	Results / Benefits
1		
2		

6. Conclusion.

Practical work no.5-6

Theme: Environmental management system according to ISO 14001 and EMAS.

1. Objectives of the work

- Understanding the concept of Environmental Management System (EMS).
- Familiarity with the international standard **ISO 14001** and the European **EMAS** scheme .
- Analysis of the implementation of EMS in tourism structures or other organizations.
- Assessing the benefits of implementing environmental standards.

2. Graphical, informative materials, proposed for the realization of the work:

ISO 14001 standard

1. Objective: establishing a framework for the responsible management of environmental impacts.
2. Key elements:
 - Environmental policy;
 - Planning (identification of environmental aspects and impact assessment);
 - Implementation and operation;

- Monitoring and measurement;
 - Continuous evaluation and improvement.
3. Benefits: reducing negative environmental impacts, improving the organisation's image, energy efficiency and reducing costs.

EMAS (Eco-Management and Audit Scheme)

1. Objective: promoting high environmental performance in the European Union.
2. Key elements:
 - Environmental policy and action plan;
 - Ecological Internal Audit;
 - Declaration of environmental performance;
 - Continuous improvement and legal compliance.
3. Benefits: transparency, public recognition, competitive advantages, employee and community involvement.

Implementation of EMS in a touristic structure

- Identification of environmental aspects: water consumption, energy, waste generation.
- Establish environmental objectives and indicators.
- Development of operational procedures and monitoring plans.
- Examples of measures: recycling of waste, reduction of energy consumption, use of environmentally friendly products.

Case studies / practical examples

- Hotels or hostels applying ISO 14001 or EMAS.
- Internal environmental audit: identifying non-compliances and proposing corrective measures.
- Reporting environmental performance to management and tourists.

3. Bibliography/sources

- ISO 14001:2015 – International Standard for Environmental Management
- EMAS – Eco-Management and Audit Scheme, European Union
- Studies and reports on the implementation of EMS in tourism
- Reports on sustainable tourism and environmental protection

4. Work plan and work tasks:

1. Identify the main environmental aspects in a local tourist structure.
2. Complement the table with the environmental objectives and corresponding indicators:

Environmental aspect	Objective	Indicator/Measurement mode	Improvement measures
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3. Propose a simple environmental internal audit procedure for a hotel or hostel.
4. Make a short plan for reporting environmental performance to management and tourists.

5. Worksheets:

1. Complete the table with key elements of ISO 14001 and concrete examples:

Element ISO 14001	Example applicable in tourism	Benefits for the environment and the organisation
Environmental policy		
Planning and assessment of environmental aspects		
Implementation and operation		
Monitoring and measurement		
Continuous evaluation and improvement		

2. Complete the table with key elements of EMAS and concrete examples:

EMAS element	Example applicable in tourism	Benefits for the environment and the organisation
Environmental policy and action plan		
Ecological Internal Audit		
Declaration of environmental performance		
Continuous improvement and legal compliance		

3. Environmental objectives and indicators:

Environmental aspect	Objective	Indicator/Measurement mode	Improvement measures
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4. Choose a tourist structure that applies ISO 14001 or EMAS and completes:

Organisation	Standard applied	Measures implemented	Benefits
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5. What actions would you propose to improve environmental performance in a local tourist establishment?

Practical work no.7

Theme: Stimulants and barriers in the implementation of EMS.

1.Objectives of the work

1. Identifying the factors that favour the implementation of EMS.
2. Analysis of barriers preventing the application of an effective environmental management system.
3. Practice critical thinking by referring to real examples from tourism or other areas.
4. Propose practical solutions to overcome obstacles.

2.Graphic, informative materials necessary for the work

1.Incentive factors:

Incentive factor	Description	Practical example (tourism/other)
Pressure from legislation	Obligation to comply with environmental rules	Implementation of ISO 14001 standards for legal compliance
Economic benefits	Cost reduction through energy efficiency, recycling	Hotel that reduces energy bill through solar panels
Competitive advantage	Improving the image and attracting customers	Green Key Certified Pension
Access to finance	Possibility to access green/European funds	EU-funded energy efficiency projects
Social responsibility	Increasing the reputation and trust of the community	Organisation reporting environmental indicators annually

2. Barriers:

Barrier	Description	Practical example
High initial costs	High investment to implement EMS	Installation of recycling equipment in a hotel
Lack of information	Staff and managers do not know the advantages of SMM	Pension not applying recycling due to lack of knowledge
Resistance to change	Opposition of employees or managers	Employees who consider selective collection a waste of time
Insufficient infrastructure	Lack of selective collection services	Municipalities without functional recycling centres
Bureaucracy and complicated regulations	Complex reporting and certification procedures	Small businesses discouraged from applying EMAS

3.Bibliography/sources

- ISO 14001:2015 — Standard for environmental management.
- EMAS – Eco-Management and Audit Scheme.

- Reports on the implementation of EMS in tourism and other areas.
- National and international case studies on sustainable tourism.

