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Project - Eco-flight, an Art process which becomes a social action

Grant agreement n. 101131227 Eco-Flight

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Ecological report

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Presentation

This report is part of the work programmed in the framework of the project Ecofligth, an Art process which becomes a social action in WP 1 Project management and coordination and marked as deliverable D 1.3. Investigation of the ecological background in all sites, habits of the locals, main waste collection points, waste delivery system, areas of interest in the sites/rivers, forests or urban centres.

The report has been carried out by the four project partners and coordinated by Otro Tiempo on the basis of a battery of questions to find out the reality of the ecological situation and the waste collection system.

The research and consultations were carried out between April and May 2024.

1. Legislative framework on waste and recycling. Applicable legislative framework: European, national, other territorial units, municipalities

1.1 Europe

Waste management is a crucial issue for environmental sustainability, and the European Union has adopted directives and regulations to address this issue. The EU Waste Framework Directive sets targets and principles for waste management in Member States, including the reduction, reuse, recycling and proper disposal of waste.

EU Member States are obliged to transpose these directives into national legislation. Transposition may involve the adoption of new laws, policies and waste management plans at national, regional and local level.

The environmentally sound management of waste and the use of the secondary materials it contains are key elements of EU environmental policy.

EU waste policy aims to contribute to the circular economy by extracting high quality resources from waste as far as possible. The European Green Pact aims to promote growth through the transition to a modern, resource-efficient and competitive economy. As part of this transition, several EU waste laws are being reviewed.

The Waste Framework Directive is the EU legal framework for waste treatment and management in the EU. It introduces an order of preference for waste management called the "waste hierarchy".

Certain categories of waste require specific approaches. Therefore, as well as the general legal framework, the EU has many laws to deal with different types of waste.

Directive 2008/98/EC on waste establishes the legal framework for waste treatment in the European Union (EU). This framework is designed to protect the environment and human health by emphasising the importance of using appropriate waste management, recovery and recycling techniques to reduce pressure on resources and improve their use.

KEY POINTS Directive 2008/98/EC

The Directive establishes a waste hierarchy:

- ◆ prevention, Spain
- ◆ preparation for re-use,
- ◆ recycled,
- ◆ recovery for other purposes (e.g. energy recovery).
- ◆ Elimination.

It confirms the "polluter pays principle" according to which the original producer of the waste must pay the costs of waste management.

- It introduces the concept of "extended producer responsibility".
- Distinguishes between waste and by-products*.
- Waste management must be carried out without creating risks to water, air, soil, plants or animals, without causing noise or odour nuisance and without damaging landscapes and sites of special interest.
- Producers or holders of waste must either treat the waste themselves or have it treated by an officially recognised operator. Both must have a permit and are regularly inspected.
- It introduces recycling and recovery targets to be achieved by 2020 for household waste (50%) and construction and demolition waste (70%).

Amending Directive (EU) 2018/851

- As part of a package of measures on the circular economy, Directive (EU) 2018/851 amends Directive 2008/98/EC.
- It sets minimum requirements for the operation of extended producer responsibility schemes. These may also include organisational responsibility and the responsibility to contribute to waste prevention and to make products reusable and recyclable.
- It strengthens the rules on waste prevention. With regard to waste generation, EU Member States should adopt measures that:
  - ◆ support sustainable production and consumption patterns;
  - ◆ encourage the design, manufacture and use of products that are resource efficient, durable, repairable, reusable, reusable and upgradeable;
  - ◆ target products containing critical raw materials in order to prevent these materials from becoming waste;
  - ◆ encourage the availability of spare parts, instruction manuals, technical information or other means to enable products to be repaired and reused without compromising their quality and safety;
  - ◆ reduce food waste generation as a contribution to the UN Sustainable Development Goals to reduce food waste per capita globally by 50% at retail and consumer level and reduce food losses along production and supply chains by 2030;
  - ◆ promote the reduction of the content of hazardous substances in materials and products;
  - ◆ to curb the generation of marine litter.

- It also sets new recycling targets for municipal waste: by 2025, a minimum of 55% of municipal waste by weight has to be recycled. This target will rise to 60% by 2030 and 65% by 2035.

- Member States must:

  - establish, by 1 January 2025 at the latest, separate collection of household textile and hazardous waste;

  - ensure that, by 31 December 2023 at the latest, bio-waste is collected separately or recycled at source (e.g. by composting).

- The Directive also identifies examples of incentives to implement the waste hierarchy, such as landfill and incineration fees and pay-as-you-throw schemes.

Another notable piece of legislation is Directive (EU) 2019/904 on single-use plastics was adopted in June 2019 with the aim of preventing and reducing the impact of certain plastic products on the environment, in particular the aquatic environment, and on human health, and to promote the transition to a circular economy with innovative and sustainable business models, products and materials. The Directive set mandatory targets for the separate collection of single-use plastic beverage bottles of up to three litres. It also established requirements for the submission of associated communications and, in 2021, detailed calculation guidelines through Implementing Decision (EU) 2021/1752.2.

This Directive includes the obligation to reach 70% collection of single-use plastic packaging by 2025 and 90% by 2029.

1.2 Czech Republic

Climate change manifestations in the Czech Republic, the transition to climate neutrality, and the adaptation of settlements to climate change are some of the topics addressed in the new Report on the Environment of the Czech Republic 2020. Beginning with the current issue, the content concept and structure are linked to the State Environmental Policy of the Czech Republic 2030 with a view to 2050. The purpose of the Report therefore includes – in addition to an annual assessment of the state of the environment and

economy-related impacts – the continuous monitoring of achieving objectives and priorities of the State Environmental Policy. The main areas of the State Environmental Policy are framed by other contextual topics important for the state and development of the environment.

The conclusions of the Report show that the year 2020 was both significantly impacted by the COVID-19 pandemic and was also unusual in environment-related terms. The downturn in economic activity, the restrictions of the mobility of the population and goods, and the change in household consumption patterns caused a reduction in anthropogenic pressures on the environment. Air quality continues to improve in the Czech Republic, and the country is meeting its current climate protection commitments. Coal-based power generation continues to fall, while power generation from renewable energy sources increased.

https://www.chmi.cz/f iles/portal/docs/uoco/oez/embil/Report-on-the-Enviromnent-of-the-Czech-Republic-2020.pdf

1.3 Other territorial structure, if applicable, Municipalities

- Around 70% of MSW generated in the Czech Republic is still landfilled;
- · The MSW recycling rate steadily increased over the past decade from 1% to 16%;
- · Municipalities are responsible for MSW management in their administrative territories;
- · The Czech Republic has implemented a landfill tax. Citizens pay a fee for municipal waste services per capita;
- · No strong correlation between raising of landfill taxes and drop in the amount of landfilled MSW,

Whereas there is good correlation with MSW recycled;

- · Huge efforts have to be undertaken to fulfill the EU targets on diversion of biodegradable MSW landfilled by 2013 and 2020;
- · According to present trends, it will require a significant effort in the Czech Republic to fulfill the EU 50% recycling target by 2020.

The report is based on the official figures reported to Eurostat. However, the Czech Ministry of Environment publishes data differing from the figures reported to Eurostat, and in those cases, the Ministry's figures have been indicated in the text when possible.

Waste management is a relatively young yet dynamically growing sector of the national economy in the Czech Republic. The first Waste Act was adopted in the Czech Republic as recently as 1991. Prior to 1991, handling of waste was subject to no legislative control or rules in the Czech Republic, and was not governed by any sectoral rules with the exception of so-called secondary raw materials (CZ, MoE, 2012).

The current Waste Act was adopted in 2001. It emphasises waste prevention, defines the hierarchy of waste handling, and promotes the fundamental principles of environmental and health protection in waste handling.

The main strategic document governing waste management is the Waste Management Plan of the Czech Republic. The current waste management plan was adopted in 2003, and covers a 10 year period (2003 – 2013).

Development of the new Waste Management Plan of the Czech Republic for the period 2013–2022 is now in progress. The draft version of this document was introduced at the Council of Waste Management meeting on 26 September 2012. A final version will be available in 2013 (CZ, NRC, 2012).