4. Plan and work tasks for carrying out the work

1. Identify **3 stimulating factors and 3 barriers** in implementing EMS in a tourist structure in your community.

2. It proposes **two solutions** to overcome the identified barriers.

3. Analyze the case of a hotel/pension that managed to implement an EMS. What incentive factors contributed to success?

4. Which barriers do you find most difficult to overcome in the Republic of Moldova / your region?

5. Worksheets:

1. Complete the table with enabling factors and practical examples:

Incentive factor

Description

Practical example

2. Complete the table with barriers and practical examples:

Barrier

Description

Practical example

3. Analyze a real example (hotel, hostel, tourist agency) applying environmental measures. What incentive factors contributed to their success?

Which barriers do you think are the most difficult to overcome in the Republic of Moldova / your region?

6. Conclusion.

Practical Work No. 8

Theme: Continuous improvement of overall environmental performance in tourism.

1. Objectives of the work:

1. Understanding the principle of continuous improvement (PDCA cycle – Planning, Implementation, Verification, Corrective Action) applied in tourism.
2. Identify actions and measures by which tourism structures can reduce the environmental impact.
3. Developing skills to analyze and propose solutions for optimizing environmental performance.

2. Guaristic and informative materials necessary for the realization of the work:

- Theoretical content

Continuous improvement is one of the main pillars of Environmental Management Systems (EMS), according to the ISO 14001 standard and the European EMAS Regulation. In tourism, this means:

- reducing energy and water consumption;
- pollution prevention and waste minimisation;
- increasing the efficiency of natural resources;
- the use of green technologies;
- promoting responsible and sustainable tourism.

The process of continuous improvement involves:

1. Establish environmental policy and objectives.
2. Monitoring performance through indicators (resource consumption, emissions, waste, recycling).
3. Implementation of corrective and preventive measures.
4. Regular review of results and adaptation of the policy.

3. Bibliography/sources

1. **ISO 14001:2015** – Environmental management systems – Requirements with guidance for use. International Organization for Standardization. <https://iso9001.md/services/iso-140012015-environmental-management-system/>
2. **Regulation (EC) No 1221/2009** of the European Parliament and of the Council on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS). <https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=celex:32009R1221>
3. European Commission (2023). *Transition Pathway for Tourism. Agenda for EU Tourism 2030*. Brussels. <https://op.europa.eu/en/publication-detail/-/publication/b0619e53-3bcc-11f0-8a44-01aa75ed71a1/language-en>

4. UNWTO (2022). *Tourism in 2030 Agenda: Embracing Sustainable Development*. Madrid. <http://www.untourism.int/tourism-in-2030-agenda>
5. Ministry of Environment, Republic of Moldova (2013–2027). *Waste management strategy*. Chisinau. https://mediu.gov.md/sites/default/files/Documents%20atasate%20Advance%20Pagines/Strategie%20de%20management%20a%20de%C8%99eurilor_0.pdf
6. Government of the Republic of Moldova (2018). *National Development Strategy "Moldova 2030"*. https://midr.gov.md/files/shares/Strategie_DR.pdf
7. Stanciulescu, G. (2019). *Sustainable Tourism Management*. ASE Publishing House, Bucharest. <https://scholar.google.com/citations?user=J7ZIR0QAAAAJ&hl=ro>

4. Working tasks:

1. Analyze a tourist structure (hotel, guesthouse, tourist agency, spa complex, etc.) and identify:

- 3 existing measures to protect the environment;
- 3 areas where environmental performance can be improved.

2. Complete the table below with examples of actions for continuous performance improvement:

Area of intervention	State of play	Proposals for improvement	Monitoring indicator
Energy consumption			
Water consumption			
Waste management			
Transportation of tourists			
Informing tourists			

3. Develop a simplified action plan for continuous improvement of environmental performance in a tourist structure. The plan shall contain:

- the environmental objective;
- the proposed activities;
- the necessary resources;
- the implementation deadline;
- responsible.

5. Worksheets:

1. Choose a tourist structure (hotel, hostel, agency) and identify:

- 2 existing measures to protect the environment;
- Two areas where improvement would be needed.

Tourist structure (hotel, hostel, agency)	2 existing measures	2 areas for improvement
1.	1.	1.

	2.	2.
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2. Complete the table below with examples of actions for continuous performance improvement.

Area of intervention	State of play	Proposal for improvement	Monitoring indicator
Energy consumption			
Water consumption			
Waste management			
Transportation of tourists			
Informing tourists			

3. Formulate a plan for an environmental objective (e.g.: reducing energy consumption by 10% in a hotel). Include:

- ☐ the objective; ☐ the necessary resources;
☐ the proposed activities; ☐ the deadline; ☐ Responsible.

Fill in the table:

objective	the necessary resources	proposed activities	term	maintainer

6. Conclusion.

Practical work no.9-10

Theme: International Projects for Sustainable Tourism (UNEP, UNWTO, EU). Case studies and best practices.

1. Objectives of the work:

1. Knowledge of the main international projects dedicated to sustainable tourism.
2. Understanding the role of international organisations (UNEP, UNMT/UNWTO, European Union) in promoting responsible tourism.
3. Analysis of **case studies** and **best practices** applied at global and European level.
4. Training the ability to compare international initiatives and extract lessons applicable in the Republic of Moldova.

2. Graphic and informative materials necessary for the realization of the work:

Theoretical content:

a) UNEP (United Nations Environment Programme)

- It has launched initiatives to reduce the environmental footprint in tourism.
- Examples: *Green Passport Campaign*, *Sustainable Tourism in Protected Areas*.

b) UNWTO (World Tourism Organization)

- Projects such as:
 - *Tourism and the Sustainable Development Goals (SDGs)*;
 - *Tourism for Rural Development*;
 - *International Year of Sustainable Tourism for Development 2017*.

c) European Union (EU)

- Strategies and funding for sustainable tourism:
 - *European Capital of Smart Tourism*;
 - *COSME* programme for green tourism SMEs;
 - *Agenda for European Tourism 2030*.

Case studies and best practices

- Costa Rica – *Certificación para la Sostenibilidad Turística (CST)* programme recognised as a model of eco-tourism.
- Slovenia – Slovenia Green – national certification scheme for sustainable destinations awarded by the EU.
- Greece – EU *BlueMed* project to protect marine ecosystems and develop responsible coastal tourism.
- Republic of Moldova – local initiatives with international support (e.g. UNDP and EU projects for the development of rural and ecological tourism).

Key notions

- **UNEP (United Nations Environment Programme)** – promotes tourism with low environmental impact.
- **UNMT/UNWTO – coordinates the implementation of** sustainable tourism globally.
- **The European Union (EU)** – finances and supports projects to develop green tourism.
- **Good practices** – examples of successful implementation that can be replicated.

3. Bibliography and sources (APA style, 7th ed.)

1. International Organization for Standardization. (2015). *ISO 14001:2015 Environmental management systems — Requirements with guidance for use*. ISO.
2. United Nations Environment Programme (UNEP). (2011). *Tourism: Investing in energy and resource efficiency*. UNEP. <https://www.unep.org>
3. United Nations Environment Programme (UNEP). (2020). *Sustainable tourism in protected areas: Guidelines for planning and management*. UNEP.
4. United Nations World Tourism Organization (UNWTO). (2017). *Tourism and the Sustainable Development Goals: Journey to 2030*. UNWTO. <https://www.unwto.org>
5. United Nations World Tourism Organization (UNWTO). (2022). *Tourism in 2030 Agenda: Embracing sustainable development*. UNWTO.
6. European Commission. (2021). *Transition pathway for tourism*. Publications Office of the EU. <https://ec.europa>

- **Useful online sources (for case studies and best practices)**

7. UNEP – <https://www.unep.org/resources>
8. UNWTO – <https://www.unwto.org/sustainable-development>
9. European Commission Tourism – <https://ec.europa.eu/growth/sectors/tourism>
10. Slovenia Green – <https://www.slovenia.info/en/business/green-scheme-of-slovenian-tourism>
11. Costa Rica CST programme – <https://www.visitcostarica.com/en/certification-sustainability-tourism>

4. The plan and tasks of the work:

1. Make a comparison table with 3 international projects (UNEP, UNWTO, EU):

2. Choose a case study (e.g. Slovenia Green) and describe:

- Context and objectives of the project;
- Measures implemented;
- Impact on the environment and local communities;
- Elements that can be adapted in the Republic of Moldova.

3. Propose a **project idea** for sustainable tourism in the Republic of Moldova, inspired by international best practices.

5. Worksheets:

1. Complete the table with examples of international projects:

Organisation	Project/initiative	Objectives	Results	Lessons for Moldova
UNEP				
OMT				
EU				

2. Choose an example of good practice (e.g. *Slovenia Green*). Answer the questions:

1. What was the context of the project?
2. What objectives and measures have been implemented?
3. What is the impact on the environment and local communities?
4. What elements can be applied in the Republic of Moldova?

Fill in the table:

Project name	Context of the project	Measures, objectives implemented	Impact on the environment and communities	Elements that can be applied in the Republic of Moldova

3. Propose a **project idea for sustainable tourism in Moldova**, inspired by international best practices, fill in the table:

Project name	Objectives	Beneficiaries	Activities	Expected impact

6. Conclusions.

III. METHODOLOGICAL AND EVALUATION SUGGESTS

The didactic technologies applied in the educational instructional process will be explicitly indicated in the didactic projects developed by each teacher according to the level of preparation and progress demonstrated by both the group of students as a whole and by each student individually. It is recommended to approach student-centered instruction by designing varied learning activities that take into account each student's individual learning styles. These learning activities aim to:

- the application of student-centered methods, the activation of cognitive structures and operators of pupils, the exercise of their psycho-physical potential, the transformation of the student into a co-participant in his/her own training and education;
- systematically combining and alternating activities based on the student's individual effort (documentation by various sources of information, own observation, working visits to the entity, scheduled training, individual work, work with cards technique) with activities that require collective effort (team, group) such as discussions, assault of ideas, etc.;
- using methods that favor the student's direct relationship with objects

knowledge, through the use of concrete models; acquiring methods of independent information and documentation, which offer openness to self-training, to lifelong learning.