Among the recent achievements in municipal waste management in the Czech Republic are (BIPRO, 2012):

- · 100 % collection coverage;
- · EU legal requirements are well implemented in national waste legislation;
- · Considerable recycling rate; increase of recycling from 11% in 2007 to more than 16% in 2010;
- · Sufficient treatment capacity available (landfill, incineration);
- · Landfill tax is implemented;
- Landfills are compliant with the requirements of the Landfill Directive;
- · Incentive systems to favour prevention and separate collection (PAYT schemes) are in place in some parts of the country;
- · Progress in bio-waste collection and treatment;

- · The Czech government provides documents and guidelines for basic characterization of waste, training of regional authorities and regular meetings with central authorities and performs evaluation of waste management on a yearly basis;
- · Several initiatives launched by Government to improve waste management (i.e. on packaging waste, awareness raising via workshops, exhibitions addressing the public, promotion of reuse of packaging (e.g. carrier bags, beverage packaging);
- · General environmental awareness of the public and consumers exists, but their behaviour needs to be strengthened with regard to waste management.

In 2010, the total amount of municipal waste generated in the Czech Republic was 3 334 000 tonnes, or 317 kg per capita (Eurostat, 2012). However, according to the draft version of the Waste Management Plan of the Czech Republic 2013-2022, the total amount of municipal waste generated in the Czech Republic in 2010 was 4 633 791 tonnes or 441 kg per capita, and the rate of recycling of municipal waste was 19 % (CZ, NRC, 2012).

Source: Municipal waste management in the Czech Republic, Prepared by Danko Aleksic ETC/SCP, February 2013, European Environment Agency (EEA) project manager Almut Reichel

1.3 Spain

At the national level, there are laws and regulations that establish the general framework for waste management and that transpose European directives into national legislation.

The Ministry of Ecological Transition and Demographic Challenge (MITECO) has drawn up the State Framework Plan for Waste Management 2023, which emerges as a significant turning point in the evolution of waste management policies in Spain. This ambitious and strategic roadmap puts the spotlight on the direction of waste management in the coming years, focusing on key areas that will drive the circular economy and reduce the environmental impact of waste.

The State Waste Management Framework Plan 2023 (PEMAR) is based on a number of existing waste management regulations and legislation that underpin and guide it. Among the main regulations concerning the plan are:

1. Law 22/2011, of 28 July, on Waste and Contaminated Land: This law establishes the basic principles of waste management and lays the foundations for the development of the PEMAR.

Royal Decree 553/2020, of 2 June, regulating the shipment of waste within the Spanish territory: This decree regulates the shipment of waste within the Spanish territory, guaranteeing adequate and safe management.

3. Royal Decree 27/2021, of 19 January, on batteries and accumulators and the environmental management of their waste, and Royal Decree 110/2015, of 20 February, on waste electrical and electronic equipment: This regulation addresses the management of batteries and accumulators and their proper disposal.

4. Royal Decree 1021/2022 of 13 December regulating certain hygiene requirements for the production and marketing of foodstuffs in retail establishments.

5. Law 7/2022, of 8 April, on waste and contaminated soils for a circular economy.

6. Royal Decree 293/2018 of 18 May on reducing the consumption of plastic bags and creating the Register of Producers.

7. Royal Decree 1055/2022, of 27 December, on packaging and packaging waste: This regulation is in line with the promotion of the circular economy and the reduction of single-use plastics. It transposes Directive (EU) 2019/904 on single-use plastics by extending its obligations. For example, it sets two intermediate milestones: at least 70% of single-use packaging to be collected by 2023 and 85% by 2027. If these targets are not met, the Packaging Return and Refund System must be implemented within 2 years.

8, Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May on waste establishes that by 1 January 2025 at the latest, separate collection of the textile fraction of municipal waste will be mandatory. In accordance with the draft of the draft bill on waste and contaminated soils that will transpose this Directive into Spanish legislation, the ban on the destruction of surplus production of clothing (pre-consumer) is imminent, as well as the development of the bases for the implementation of a regime of Extended Producer Responsibility (EPR) for textiles, which will be mandatory within a maximum period of 3 years from the entry into force of the new Law.

The State Waste Management Framework Plan sets out the objectives, measures and strategies for waste management over a specific period of time.

Objectives of the State Framework Plan for Waste Management 2023

The main objective of the State Framework Plan for Waste Management 2023 (PEMAR) is to establish a solid basis for integrated waste management in Spain. The main objectives it aims to meet are:

1. Promotion of selective collection: Changes in infrastructure and public awareness are established to improve selective waste collection, ensuring that recovered materials are adequately separated and directed towards their corresponding recycling process.
2. Promotion of Extended Producer Responsibility (EPR): Seeks to make manufacturers responsible for products from conception to end of life, encouraging more sustainable and eco-friendly practices. In this way, producers take responsibility for managing the waste generated by their products, either by designing more durable and recyclable products or by financing collection and recycling systems.
3. Promotion of Green Jobs: Creation of employment linked to sustainable waste management (selective collection, recycling, materials recovery,

research and development of sustainable technologies, etc.). Green employment will be a key driver for economic development and the achievement of more responsible and effective waste management.

4. Promoting the circular economy: This strategy seeks to break with the paradigm of the linear economy, where products are manufactured, used and discarded. To achieve this, it is committed to closing the life cycle of materials, promoting the reuse, recycling and recovery of waste, giving rise to a more efficient and environmentally friendly system. Converting what was previously considered waste into new usable resources.
5. Reduction of waste generation: The idea is to act at the root of the problem, promoting responsible practices and habits in society to avoid excessive waste generation. It therefore seeks to educate and raise awareness among citizens.
6. Prevention of toxic and hazardous waste: Preventive management and treatment measures to address the problem of toxic and hazardous waste. Waste posing a risk to human health and the environment.
7. Boosting Innovation: Significant support for research and development of new technologies and solutions for sustainable waste management, maximising the recovery of valuable materials and minimising environmental impact.

Main novelties of the State Framework Plan for Waste Management 2023 (PEMAR)

- End uncontrolled landfills: This measure aims to eliminate the inappropriate disposal of waste in landfills, avoiding soil, water and air pollution.
- Increasing recycling targets: The aim is to significantly increase recycling rates of paper, plastic, glass and metals, among others, to reduce the amount of waste sent to landfills or incinerators. This, in turn, will lead to
  a reduction in greenhouse gas emissions associated with the production of new materials.
- Extension of extended producer responsibility, promotion of the circular economy in construction and incentives for Research and Development (R&D): The reuse and recycling of construction materials will be promoted, thus avoiding excessive waste generation and reducing the environmental impact of this industry.

- **Autonomous Communities, Local Councils**

Many of the competences and responsibilities related to waste management are transferred to the Autonomous Communities and municipalities.

Autonomous Communities: Each Autonomous Community in Spain has its own waste management legislation and competences. These laws can complement national legislation and adapt it to the specific needs and circumstances of each region. The Autonomous Communities are responsible for the planning and management of waste treatment facilities, as well as for the implementation of selective collection and recycling policies.

Municipalities: Municipalities also have competences and responsibilities in waste management, especially with regard to separate waste collection, municipal waste management and the cleaning of public spaces. Municipalities are usually responsible for organising household waste collection and maintaining street cleaning services. In addition, some municipalities may have additional responsibilities for the management of industrial or commercial waste in their territory.

Available resources and infrastructure vary according to the size and administrative capacity of each municipality. Larger municipalities tend to have more resources and capacity to invest in waste management infrastructure and recycling programmes. However, even smaller municipalities have a responsibility to ensure adequate waste management in their territory, although they may be more dependent on collaboration with other municipalities or the provision of services by supra-municipal entities or private companies.

Therefore, the waste legislative system in Spain involves participation and co- ordination between the national government, the Autonomous Communities and the municipalities, each with specific responsibilities for waste management at different territorial levels.

1.4 Slovakia

In Slovak Republic there is a Strategy, principles and priorities of the state environmental policy approved by the resolution of the Government of the Slovak Republic dated September 7, 1993 number 619 and the resolution of the National Council of the Slovak Republic dated November 18, 1993 number 339. Act No. 79/2015 Coll. about waste is also in force.

Reports on the State of the Environment are published every year by the Ministry of Environment of The Slovak Republic.