For the training of planned specific and professional skills, teachers can use all types of methods:

- **Exhibitive methods of oral communication** (story, free exposure, systematic exposure, description, etc.);
- **Conversative-interrogative (dialogue) methods** (free conversation, guided conversation, heuristic conversation, evaluative conversation, brainstorming, debate, small group (socratic) discussion, front-line discussion, individual discussion, questioning, group discussion (focus group), forum);
- **Explanatory methods (mediated)** explanation, unmediated explanation, demonstration, explanation based on the use of training resources, argumentative approach, approach structured on a problem situation);
- **Methods based on exploring written information** (working with course notes, exploring written information (articles, books, texts, etc.), reading, exploring virtual information, independent study, information and documentation);
- **Training methods based on models and images** (exploring graphic information to images, using graphic organizers, exploring video information, scheduled training);
- **Action-based methods (exploration of reality, case study, practical work, work with fact sheets, simulation, e-learning, project, portfolio, etc.);**
- **Methods and techniques for developing the critical and creative spirit** (cube method, mutual teaching, mosaic, quintet, bunch technique, gallery tour technique, synectics, Frisco, brainwriting, Philips 6-6, creative controversy, creative visualization);
- **Methods of forming the system of attitudes and values** (illustrative structures, situational structures, critical analysis, opinion, example, counterexample,).

In order to carry out tourism activity in modern conditions, tourism companies must ensure a high degree of competitiveness, which requires not only valuable tourist resources but also qualified staff in accordance with the current requirements regarding the organization of customer service in an operative and qualitative manner.

The modular nature of the course unit Sustainable tourism ensures responsiveness to changes in the labor market and flexibility in structuring training offers for various categories of beneficiaries. When selecting teaching-learning-evaluation methods and techniques, a specific approach based on the student's motivation and the development of self-confidence will be promoted.

When choosing educational strategies, the following will be taken into account: the aims and objectives proposed, the content set, the teaching resources, the level of initial training and the capacities of the pupils, the competences to be developed. The teacher will use the following teaching-learning methods, processes and techniques: Lecture, explanation, heuristic conversation, dialogue, and forms of work: front, individual and team.

The teacher will establish coherence between the professional competences of the course unit, contents, learning activities, resources, means and assessment techniques. Also, during the lessons, the teacher will use instructional means such as: Evocation, Realization of Meaning, Reflection and Enlargement. The teaching of content elements will be focused on solving concrete tasks related to the following activities such as:

- study of the main categories of tourism resources (sustainable, green);
- identification of the main characteristics specific to tourism resources;
- Appreciating the importance of sustainability for tourism development;
- assessment of the state and quality of the environment in the light of sustainable tourism;
- Determining the impact of tourism on the environment;

The student will acquire knowledge, starting from the need to accomplish a concrete task and will harmoniously combine theoretical knowledge with practical knowledge.

The teacher-guided individual study will be conducted for each unit of content, proposing individualized tasks to students. It is recommended to apply interactive methods of working with students such as discussion, mutual communication, presentation, project, case studies, problem-solving, etc.

The assessment is made during the teaching/learning activities in order to know what is the stage of the vocational training and at what level it is, in relation to the competences specific to the course unit.

Recommended products for assessing the level of development of cognitive skills

No. Products	Product evaluation criteria/descriptors/tasks
ctr. Tasks	
1. Argumentation oral	Correspondence of the formulations of the theme Logical selection and structuring of arguments in accordance with the hypotheses under discussion Use of case studies / own experience in arguing the hypotheses under discussion Use of appropriate and rich language, compliance with literary norms Correct and appropriate use of oral means of expression (intonation, gestures, vocabulary, etc.)
2. Project	Validity of the project - the degree to which it covers the proposed theme unitarily and coherently, logically and substantiated The elaboration and structure of the project - the accuracy, rigor and coherence of the scientific approach, the logic and argumentation of the ideas, the correctness of the conclusions.

- | | |
|----------------------|---|
| | Creativity – the degree of novelty that the project brings to addressing the topic or solving the problem |
| 3. Case study | Correctness of interpretation of the proposed case study
Quality of solutions, proposed hypotheses, their argumentation
Highlighting the subject, the issues and the wording
Originality of the study, formulation and realization
Quality of solutions, proposed hypotheses, their argumentation
Correct problem solving associated with the case study |
| 4. Activity practice | Set of practical and applicative actions, consciously and systematically executed by students in order to deepen the understanding and consolidate the acquired knowledge, verify and correct them, as well as to acquire practical, applicative skills and abilities, to cultivate the love for work |