All the reports can be found here: https://www.enviroportal.sk/spravy/soer Useful info can be found here: https://www.eea.europa.eu/themes/waste/waste-prevention/countries/2023-waste-prevention-countr y-fact-sheets/ slovakia_waste_prevention_2023

The situation in Slovakia is not so bad, the ratio of recycling is on the EU average level. There are campaigns from state institutes, NGOs and private companies to kepp eyes on these topics. There are also possibilities for getting financial support for these activities.

2. Hungary

2.1 Culture around waste collection and separation

In Hungary, the waste management system is well developed, municipal waste collection and collection in the municipalities is municipal (household) waste collection in municipalities. Selective waste collection was introduced in 2004.
In 2004, initially as a pilot project, and is now provided in all municipalities. A 2012-
waste is the property of the state and is collected by public service providers.
by public services. This system was transformed on 1 July 2023, when MOHU was awarded a 35-year concession, which is intended to unify and improve the national
waste management system in the country. Contractual agreements between public service providers and private companies MOHU (collection, transport, processing, almost all the sectors of waste management, waste disposal, waste treatment, etc.).

Selective waste collection has been introduced in education from pre-school age, with many young children know the difference between rubbish and waste. Many NGOs are working
to show children the value of waste.

2.1.1 Environmental awareness in relation to the care of nature:

- *Do you see litter, plastic waste in natural spaces? Landscape, mountains, river banks, beaches?*

Some people still illegally dispose of household waste on forest edges and river banks
waste, or in worse cases, hazardous waste. Fortunately, fewer and fewer illegal landfills, but there is still room for improvement.
The PET Cup environmental initiative to clean up the Tisza and its floodplains

so we are very familiar with the hotspots and types of waste along the rivers. The Clean Tisza Map shows the points that our volunteers have recorded and those that have been cleaned up in the meantime. A huge problem for rivers is the waste management - or lack of it in this case - in the upstream countries. Every year, Ukraine sends around 10,000 tonnes of waste arrive in Hungary via the Tisza - and are deposited in the floodplain forests or continues on towards the Danube. Fortunately, local civil communities, national actions (e.g. Te Szedd!) are working to eradicate river pollution.

- And in urban areas?
In urban areas the situation is better, as the local public service provider is responsible for
public spaces, or the municipal administration, or perhaps the transport company
(bus, train stations). If an area has a host, the land generated or
or accumulated waste. If the owner of the land cannot be identified
illegal dumping may continue to increase...
However, it can be argued that urban areas are still better maintained,
than rural areas, river banks and forest edges.

- Is there greater awareness and action in society to protect the environment than 10 years ago?
Definitely yes, mainly thanks to education, as environmental education is very
high quality in Hungary and many NGOs are also involved in children's
environmental education. In this respect, meeting the targets set by the EU, the
ESG approach also encourages manufacturing companies to be environmentally conscious,
whether the future will be green. If it is not, we will have no future. And
more and more people understand this.

- Will the effects of climate change influence people's environmental stewardship?
on environmental habits? Please have your say.
Yes, although Hungary is well placed, it is less exposed to the negative effects of climate change,
but the recent years of drought have made many people think twice. A

PET Cup experience is that for years more and more people have been entering the competitions and
and the number of volunteers is also increasing. Many people want to be active in protecting the environment.
The number of packaging-free shops is increasing, and many companies and institutions are trying to compensate for the
emissions by, for example, planting trees. Of course, these can also be seen as a fashion, with one or two a trend, but it is positive if they help to protect the environment.

- Are there different behaviours according to gender?
According to the literature, women are more sensitive to protecting the environment,
probably due to the fact that the future and well-being of their children is their primary concern.
their children. However, in the PET Cups, we find that there are more male participants.
- There are different behaviours depending on whether they are in a rural/ urban environment
do we live in a rural or urban area?
The experience of the PET Cup is that urbanites - and this is especially true for people living in the capital - are much more
more committed to environmental protection, they have a much greater will to act.

2.1.2 Separate collection systems:

- Is waste sorted in households?
Everything is in place for separate collection, but the proportion of the population still remains small,
However, still only a minority of the population - around 25-30% - collects waste separately at home.

- Is there a separate waste collection system in towns and small villages?
Yes, it is available in all municipalities in Hungary.

- *Are there collection points for batteries, furniture, electronic equipment, waste oil? Who manages these points?*

In larger towns and cities, you can drop off special types of waste at the yards,
or during rubbish collections for e+e or hazardous waste collection/collection points.

- *There is more awareness and action by society on waste management, than 10 years ago?*

Definitely yes. Whereas in the past a narrow, mainly urban, section of the population was concerned about the environment
and waste reduction, now it is trendy to compost and embarrassing to someone does not collect waste separately. Especially for the younger generation, this has become a
which is certainly to be welcomed.

- *Will the effects of climate change influence people's waste management, sorting and recycling habits?*

and sorting habits? Please give us your views.
Yes, but to do so we need to bring the problem close to the people. The success of the PET Cup, is also due to the fact that as nature filmmakers, they filmed everything
and posted on social media. This way we were able to reach a lot of people in a short time, with the and people were shocked to see the waste accumulating in the floodplains. Many people
people decided: we have to do something about it, they want to join us!
A growing number of people are trying to reduce the amount of waste in their households, avoiding it.
plastic packaging in their shopping. Dissuasive TV
videos and photos, it is easy to see the cause and effect. In addition, the waste
is a "grateful subject" within environmental protection, because it is easy to do and spectacular results are
(as opposed to, for example, air pollution).

- Are there different behaviours by gender?
I don't see any gender differences in waste reduction. However, as women are the ones who do most of the shopping, they are the ones who can do more to reduce waste less packaging.

- There are different behaviours depending on the rural/urban context do we live in a rural or urban area?
Yes, people living in cities are more aware of the cleanliness of their environment.

2.1.3 Environmental education:

- Are actions developed in schools, institutes, universities?
Yes, we organise lectures and workshops in educational institutions. We also organise events and activities in schools and institutions.
It is important to educate children and young people. We have a workshop on the use of plastics (MÜMÜ).
interactive workshop, where they can follow how the from seemingly useless junk to valuable secondary raw material and a new product!

- Is there information about the natural resources of protected areas and are guided tours organised?guided talks to learn about them?
Not specifically about natural assets, but all our programmes and presentations is that the Tisza is the longest ecological corridor in our country, and cleaning it up is in the interest of all of us. Our basic activity is to protect this aquatic ecosystem.
We also organise cultural programmes at every PET Cup competition, where we often invite to give a presentation, and we also often invite a river literacy quiz with the teams.

- Are there different behaviours by gender?
Not by gender, but by age. Young children are much more strongly attached to nature, for them it's not a question of not harming it, of taking care of it.

- *There are different types of behaviour depending on whether you live in a rural or urban area*

or urban areas?
People in rural areas are more "in" with nature, but despite this - or perhaps or perhaps because of this, see less value in its treasures. As far as possible, include statistics and sources of information.

2.2. Social awareness campaigns

2.2.1 Main organisations raising awareness of nature conservation in your country.

There are several NGOs with a long history of nature conservation in Hungary with nature conservation. E.g. Hungarian Association of Nature Conservationists, Ecological Service Foundation, WWF, Pangea,
National Parks (10)

2.2.2 Main organisations in your country that raise awareness about waste and littering PET Cup, HUMUSZ, Green Belt, Association of Conscious Consumers

2.2.3 Name the events that are environmentally
social impact in your country, mobilisations, campaigns,
complaints and increased commitment to environmental protection.

2.2.4 Have greenwashing practices been reported in your country?
Hungary is a leader at EU level in detecting and sanctioning greenwashing. Earlier this year, the GVH issued a recommendation on this issue.
There are already precedent-setting cases which have resulted in heavy fines for companies engaged in greenwashing.

3. Czech Republic

3.1.Environmental awareness regarding the care of nature:

- Do you see litter, rubbish, plastic waste in natural spaces? countryside, mountains, riverbanks, beaches?

Yes.

- And in urban areas?

Yes.

- Is there greater awareness and action in society to protect the environment than 10 years ago?