Suggestions for assessing professional skills

The assessment highlights the extent to which the competences specific to the course unit are formed. The formative assessment will be applied, which will be carried out throughout the study of the discipline. For the purpose of an effective assessment, traditional and alternative methods will be used, through oral and written tests, depending on the requirements of the competent unit. The following methods shall be used: systematic observation of student behaviour, tracking personal progress; self-assessment; the student's portfolio; implementation of group/individual projects. The methods used will be oriented towards capitalizing on students' acquisitions and stimulating teamwork. For each method, the teacher will develop the assessment tools. Practical work that develops analytical and evidence capacities and skills will also serve as a way of ongoing evaluation. The summative assessment will be designed in such a way as to provide evidence for pupils, teachers and employers, relevant information about acquisitions in terms of knowledge and skills based on explicitly defined criteria. When developing formative and summative assessment tasks/items, the teacher will take into account the specific/professional competences of the discipline. Products developed as part of the individual study will be evaluated on the basis of evaluation criteria and descriptors. Assessment tools must be fit for purpose and enable students to demonstrate possession/mastery of the discipline's specific/professional competences. After each subject approached from the didactic support, the student has the possibility individually/pairs or group, to self-evaluate according to the tasks and questions from the present didactic support.

IV. CONCLUSION

Teaching support is an interpretation of the subject 'Sustainable tourism'. Sustainable tourism is a key approach to ensuring the balance between economic development, environmental protection and social benefits for local communities. The implementation of an Environmental Management System (EMS) according to the international standards ISO 14001 and EMAS contributes to the **monitoring, evaluation and continuous improvement** of the environmental performance of tourist structures. International projects and initiatives (UNEP, UNWTO/OMT, EU) provide concrete examples and best practices that can be adapted at national or local level, demonstrating **the positive impact of global collaboration in sustainable tourism**. Good practices, case studies and integrated policies contribute to the development of **responsible tourist destinations** with a reduced environmental impact and real benefits for communities and tourists. Sustainable tourism involves **awareness and active involvement of all actors**: managers, employees, tourists and public authorities, in order to achieve environmental and economic objectives. Sustainable

development in tourism requires **strategic planning, continuous monitoring, evaluation and adaptation** to make tourism structures more resilient, efficient and environmentally friendly in the long term. Education and training in sustainable tourism are **fundamental tools for behavioural change and** the implementation of environmental policies in the tourism sector.

Annexes

Annex 1

GLOSAR DE TERMENI PENTRU TURISMUL DURABIL



Agroturism

Formă de turism desfășurată în mediul rural, bazată pe vizitarea formator, cunoașterea vieții rurale și consumul produselor locale.



Audit de sustenabilitate

Evaluarea impactului unei organizații turistice asupra mediului, comunității și economiei, conform standardelor de durabilitate.



Biodiversitate

Varietatea speciilor de plante și animale și microorganisme dintr-un ecosistem, esențială pentru menținerea echilibrului ecologic.



Blue Flag

Certificare internațională acordată plajelor, porturilor și lahturilor care respectă criteriile stricte de calitate a apei, siguranță și educație ecologică.



Carbon footprint (amprenta de carbon)

Cantitatea totală de emisii de gaze cu efect de seră generate direct sau indirect de o activitate turistică.



Certificare turism durabil

Proces prin care o destinație sau unitate turistică este recunoscută oficial pentru practicile sale sustenabile.



Management al destinației turistice

Proces de planificare, coordonare și monitorizare a turismului într-o destinație, pentru a asigura sustenabilitatea.



Dezvoltare durabilă

Dezvoltare care satisface nevoiile prezentului fără a compromite capacitatea generațiilor viitoare de a-și satisface propriile nevoi.



Destinație turistică sustenabilă

Localitate, regiune sau țară care promovează turismul cu impact minim asupra mediului și culturii locale.



Ecoturism

Turism responsabil în natură, care conștientizează mediul și susține comunitățile locale.



Eficiență energetică

Utilizarea resurselor energetice într-un mod care minimizează pierderile și impactul asupra mediului.



Impact turistic

Efectele activităților turistice asupra mediului, economiei și comunității locale.



Mediu înconjurător

Totalitatea elementelor naturale și antropice care influențează activitatea turistică.



Sustenabilitate

Capacitatea de a menține un sistem fără să-l deterioreze pe termen lung, aplicată mediului, economiei și societății.



Turism cultural durabil

Turism care promovează și protejează patrimoniul cultural, tradițiile și identitatea locală.



Turism responsabil

Practică turistică conștientă, care minimizează impactul negativ.