The yearly increase rate of recycling of MSW

Three scenarios have been calculated in order to assess the prospects for the Czech Republic to meet the 50 % recycling target as set out in the Waste Framework Directive1. These scenarios assume that recycling increases in the period 2010 to 2020 at the rate experienced in 2001-2005, 2006-2010 and 2001-2010 respectively. The projections are based on a linear regression.

MSW generation per capita in the Czech Republic has been developed from 2001 to 2010. the amount of generated MSW has increased slightly during the whole period from 273 kg per capita in 2001 to 317 kg per capita in 2010.

The majority of municipal waste in the Czech Republic is still landfilled. This is primarily because landfill is cheaper than other waste treatment options (ETC/SCP, 2012). Another factor is that there is insufficient capacity to recycle bio-waste (BIPRO, 2012).

Most of the sorted municipal waste is being recycled (glass, plastics, paper), (EEA, 2010).

3.1.1 The recycling of MSW from 2001 to 2010

MSW recycling in the Czech Republic has increased, related to total recycling, material recycling and organic recycling (composting and other biological treatment). After 2003 there was a positive trend in the recycling of MSW. The total percentage of recycled MSW increased from 1 % in 2003 to 16 % in 2010. In absolute amounts, this was an increase from 26 000 tonnes in 2003 to 528 000 tonnes in 2010. This large increase is equal to a yearly increase rate of more than two percentage points.

The total increase of recycling is mostly linked to material recycling, which has increased from 5 % (138 000 tonnes in absolute amounts) in 2004 to 14
% (452 000 tonnes) in 2010.

In the same period, organic recycling has had an almost negligible increase of only 1 percentage point, from 1% in 2004 to 2% in 2010.

There is room for further improving of both material and organic recycling, but it seems that organic recycling in particular can be improved.

- Are the effects of climate change influencing people's habits towards caring for the environment?

Czech households influence the environment every day by doing their shopping, consuming and using various kinds of products and services, the way they spend their leisure time, by commuting to work and travelling in general and, last but not the least, by producing waste. Both the location and the size of the household significantly influence the environment as well. 30 to 40% of environmental problems are caused by households. Thus, pro-environmental movements warn of the necessity to eliminate negative impacts of households' behaviour.

The total communal waste production per capita reached 308kg in 2012. In comparison with the EU27 average, communal waste production in the CR is low and reaches 64% of the average of 27 countries of the European Union.

Source:

Antonín Vaishar, Jana Zapletalová and Eva Nováková, Between Urban and Rural: Sustainability of Small Towns in the Czech Republic, Dec 30, 2016.

DOI:10.1515/euco-2016-0025

According to People in Need:
S o u r c e : ht tps: //c limat e.peopleinn eed.n et/solution , ht tps: // climate.peopleinneed.net/czech-republic

The Czech landscape has faced occasional droughts in the past, but never on today's scale. Between 2015 and 2021, the Czech Republic experienced both its worst drought - caused by a lack of precipitation and the hottest temperatures on record. (Source: Institute of Global Change Research AS CR).
https://www.czechglobe.cz/cs/

In addition to flash floods, more frequent fires will threaten the Czech countryside. Simultaneous fires can quickly overwhelm fire departments, leading to loss of life and property. The risk of wildfires must be constantly monitored and predicted; the web portal www.firerisk.cz has been set up to act as an alert system.

3.1.2 Social inequality

Water scarcity will also lead to widening social disparities. Only the rich will be able to secure water in sufficient quantity and quality, and the impacts of climate change will affect poorer populations to a much greater extent. In the Czech Republic, water already needs to be brought into villages such as Louny, which is seeing a shortage of groundwater reserves. In the foreseeable future, there will be shortages of drinking water elsewhere in the Czech Republic as well. People living in countries that cannot adapt or provide for their populations' basic needs will have no choice but to flee the drought and heat for larger cities and more develo

In the run-up to the COVID-19 pandemic, the Czech Republic was the third highest per capita emitter of greenhouse gases in Europe.

The EU has a set a goal to reduce emissions by 55 percent by 2030 when compared to pre-industrial levels, but the Czech Republic has not yet set any specific reduction goals and has reacted negatively to the EU's efforts.

In 2021, the Czech Senate gave a yellow card to the EU's "Fit for 55" package, which is a set of measures to reduce emissions by the aforementioned 55 percent.

https://www.eea.europa.eu/en

The Czech Republic stands to gain up to 180 billion CZK from the NextGenerationEU programme if it fulfils a series of criteria, including the allocation of at least 37 percent of the resources to ecologically friendly projects.

Each year, Adapterra Awards. are given to projects that help Czech cities adapt to climate change. Examples of best practice are added to the Adapterra database, which serves as a source of inspiration for future projects.

Individuals can hardly be blamed for climate change. However, the world economy– and thus the production of emissions– is driven by consumption. The world's richest 10 percent, or around 700 million people, (owning a flat valued at two million CZK is enough to fall into this category, Source: E15) are responsible for 48 percent of emissions per person. Climate measures need to tackle the behaviours and attitudes of this group as a priority.

Climatic protection measures should affect those who pollute the most. Still, they will affect all of society. We have to embrace a lifestyle whose quality is less dependent on the consumption of industrial products and services. Reduction of consumption and orientation towards good interpersonal relationships, time well spent and altruistic values instead of materialism will lead to a more sustainable and responsible society, which will create a better environment for living

Carbon calculators were actually designed by PR specialists hired by British Petroleum, as was the term "carbon footprint." Since ¨the year 2000, BP has been using advertising in an attempt to shift blame for global warming away from the fossil fuel industry and onto individuals. This campaign has proved to be both ingenious and insidious, as carbon calculators and guides to reduce your personal carbon footprint are widely promoted.

British Petroleum's campaign has sought to divert attention away from the fact that fossil fuel companies are the ones who mine and sell fossil fuels, and thus have the main responsibility for climate change. PR experts hired by BP have replicated the successful Coca-Cola campaign of

1971,which blamed increases in waste on irresponsible consumers to cover up the fact that the company was the main producer of disposable plastic waste, and therefore the main perpetrator of the problem.

According to Report on the Environment of the Czech Republic 2020

https://www.chmi.cz/files/portal/docs/uoco/oez/embil/Report-on-the-Enviromnent-of-the-Czech-Republic-2020.pdf

3.1.5 Opinions and attitudes of the Czech public

Less than two-thirds of the Czech public is interested in information related to the environment in the Czech Republic.

Respondents think the state of the environment is better in their place of residence (70%) compared to the overall situation in the Czech Republic (53%).

Citizens of the Czech Republic consider the most serious global problems to be the accumulation of waste, pollution, and lack of drinking water.

A significant majority of the Czech public (three quarters) agree that climate change exists and that it is a serious problem.

For more than two-thirds of the Czech public it is important that the Czech Republic takes measures against climate change

According to Municipal waste management report in the Czech Republic:

Individual households pay charges/fees for municipal waste collection. The design of the fee has historically had an undesirable influence on the behaviour of households. As the amount of the annual fee per household was dependent on the amount of waste (or rather the number of collections of a household's garbage container per year and the volume of the container), the amount of illegal littering was rather high, and the competent authorities were not always able to find the original waste generators to penalize them (ETC/SCP, 2012).

There are three ways to pay for municipal waste (BIPRO, 2012).:

1. The local fee for the operation of a system of collection, transport, separation, recovery and disposal of municipal waste is limited by a maximum of CZK 500 (about EUR 20) per inhabitant per year;

2. An amendment to the Act on Wastes, No. 275/2002 introduced an optional fee for municipal waste; the amount of this fee is not specified. This article enables municipal authorities to use PAYT system;
3. Pursuant to the Act on Wastes, payment can be made on a contractual basis between the municipality and the inhabitant; again, there is no upper limit for this payment.

Are there different behaviours according to gender?

Women and younger individuals exhibit higher levels of environmental awareness. Collected data clearly show superior levels of environmental responsibility in women. Also, the age divide in environmental stances is very real, while domicile has quite a limited effect and education is barely significant. Overall, central authorities should address the discrepancy between the environmental stances of older and younger individuals (who are also consumers, voters). For an effective and stable transition towards a sustainable economy, a general consensus is necessary. Forcing unpopular changes on the general public through poorly communicated restrictions could result in political backslashes and widespread repulse, eventually inducing both pro-environmental and anti-environmental populism and perhaps destabilising or even reversing the whole ECP-based progress towards sustainability.