SDG description link: <https://statistica.gov.md/ro/obiectivele-de-dezvoltare-durabilă-183.html>

Annex 3

SDG International Wedding Cake Chart



Annex 4

Laws, Normative Acts, Decisions, Strategies, Treaties, National and International Conventions on the Environment

Legislation of the Republic of Moldova - pollution prevention and environmental assessment policies

1. Environmental Strategy for 2014-2023 and the Action Plan for its implementation, approved by Government Decision No 301 of 24 April 2014.
www.legis.md
2. Programme to promote the 'green' economy in the Republic of Moldova for the years 2018-2020 and the Action Plan for its implementation, approved by Government Decision no. 160 of 21.02.2018
www.legis.md
3. Order no. 219 of 01.10.2018 regarding the approval of the Guide on conducting procedures on strategic environmental assessment
www.legis.md
4. Law no. 11 of 02.03.2017 on Strategic Environmental Assessment
www.legis.md
5. Law No 86 of 29 May 2014 on environmental impact assessment
www.legis.md
6. Law no.1540 of 25.02.1998 on payment for environmental pollution
www.legis.md
7. Law No 1515-XI of 16 June 1993 on environmental protection
www.legis.md

Climate change legislation

Government Decision no. 444/2020 on the establishment of the mechanism for the coordination of activities in the field of climate change

https://www.legis.md/cautare/getResults?doc_id=122314&lang=ro

Government Decision No 107/2019 approving the Methodology for calculating the impact of biofuels and bioliquids on greenhouse gas emissions

https://www.legis.md/cautare/getResults?doc_id=112852&lang=ro

Government Decision no. 1277/2018 on the establishment and functioning of the National System for monitoring and reporting greenhouse gas emissions and other information relevant to climate change

https://www.legis.md/cautare/getResults?doc_id=112485&lang=ro

Government Decision No 624/2023 approving the National Climate Change Adaptation Programme until 2030.

https://www.legis.md/cautare/getResults?doc_id=140163&lang=ro

Government Decision no. 659/2023 on the approval of the Low Emission Development Program of the Republic of Moldova until 2030

https://www.legis.md/cautare/getResults?doc_id=139980&lang=ro

Law 78/2017 for the ratification of the Paris Agreement

https://www.legis.md/cautare/getResults?doc_id=99251&lang=ro

Government Decision no. 1470/2016 on approving the Low Emission Development Strategy of the Republic of Moldova until 2030 and the Action Plan for its implementation

https://www.legis.md/cautare/getResults?doc_id=98493&lang=ro

Government Decision No. 1009/2014 approving the Strategy of the Republic of Moldova for adaptation to climate change until 2020 and the Action Plan for its implementation

https://www.legis.md/cautare/getResults?doc_id=114739&lang=ro#

Parliament Decision No 404/1995 ratifying the United Nations Framework Convention on Climate Change
https://www.legis.md/cautare/getResults?doc_id=60740&lang=ro

Legislative/regulatory acts in the field of air protection

Government Decision No 593/2024 approving the Regulation on the reduction of national emissions of certain atmospheric pollutants (https://www.legis.md/search/getResults?doc_id=145224&lang=en)
Law No 98/2022 on atmospheric air quality (https://www.legis.md/search/getResults?doc_id=131230&lang=en) https://www.legis.md/cautare/getResults?doc_id=131230&lang=ro
Government Decision No 914/2020 approving the Regulation on the limitation of emissions of volatile organic compounds caused by the use of organic solvents in certain paints, varnishes and automotive refinishing products (https://www.legis.md/search/getResults?doc_id=124936&lang=en) https://www.legis.md/cautare/getResults?doc_id=124936&lang=ro
Government Decision No 587/2020 approving the Regulation on the control of emissions of volatile organic compounds resulting from the storage and distribution of petrol from terminals to oil filling stations (https://www.legis.md/search/getResults?doc_id=122611&lang=en) https://www.legis.md/cautare/getResults?doc_id=122611&lang=ro
Government Decision No 414/2016 approving the Regulation on reducing the sulphur content of certain liquid fuels (https://www.legis.md/search/getResults?doc_id=114834&lang=en) https://www.legis.md/cautare/getResults?doc_id=114834&lang=ro
Parliament Decision No 399/1995 on the accession of the Republic of Moldova to the Convention on Long-Range Transboundary Air Pollution (https://www.legis.md/search/getResults?doc_id=8729&lang=en) https://www.legis.md/cautare/getResults?doc_id=8729&lang=ro
Law No 1018/2002 ratifying the Protocol on Persistent Organic Pollutants and the Protocol on Heavy Metals to the 1979 Convention on Long-Range Transboundary Air Pollution (https://www.legis.md/search/getResults?doc_id=108034&lang=en) https://www.legis.md/cautare/getResults?doc_id=108034&lang=ro
Law No 215/2015 on the accession of the Republic of Moldova to the Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on the long-term financing of the Cooperation Programme for the Supervision and Evaluation of the Long-Range Transport of Air Pollutants in Europe (EMEP) (https://www.legis.md/search/getResults?doc_id=90885&lang=en) https://www.legis.md/cautare/getResults?doc_id=90885&lang=ro