Source:

Tahal, R., Formánek, T., ENVIRONMENTAL STANCES AND LIFESTYLE PREFERENCES IN CZECHIA: GENERATIONAL ASPECTS AND SOCIO-DEMOGRAPHIC IMPLICATIONS, CENTRAL EUROPEAN BUSINESS REVIEW, Volume 11 | Issue 5 | 2022. https://doi.org/10.18267/j.cebr.305

https://cebr.vse.cz/pdfs/cbr/2022/05/01.pdf

Are there different behaviours depending on whether we are in a rural/urban environment?

In the Czech Republic, environmental behaviors vary significantly between rural and urban areas due to differences in lifestyle, resources, and awareness.

Urban Areas:

- Higher Awareness and Participation more in pro-environmental behaviours, includes: recycling, using public transportation, and supporting green policies. The dense population and better access to information and environmental programs in cities contribute to this heightened awareness and engagement.
- Infrastructure and better services, for waste management, public transportation, and energy-efficient buildings. These facilities support more sustainable living practices, such as widespread recycling programs and the availability of eco-friendly public transit options.
- Sustainable Consumption, such as buying organic food, using energy- efficient appliances, and supporting businesses with green practices. The availability of sustainable products and services is higher in cities, encouraging environmentally friendly consumer choices.

Rural Areas:

- Traditional Practices and Limited Resources. Many rural residents rely on local and natural resources for their livelihoods, which can lead to both sustainable and unsustainable practices. For example, traditional farming methods might be environmentally friendly, but lack of access to modern waste management can lead to improper disposal practices.
- Lower Awareness and Participation in structured environmental programs in rural areas. This is partly due to less access to information and fewer educational campaigns about environmental issues
  compared to urban areas. Additionally, rural residents may prioritize immediate economic needs over long-term environmental sustainability.
- Community-focused and Individual Actions. Actions such as community clean-ups, local conservation projects, and traditional agricultural practices that preserve the local environment are common. However, individual pro-environmental behaviours such as recycling and energy conservation may be less prevalent due to limited infrastructure and resources.

These distinctions illustrate how the rural-urban divide influences environmental behaviours in the Czech Republic. Urban areas benefit from better infrastructure and greater access to information, which supports more consistent and widespread pro-environmental behaviours. In contrast, rural areas rely more on traditional practices and face challenges due to limited resources and infrastructure, affecting their environmental actions.

Sources:

- A study on sustainable consumption behaviours highlighted differences between urban and rural residents, noting higher sustainable consumption in urban areas due to better access to resources and higher environmental awareness (Emerald Insight).
- Research on Generation Z's environmental behaviours also indicated that urban youths are more engaged in pro-environmental activities compared to their rural counterparts, driven by better access to environmental education and resources (MDPI).

Between Urban and Rural: Sustainability of Small Towns in the Czech Republic, December 2016, European Countryside 8(4)

DOI:[10.1515/euco-2016-0025](https://doi.org/10.1515/euco-2016-0025)

3.1.3 Separate collection systems:

- *Is waste separated in households?*

Yes

- *Is there a separate waste collection system in cities, in small municipalities?*

Yes, the Czech Republic has a separate waste collection system both in cities and small municipalities. These systems are well-established and cater to various types of waste, including recyclable materials like paper, plastics, glass, metals, and bio-waste, as well as hazardous waste, electronics, and bulky items such as furniture.

Cities

In larger cities like Prague, separate waste collection is comprehensive and includes multiple streams:

- Recyclable Materials: Dedicated bins for paper, plastics, glass, and metals.
- Electronic Waste and Batteries: Collection points in electronics stores and recycling centers.
- Hazardous Waste: Special collection points for items like paints, solvents, and chemicals.

The management of these systems is often handled by municipal waste management companies, such as Pražské služby in Prague, which provide regular collection services and operate recycling centers.

Small Municipalities

Smaller municipalities also have separate collection systems, although the scope and frequency might vary based on resources and population size. These municipalities typically provide:

- Local Collection Yards (sběrný dvůr): Facilities where residents can drop off various types of waste, including recyclables, electronics, and bulky items.
- Periodic Collection Events: Scheduled collection days for hazardous waste and large items.

These systems are often supported by regional waste management plans and financed through municipal budgets and fees paid by residents. Despite the challenges of managing waste in less densely populated areas, small municipalities in the Czech Republic strive to maintain effective waste separation and collection services, contributing to the country's overall waste management efforts.

Overall, both urban and rural areas in the Czech Republic have developed effective waste separation systems, reflecting a growing commitment to sustainable waste management practices across the country (MDPI) .

Collection of Recoverable Components (Recycling)

Aside from the collection receptacles for mixed municipal waste, there are approximately 18 000 collection receptacles deployed around Prague for recoverable waste such as paper, glass (coloured and clear), plastic, drink cartons and metal packaging (hereinafter "recycling stations"). There are both above-ground and below-ground stations used in Prague and the size of the receptacles is 120 – 4000 l.

Regular collection is set up from the lowest frequency (once every 6 weeks – for glass and metal receptacles) up to 7 times a week (especially for paper or plastic receptacles).

For all serviced public recycling stations, there is a set frequency of clean-up, ranging from at least twice a week to a maximum frequency of 7 times a week, 5 times a day (e.g. in the central and tourist-frequented parts of Prague). Clean-up of recycling centres must be provided for within 3 m in all directions from the station site, of which 2 m in all directions must be swept. It is necessary to emphasise that the clean-up of recycling stations is provided for based on different schedules and by different vehicles than those that provide for regular collection of recycled waste. If it is discovered that the capacity of the placed recycling stations or frequency of collection is insufficient, it is necessary to contact the relevant environment department of the Municipal District Authority for Prague 1–57 and if the situation is confirmed on the part of the Authority, an increase in the frequency of collection will be provided for by the city.

Regular collection and clean-up of recycling stations is fully covered by the municipal budget and, in 2016 for example, the costs for ensuring collection and clean-up totalled CZK 365 million. Of that amount the costs for ensuring cleanliness around recycling stations totalled around CZK 50 million a year. Approximately 7 000 tonnes of waste is removed annually as part of clean-up around recycling stations.

Source: Nepořádek kolem popelnic_anglicky.pdf

- Are there waste collection points for batteries, furniture, electronic equipment, waste oil? Who manages these points?

Yes. Citizens can make use of the existing network of civic amenity sites to throw out waste – there are nearly two dozen of them within the City of Prague! Citizens are allowed to dispose of waste there for free, and a list of them can be found at www.portalzp.praha.eu. (known as the City of Prague Environment Portal).

If needed, it is possible to order waste pick-up from all operators to be taken directly to the civic amenity site. This is a paid service, but it comes with the guarantee that your waste will be disposed of in accordance with the valid legislation. All waste can be picked up with the exception of bulk waste

(rubble, soil, etc.), which can be dropped off at any City of Prague civic amenity site. The price is set for loading (depending on the amount of waste) and kilometres travelled (from the nearest civic amenity site to the pick-up site and back).

Bulk containers are also placed at various sites over the course of the year for citizens of Prague (every year there are around 5 500 of them with a minimum volume of 10 m^3) intended for bulky waste, and from the start of March until the end of November there are also bulk containers for organic waste (e.g. in 2016 a total of 1 486 such dumpsters were placed in the city streets and serviced, each with a minimum volume of 9 m^3).

The schedules for these containers can also be found on the website www.portalzp.praha.eu or the web pages of the respective Municipal Districts Prague 1-57.

Schedules and locations for bulk containers can also be found on the aforementioned environment portal or on the website of the respective Municipal Districts Prague 1-57.

Source: Nepořádek kolem popelnic_anglicky.pdf

- Is there more awareness and action in society in relation to waste management compared to 10 years ago?

Yes.

Over the past decade, there has been a notable increase in awareness and action regarding waste management in the Czech Republic. This shift is evident in several key developments and trends:

- Policy and Legislation: The Czech government has implemented various policies aimed at improving waste management practices. These include the introduction of the Waste Management Plan, which aligns with EU directives to reduce landfill dependency and increase recycling rates. Despite some setbacks, such as delays in legislation and infrastructure challenges, the policy framework has become more robust and supportive of sustainable waste management practices.
- Public Awareness and Engagement: Public awareness about waste management has significantly increased. Campaigns and

educational programs by governmental and non-governmental

organizations have raised the profile of recycling and waste reduction. These initiatives have led to greater public participation in sorting and recycling activities. Programs like the "Don't Be a Trash Hole" campaign have successfully engaged citizens, particularly younger generations, in more environmentally friendly waste practices.

- Infrastructure Improvements: There have been improvements in waste management infrastructure, although progress has been uneven. Efforts to increase recycling facilities and enhance waste collection systems have been partly successful. The Czech Republic has seen a rise in the number of waste separation points and recycling centers, making it easier for citizens to sort and recycle their waste.
- Statistical Improvements: Data indicates an improvement in waste management outcomes. The recycling rate has increased, and the reliance on landfilling has decreased, although landfilling still remains significant. According to the Supreme Audit Office, in 2020, 48% of municipal waste was landfilled, but there has been a push towards more recycling and energy recovery.
- European Union Influence: The EU's influence has been substantial in shaping waste management practices in the Czech Republic. Compliance with EU waste management directives has driven many of the legislative and operational changes in the country. The EU’s push towards a circular economy has also encouraged more sustainable waste practices.

In summary, while challenges remain, particularly with landfill dependency and the slow pace of legislative implementation, the Czech Republic has made significant strides in increasing waste management awareness and action compared to a decade ago. Public engagement, improved infrastructure, and supportive policies have all contributed to this positive trend (NKÚ) (MDPI).

- Are the effects of climate change influencing people's waste management and sorting habits?

The effects of climate change are indeed influencing waste management and sorting habits in the Czech Republic, though the impact is complex and multi-faceted.

One significant way climate change affects waste management is through the increased occurrence of extreme weather events such as floods and droughts. These events can disrupt waste collection services and damage infrastructure, making it more challenging to maintain consistent and effective waste management practices. For instance, the Czech Republic has experienced a notable shift in rainfall patterns, with more intense summer rains leading to faster runoff and reduced water retention in the soil, which impacts water resources and can indirectly affect waste management systems (Prague Monitor).

Moreover, there is a growing awareness among the Czech population about the environmental impact of waste, partly driven by broader climate change concerns. This awareness is leading to a gradual shift in public behavior towards better waste sorting and recycling practices. Initiatives and campaigns by environmental organizations and the government have been crucial in promoting these habits. The Ministry of Environment has been proactive in addressing waste management and climate change, promoting programs that encourage recycling and responsible waste disposal (UNFCCC) (euronews).

Additionally, the Czech government has been working on policies to improve waste management in the context of climate change. This includes efforts to reduce landfill usage and increase recycling rates. The government's climate action plans emphasize the importance of sustainable waste management as a part of the broader strategy to mitigate climate change impacts (UNEP - UN Environment Programme).

Overall, while climate change poses challenges to waste management in the Czech Republic, it also drives a greater commitment to sustainable practices among the public and policymakers. This evolving awareness and action are essential for adapting to and mitigating the effects of climate change on waste management systems.

https://balkaninsight.com/2024/01/30/czechs-shift-on-climate-crisis-but-remain-undecided-on-what-needs-to-be-done/

- *Are there different behaviours according to gender?*

In the Czech Republic, there are notable differences in waste management behaviors according to gender. Women are more likely to be involved in household waste management, a trend that aligns with broader global patterns where waste-related tasks often fall within the domestic responsibilities traditionally assigned to women. This can include sorting recyclables and managing household waste disposal routines.

This tendency is attributed to traditional gender roles that emphasize care taking and household responsibilities, which align with private environmental actions.

Men, on the other hand, are more likely to participate in public-sphere environmental behaviours, such as attending environmental protests or participating in community clean-up events. These activities are seen as more public and visible forms of engagement, which traditionally align with male roles in the public sphere.

Overall, women in the Czech Republic, like in many other countries, tend to be more active in day-to-day environmentally friendly practices, while men are more engaged in public environmental activism and community efforts (IDEAS/RePEc).

Several studies and reports highlight that women in the Czech Republic, as in many other countries, typically handle the day-to-day management of household waste, including recycling efforts. This division of labour means that women are more directly engaged with the practical aspects of waste management at the household level. For instance, a study focusing on sociodemographic factors in waste management in the Czech Republic found that gender, along with other factors such as education and household size, influences the generation and separation of recyclables (MDPI) (Site homepage).

Moreover, women tend to participate more in community-based recycling programs and environmental initiatives, driven by a higher level of environmental awareness and responsibility for household management.

This can contribute to more effective recycling practices and higher participation rates in recycling programs among households led or managed by women.

However, there are also gender disparities in the waste management sector's workforce. Men are more likely to be involved in the formal and physically demanding aspects of waste management, such as waste collection and transportation, whereas women are often found in roles related to waste sorting and processing. These roles are typically lower-paid and come with fewer protections, highlighting an economic and social divide within the sector (Site homepage).

These gender-specific behaviours and roles in waste management underscore the importance of considering gender in the design and implementation of waste management policies and programs. Addressing these disparities can help create more equitable and effective waste management systems in the Czech Republic.

For further details and comprehensive studies on this topic, you can refer to sources like the MDPI journal on sustainability and the OECD iLibrary reports on gender and sustainable development (MDPI) (Site homepage).

- Are there different behaviours depending on whether we are in a rural/ urban environment?

Environmental behaviours in the Czech Republic vary significantly between rural and urban areas due to differences in lifestyle, resources, and access to infrastructure. Urban areas tend to have higher participation in recycling and waste management due to better facilities, greater use of public transportation, and higher engagement in energy-saving initiatives. Rural areas, in contrast, rely more on traditional practices, have a higher dependence on private vehicles, and focus on community-based environmental actions. These behaviours are influenced by differences in environmental awareness, education, and infrastructure availability

Infrastructure and Services:

- Urban areas have more developed waste management infrastructure, with frequent collection services and accessible recycling facilities.

Rural areas often have less frequent waste collection services and fewer recycling facilities, making proper waste disposal more challenging.

Public Awareness and Participation:

Urban residents generally have higher levels of awareness and participation in recycling programs, driven by more extensive public education campaigns and easier access to recycling facilities.

In rural areas, there may be lower levels of awareness and fewer public education initiatives, leading to less participation in recycling programs.

Collection Programs:

Urban municipalities often offer comprehensive and specialized waste collection programs, including curbside pickup for recyclables and hazardous waste.

Rural municipalities may rely more on community-based or informal waste management solutions, which can result in less effective recycling and waste disposal practices.

Behavioural Differences:

Urban residents are more likely to follow formal recycling and waste disposal programs due to better access and higher awareness.

Rural residents might depend more on traditional methods or local community practices for waste management, which can sometimes lead to improper disposal of certain types of waste.

Sources such as:

- Studies on sociodemographic determinants of waste generation in Czech municipalities (MDPI).
- Articles discussing local waste management practices and their effectiveness in different regions (MDPI).
- Emerald Insight: Highlighted the differences in sustainable consumption behaviours between urban and rural areas globally, which also apply to the Czech Republic (Emerald Insight).

- MDPI: Discussed generational and regional variations in environmental behaviours, indicating higher urban engagement in pro-environmental activities (IDEAS/RePEc).

180 billion CZK for the Czech Republic

The Czech Republic stands to gain up to 180 billion CZK from the NextGenerationEU programme if it fulfils a series of criteria, including the allocation of at least 37 percent of the resources to ecologically friendly projects. The National Renewal Plan (CZ only) details where exactly the money goes.

https://climate.peopleinneed.net/solution

3.1.4 Environmental education

- *Are actions developed in schools, institutes, universities?*

In the Czech Republic, environmental education is actively integrated into various levels of the educational system:

Primary and Secondary Schools: Environmental education is embedded in the curriculum from an early age. This includes practical activities: recycling programs, eco-friendly school projects, and participation in environmental awareness days. For example, schools often organize field trips to natural reserves and encourage students to engage in community clean-up efforts (iSchoolConnect) (Wikipedia).