National legislation – circular economy policies and economic instruments

Policy documents:	
1	Environmental Strategy 2024-2030, approved by Government Decision No 409/2024 (https://www.legis.md/search/getResults?doc_id=144295&lang=en) https://www.legis.md/cautare/getResults?doc_id=144295&lang=ro
2	Programme to promote the green and circular economy in the Republic of Moldova for the period 2024-2028, approved by Government Decision No 495/2024 (https://www.legis.md/search/getResults?doc_id=144384&lang=en) https://www.legis.md/cautare/getResults?doc_id=144384&lang=ro
3	Waste management strategy in the Republic of Moldova for the years 2013-2027, approved by Government Decision No 1144/2013 (https://www.legis.md/search/getResults?doc_id=114412&lang=en) https://www.legis.md/cautare/getResults?doc_id=114412&lang=ro

4	National programme for waste management for the years 2023-2027, approved by Government Decision No 972/2023 (https://www.legis.md/search/getResults?doc_id=141680&lang=en) https://www.legis.md/cautare/getResults?doc_id=141680&lang=en
5	National Strategy for Economic Development 2030, approved by Government Decision No 393/2024 (https://www.legis.md/search/getResults?doc_id=143524&lang=en) https://www.legis.md/cautare/getResults?doc_id=143524&lang=en
6	National programme to promote entrepreneurship and increase competitiveness in the years 2023-2027, approved by Government Decision No 653/2023 9 (https://www.legis.md/search/getResults?doc_id=139409&lang=en)
7	National Industrial Development Programme for the years 2024-2028, approved by Government Decision No 280/2024 (https://www.legis.md/search/getResults?doc_id=143460&lang=en) https://www.legis.md/cautare/getResults?doc_id=143460&lang=en

Laws and Regulations:

1	Law 1515/1993 on environmental protection (https://www.legis.md/search/getResults?doc_id=141043&lang=en) https://www.legis.md/cautare/getResults?doc_id=141043&lang=en
2	Law 209/2016 on waste (https://www.legis.md/search/getResults?doc_id=143643&lang=en) https://www.legis.md/cautare/getResults?doc_id=143643&lang=en
3	Government Decision No 212/2018 approving the Regulation on waste electrical and electronic equipment (https://www.legis.md/search/getResults?doc_id=144986&lang=en)
4	Government Decision No 561/2020 approving the Regulation on packaging and packaging waste (https://www.legis.md/search/getResults?doc_id=143207&lang=en) https://www.legis.md/cautare/getResults?doc_id=143207&lang=en
5	Government Decision No 501/2018 approving the Instruction on keeping records and transmitting data and information on waste management (https://www.legis.md/search/getResults?doc_id=144988&lang=en) https://www.legis.md/cautare/getResults?doc_id=144988&lang=en
6	Tax Code 1163/1997 (Title VIII. Taxes on natural resources, excise duties on means of transport); (https://www.legis.md/search/getResults?doc_id=138613&lang=en)
7	Law 1540/1998 on payment for environmental pollution (https://www.legis.md/search/getResults?doc_id=138909&lang=en) https://www.legis.md/cautare/getResults?doc_id=138909&lang=en
8	Order No 15/2019 of the Ministry of Agriculture and Rural Development approving the report form (EMPOLDEP1) for completing it and the Instruction on the method of calculating and paying payments for pollutant emissions and discharges (https://www.legis.md/search/getResults?doc_id=112519&lang=en) https://www.legis.md/cautare/getResults?doc_id=112519&lang=en

List of international environmental treaties

1	Agreement between the Government of the Republic of Moldova and the Cabinet of Ministers of Ukraine on cooperation in the field of protection and sustainable development of the Dniester River Basin (signed in Rome on 29.11.2012, in force since 28.07.2017, approved by Government Decision no. 42/2013)
2	Agreement between the Government of the Republic of Moldova and the Government of Romania on cooperation for the protection and sustainable use of the waters of the Prut and Danube (signed in Chisinau on 28.06.2010, in force since 18.11.2010, approved by Government Decision no. 734/2010).
3	Cooperation Agreement between the State Hydrometeorological Service and the National Meteorological Administration of Romania, 14 September 2022
4	Agreement between the Ministry of Environment and Spatial Planning of the Republic of Moldova, the Ministry of Waters, Forestry and Environmental Protection of Romania and the Ministry of Environment and Natural Resources of Ukraine on cooperation in the area formed by the protected areas