Vocational and Technical Institutes emphasize practical training in environmental technologies and sustainable practices. Students in fields like engineering, agriculture, and forestry receive specialized training that incorporates sustainable practices and environmental management. This practical approach ensures that students are well-prepared to implement eco-friendly solutions in their future careers (Czech Univ.).

Universities in the Czech Republic play a significant role in advancing environmental education. Universities such as Charles University and Masaryk University offer comprehensive programs in environmental science, ecology, and sustainable development. These programs are often interdisciplinary, combining: science, policy, and social sciences aspects to address complex environmental issues. Additionally, universities frequently

collaborate with international institutions and participate in global environmental research projects (iSchoolConnect) (Wikipedia).

- Is there information on the natural resources in protected areas, and are guided talks organised to get to know them?

In the Czech Republic, there is substantial information available on natural resources within protected areas, and various guided talks and educational activities are organized to help people learn more about these areas.

The Nature Conservation Agency of the Czech Republic (NCA) manages numerous protected areas, including 24 Protected Landscape Areas and approximately 800 other types of protected areas. The NCA actively promotes environmental awareness and education through visitor centers known as "Houses of Nature." These centers provide information, guided tours, and educational programs tailored to visitors, school groups, and local communities. They are a part of a public-private partnership where private entities operate the centers under NCA standards (AOPK ČR) (AOPK ČR).

Additionally, each national park in the Czech Republic, such as Krkonoše, Šumava, Podyjí, and Bohemian Switzerland, offers a range of activities aimed at educating visitors about their unique natural resources. These activities include guided tours, thematic nature trails, and various presentation events. These parks are equipped with visitor centers that serve as educational hubs, offering detailed information about the natural and cultural heritage of the regions (Czechia).

For those interested in visiting and learning more, the visitor centers and educational trails provide opportunities to explore the protected areas while gaining insights into their ecological significance and conservation efforts. This initiative helps foster a greater public commitment to environmental stewardship and sustainable tourism practices.

3.2 Social awareness campaigns

3.2.1 Main organisations that raise awareness in your country about nature protection.

Several key organizations in the Czech Republic are actively involved in raising awareness about nature protection:

- Nature Conservation Agency of the Czech Republic (AOPK ČR): This governmental body is a central authority for nature conservation and landscape protection across the entire country. AOPK ČR manages 24 Protected Landscape Areas and around 800 other protected areas. They focus on monitoring habitats and

endangered species, providing technical support for state administration, implementing conservation measures, and educating the public about environmental protection (AOPK ČR) (AOPK ČR).

- Ministry of the Environment of the Czech Republic: Established in 1990, this ministry oversees various aspects of environmental protection, including water resources, air quality, waste management, and nature conservation. It coordinates efforts across different governmental bodies and runs several departmental organizations dedicated to specific environmental issues (Wikipedia).
- WWF Czech Republic: Part of the global WWF network, this organization works on various projects related to conservation, climate change, and sustainable development. They run campaigns to educate the public about the impact of human activities on nature and promote sustainable practices (WWFCEE).

These organizations play crucial roles in protecting natural habitats, promoting sustainable practices, and educating the public about the importance of environmental conservation in the Czech Republic.

3.2.2 Main organisations in your country that raise awareness about waste and littering

In the Czech Republic, several organizations are actively raising awareness about waste management and littering. Some of the key organizations include:

- Czech Union for Nature Conservation (ČSOP): https://csop.cz/english/ This organization, in collaboration with Ekosmák, runs the "Let's Clean the World, Let's Clean Czechia" initiative. The campaign mobilizes tens of thousands of volunteers annually to clean up illegal dump sites and raise public awareness about proper waste disposal practices. The project encourages community involvement and promotes long-term changes in waste management behavior (National Policies Platform).
- Trash Hero Czech Republic: https://trashhero.org/category/trash-hero- czech-republic/

  Part of the global Trash Hero movement, the Czech chapter organizes regular cleanups and educational activities to reduce waste and litter. They focus on community engagement and fostering a culture of

sustainability through hands-on participation in cleanup efforts and waste reduction initiatives.

- KAM s ním: https://www.kamsnim.cz/
  This initiative provides a platform for citizens to learn about proper waste sorting and disposal. It includes educational campaigns and resources to help people understand how to reduce their waste footprint effectively. The platform also offers practical tips and guidelines on recycling and waste management.
- 72 Hours: Organized by the Czech Council of Children and Youth, this project involves thousands of young volunteers in various environmental activities, including waste cleanups. The aim is to engage youth in meaningful environmental actions and to foster a sense of responsibility towards nature and community spaces (National Policies Platform).

- Rekola and other local cycling initiatives: https://www.rekola.cz/en/
  While primarily focused on promoting cycling, these organizations also work to reduce waste by advocating for sustainable transportation options. They often collaborate on campaigns that highlight the environmental benefits of reduced car usage and the importance of waste reduction in urban areas.
- Hnutí DUHA (Friends of the Earth Czech Republic) https://hnutiduha.cz/

These organizations play a significant role in enhancing public awareness and involvement in waste management and litter prevention across the Czech Republic. Their activities not only help clean up the environment but also educate and engage the public in sustainable practices.

3.2.3 Name incidents that, from an environmental point of view, have had a social impact in your country that have generated mobilisations, campaigns, complaints and a greater commitment to care for the environment.

In the Czech Republic, several environmental incidents have sparked social mobilization, campaigns, and heightened environmental awareness:

1. Coal Mining Protests: The "Limits Are Us" (Limity jsme my) movement emerged in response to the government's plans to lift coal mining limits. This grassroots movement led to significant public

demonstrations and advocacy for sustainable energy policies (Routledge).

2. Flooding Events: Recurring floods have raised public awareness about climate change and the need for better environmental management. These events have prompted community actions and increased engagement in environmental protection measures (Routledge).
3. Local Environmental Campaigns: Persistent local campaigns, such as those against industrial pollution and deforestation, have played a crucial role in maintaining environmental consciousness and driving local and national policy changes (Routledge).

These incidents reflect a growing commitment among Czech citizens to protect their environment, influencing both public opinion and government policies.

3.2.4 Have greenwashing practices been reported in your country?

Greenwashing practices have indeed been reported in the Czech Republic, reflecting a broader trend seen across Europe. In the Czech context, awareness of greenwashing among consumers is relatively high, with about three-quarters of respondents in a study acknowledging their understanding of the concept. However, the threat of greenwashing persists due to potentially misleading communication practices by companies (International).

A notable instance of greenwashing in the Czech Republic involves the automotive industry. A study highlighted that several automotive companies have engaged in green marketing strategies that may mislead consumers about the environmental benefits of their products (International).

On a regulatory level, the European Union has been tightening its grip on greenwashing through new directives and regulations, such as the Greenwashing Directive. These regulations aim to ensure that companies make accurate and verifiable environmental claims. Member States, including the Czech Republic, are required to transpose these directives into national law within a stipulated timeframe, further strengthening consumer protection against misleading environmental claims (Inside EU Life Sciences) (International).

Overall, while there is significant consumer awareness and regulatory momentum against greenwashing in the Czech Republic, vigilance remains essential to combat deceptive environmental marketing practices effectively.

Every city has its own unique, local context, and what might be the norm in some countries may be novel for the Czech Republic. In our local environment, we still lack basic information on concrete steps that cities can take to tackle climate change, to redress this oversight we have compiled a list below.

Green cities

Cities account for more than 70 percent of the world's energy consumption and over 50 percent of greenhouse gas emissions. By 2050, approximately two thirds of the world's population will live in cities; with this level of urbanisation, cities must start to focus on new energy sources.

The good news is that this is already happening: more than 100 cities around the world are getting at least 70 percent of their energy from renewable sources. 40 percent of them use renewable energy exclusively, and tens more have laid out similar goals.

Materials used in construction are also changing. Instead of demolishing old buildings and constructing new ones, more and more architects are working with existing materials. City planning is also changing; with people walking and riding bikes more often to get around, streets are becoming more green.

- Information on a range of adaptation measures in cities:(CZ only) Un.org Cities pollution
- https://climate.peopleinneed.net/solution

The term "carbon footprint" refers to the amount of carbon dioxide emitted into the atmosphere as a consequence of the actions of an individual, company, production and transport of a product, or operation of a building. Reducing your own carbon footprint may seem insignificant, but every kilogram of greenhouse gas heats the planet a bit more, which will impact people, be they here in the Czech Republic, or on the other side of the planet.