	natural areas of the Danube Delta and the Lower Prut River (signed in Bucharest on 05.06.2000, in force since 11.09.2003).
	Multilateral treaties
1	Stockholm Convention on Persistent Organic Pollutants (POPs) ratified by the Republic of Moldova by Law no. 40/2004. It entered into force on 06.07.2004
2	Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 1992) (Republic of Moldova ratified the Convention by Parliament Decision No. 1546-XII of 23 June 1993)
3	Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Law No 207/2005 ratifying the Protocol on Water and Health)
4	Convention to Combat Desertification in Countries Seriously Affected by Drought and/or Desertification (Parliament Decision 257-XIV of 24 December 1998)
5	Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), (signed in Espoo on 25 February 1991, in force for the Republic of Moldova since 10 September 1997): - Protocol on Strategic Environmental Assessment (Kiev, 21 May 2003).
6	Protocol on Pollutant Release Registers to the Convention on Access to Information, Justice and Public Participation in Environmental Decision-Making (Kiev, 21 May 2003), ratified 2017, in force for the Republic of Moldova since 14.06.2013.
7	Convention on Biological Diversity (CBD) (Rio de Janeiro, 5 June 1992), (RM is part of 18.01.1996 - Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS), (RM is part of 29.10.2010); Cartagena Protocol on Biosafety (New York, USA 2001) Law No 1381/2002 of the Republic of Moldova, which entered into force on 11 September 2003
8	Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979) Decision of the Parliament of the Republic of Moldova No. 1546/1993
9	European Landscape Convention (Florence, 2000) Parliament Decision No 112/2001
10	Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 23 June 1979) (RM is part of 01.04.2001)
11	Agreement on the Conservation of Euro-Asian Migratory Bird Species (AEWA) (RM is part of 01.04.2001)
12	Convention on Wetlands of International Importance particularly as a Habitat for Aquatic Birds (Ramsar, 2 February 1971)
13	European Union Strategy for the Danube Region Priority Area No 6 "Conservation of biodiversity, landscapes and air and soil quality".
14	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), done at Washington on 3 March 1973 (by Law No. 1246 of 28.09.2000 the Republic of Moldova acceded to the Convention (CITES))
15	Convention on Cooperation for the Protection and Sustainable Use of the Danube River (Sofia, 29 June 1994)
16	Convention on Long-Range Transboundary Air Pollution (Geneva, 13 November 1979):

	- Protocol on Persistent Organic Pollutants (24 June 1998, Aarhus) - Protocol on heavy metals (Aarhus, 24 June 1998) - Protocol concerning the long-term financing of the Cooperation Programme for the Supervision and Evaluation of the Long-Range Transport of Air Pollutants in Europe, adopted at Geneva on 28 September 1984 - Protocol to combat acidification, eutrophication and ground-level ozone (Gothenburg, 30 November 1999)
17	Framework Convention on Climate Change (New York, 9 May 1992) - Kyoto Protocol (11 December 1997) - Paris Agreement (22 April 2016)
18	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel, 22 March 1989)
19	Convention for the Protection of the Ozone Layer (Vienna, 22 March 1985): - Protocol on Substances that Deplete the Ozone Layer (Montreal, 16 September 1987)
20	Convention for the Protection of the Ozone Layer; The Montreal Protocol on Substances that Deplete the Ozone Layer. RM has been ratified by Parliament Decision RM 966/1996. Date of entry into force: 15.08.1996

Annex 5

Videos, links, thematic information

https://www.youtube.com/watch?v=D_j720c_MGQ International Plastic Bag Free Day-03 July.
<https://www.youtube.com/watch?v=D47a081CQV0> Environmental issues seen from above.
https://www.youtube.com/watch?v=2LweZZ9c_uI Environmental degradation and protection.
<https://www.youtube.com/watch?v=JWjWDTEsack> Pollution, recycling.
<https://www.youtube.com/watch?v=-yJSJkekKno> How to protect the Earth.
<https://www.youtube.com/watch?v=5hKhHxVny0A> Regulation of the small environmentalist.
<https://www.youtube.com/watch?v=ORSMc3ngywY> Solubrisation.
<https://am.gov.md/en/content/environmental-impact-assessment> Environmental impact assessment.
<https://am.gov.md/en/content/management-of-%C8%99eurile> Waste management.
<https://am.gov.md/en/content/monitoring-hardened-%C4%83%C8%9Bii-medium> Environmental quality monitoring.
<https://am.gov.md/en/content/educate-%C8%9Bie-%C8%99i-con-%C8%99ecological-awareness-%C4%83> Ecological education and awareness.
<https://am.gov.md/en/content/environmental-economic-mechanisms> Environmental economic mechanisms.
<https://am.gov.md/en/content/access-to-information-%C8%9Bia-de-medium> Access to environmental information.
<https://am.gov.md/en/content/monitor-natural-resources> Monitoring of natural resources.
<https://am.gov.md/en/content/protect-%C8%9Bia-air-atmospheric-%C8%99i-change-%C4%83rile-climatic> Air protection atmospheric and climate change.
<https://am.gov.md/en/content/environmental> indicators Environmental indicators.
<https://am.gov.md/en/content/state-of-the-environment> reports State of the environment reports.
<https://am.gov.md/en/content/management-by-%C8%99eurile> Waste Reports.
<https://www.europarl.europa.eu/factsheets/en/sheet/76/use-of-resources-and-economy-circular> Resource efficiency and circular economy.
<https://www.europarl.europa.eu/factsheets/en/sheet/77/consumption-and-production-sustainable> Sustainable consumption and production.

<https://eur-lex.europa.eu/RO/legal-content/summary/eu-environment-action-programme-to-2030.html> EU Environment Action Programme to 2030.
<https://iso9001.md/services/iso-140012015-environmental-management-system/environmental> management system.
<https://www.untourism.int/> UNWTO-World Tourism Organisation.

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Disclaimer

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