Reducing consumption is usually connected to an increase in expenses in the form of time, money, effort, or comfort. First and foremost, we should demand that political leaders make sustainable choices easier and more accessible for us, for example by improving the public transport network or promoting better diets with less meat. For this reason, it is helpful to focus our energy on the most impactful changes. For instance, avoiding plastic straws, despite all the media attention devoted to this topic, is far less impactful than omitting some car rides.

Emphasising the negative effects of animal product consumption is also popular, but this doesn't mean we should all become vegetarians and vegans. Yes, we should lower our meat consumption and improve meat

quality. At the same time, an integrated production cycle on individual farms, where animals provide fertiliser for plants, which then serve to feed the animals, can be beneficial for the planet. However, this process does not work on industrial farms.

3.2.5 **Which of the problems observed regarding waste generation and consumption habits are you going to choose in the project activities?** Dafa Puppet theatre employs personal stories and objects as metaphors. As a result, garbage will be viewed as a transforming resource, with emphasis placed on its metaphorical possibilities.

Characters and props will be created using plastic and cardboard, which have the power to shift or transform in unexpected ways. The focus will be on the artists' visible transformations of these materials. By demonstrating the transformation process, it is hoped that the unpleasant will be transformed into an essential resource and a new perspective about waste will emerge.

3.2.6 What type of waste will you choose to denounce in the workshops?
Creative imagination, metaphorical thinking will be facilitated beside the craft of assembling, creating metaphorical objects for artistic manipulation from boxes, cardboard and products made of cardboard, paper tubes, PET bottles and plastic sheets.

3.2.7And in the performance?
We plan to reassess the role of plastic in artistic practice and to take advantage of the plastic's animative and transformational qualities. We strive to make deliberate use of the contrast between the dancers' bodies and the bodies created from plastic. As well as the expressive skills of the simultaneous use of these bodies, different abilities and forms of movement.

3.3- Waste management and the role of the different social agents

Type of waste	Main organisations managing waste	Private management: companies / NGOs (X)	Public management: Municipalities / Public companies (X)
Organic waste	Non-Governmental Organizations (NGOs): Organizations like "Bez obalu" promote zero-waste lifestyles and educate the public about waste reduction, including the proper management of organic waste (Samosebou.cz).	Biogas Plants and Composting Facilities: These facilities process organic waste into biogas or compost. The biogas plants convert organic material into energy, while composting facilities produce high-quality compost used in agriculture and gardening. These facilities are often privately operated but work in coordination with municipal waste collection services (Samosebou.cz).	1. Ministry of the Environment (MoE): This is the primary governmental body responsible for environmental policy, including waste management. It oversees the implementation of national waste management strategies and compliance with EU regulations (NKÚ). 2. State Environmental Fund (SEF): SEF is crucial in financing waste management projects, including those aimed at improving recycling infrastructure and promoting organic waste treatment (NKÚ). 3. Municipalities: Local governments play a significant role in waste management. They are responsible for organizing waste collection and ensuring that residents have access to appropriate recycling and composting facilities. Many municipalities provide brown bins for organic waste collection and manage local composting programs (Samosebou.cz).

Packaging	In the Czech Republic, the main organization responsible for managing packaging waste is EKO-KOM. This non-profit organization is the primary entity for managing the collection and recycling of packaging waste, including, plastic, glass. EKO- KOM operates a system for the separate collection and recycling of various types of packaging waste, working with municipalities and businesses to ensure effective recycling processes (DW) (Radio Prague International).	EKO-KOM is a non-profit organization that operates a packaging waste management system based on Extended Producer Responsibility (EPR). It finances the costs associated with the separate collection, sorting, and recycling of packaging waste from households. The organization collaborates with municipalities, providing over 241,000 containers for separate collection of paper, plastic, glass, beverage cartons, and metals (Expra EU) (Expra EU). Additionally, the Czech Republic is part of the Extended Producers Responsibility Alliance (EXPRA), which supports packaging waste management efforts and promotes sustainability across its member countries. EXPRA members work on behalf of obliged industries to ensure efficient and ecologically sound recycling and recovery of packaging waste (Expra EU) (Home).	

Plastics	The primary entity responsible for the collection and recycling of plastic waste is EKO-KOM.	EKO-KOM operates a comprehensive system for packaging waste management and recycling, overseeing the sorting and processing of waste from households and businesses across the country (DW) (Radio Prague International) . Another significant player is the Czech Ministry of the Environment, which sets regulations and policies for waste management, including plastics. The ministry works to align national policies with EU regulations and targets for recycling and waste reduction (Radio Prague International). Stabilplastik, manufactures products from recycled plastics, and other local recycling plants that process and repurpose plastic waste (Radio Prague International). Overall, while the Czech Republic has made strides in waste sorting and recycling, challenges remain, particularly in improving recycling rates and reducing landfill reliance. Continued efforts by these organizations are crucial for meeting future environmental targets and enhancing the country's recycling infrastructure (Expats.cz).	The Institut Cirkulární Ekonomiky (INCIEN), or the Institute of Circular Economy, is also heavily involved in promoting sustainable waste management practices. INCIEN advocates for circular economic principles and works on various projects to enhance recycling processes and infrastructure in the country (DW).

Glass	EKO-KOM These organizations collectively work to improve recycling rates, reduce landfill usage, and promote sustainable waste management practices across the country.	Recycling Companies: Various private companies in the Czech Republic specialize in processing and recycling glass. These companies work in collaboration with EKO-KOM and local municipalities to handle the glass collected from households and businesses, converting it into reusable materials (Samosebou.cz).	Local Municipalities: Municipal governments play a crucial role in waste management, including glass recycling. They provide and manage the green and white recycling bins used for collecting colored and clear glass, respectively. Municipalities often run local campaigns to educate residents on proper sorting practices (Radio Prague International) Ministry of the Environment: This governmental body sets regulations and policies for waste management, ensuring compliance with EU directives and national environmental goals. The ministry oversees the implementation of waste management plans that include strategies for recycling glass and other materials (Radio Prague International).
Paper			

Textile	Municipal Collection Points and Ministry of the Environment	Textile Recycling Companies: There are several private companies that focus on textile recycling. These companies collect, sort, and process used textiles to be repurposed or recycled. Some of the notable ones include: Potex: Specializes in the collection and recycling of used textiles. They provide collection bins throughout the country and partner with municipalities and other organizations to facilitate textile recycling. Koutecký: Engages in the collection and processing of textile waste, converting it into reusable materials. Charity Organizations: Various non-profit organizations collect used clothing and textiles for charitable purposes. They often have collection bins and collaborate with local authorities to ensure textiles are reused or recycled. Examples include: Diakonie Broumov: Collects and redistributes used clothing to those in need. Charita Česká republika (Caritas Czech Republic): Engages in collecting and redistributing used textiles to support charitable activities. Recycling Initiatives and NGOs: Various initiatives and non-governmental organizations work to promote awareness and sustainable practices in textile waste management. They often run educational campaigns and pilot projects to improve textile recycling rates.	Municipal Collection Points: Local municipalities provide collection points for textile waste as part of their broader waste management programs. These points often include specific bins for textiles, ensuring they are diverted from landfills and properly processed. Ministry of the Environment: This governmental body oversees the regulation and policies regarding waste management, including textiles. It promotes sustainable practices and compliance with EU directives on waste reduction and recycling.

Electronic equipment	These organizations and initiatives work collaboratively to manage electronic waste in the Czech Republic, promoting recycling, reducing environmental impact, and ensuring compliance with regulatory standards.	ASEKOL: ASEKOL is a leading non-profit organization focused on the collection and recycling of electronic waste. It operates a comprehensive system for collecting old electrical appliances and electronics, working with municipalities, retailers, and other partners to ensure proper disposal and recycling. ELEKTROWIN: Another significant organization, ELEKTROWIN, manages the take-back and recycling of electrical and electronic equipment. It collaborates with local governments, businesses, and collection points to facilitate the recycling process. Retail Take-Back Programs: Many electronics retailers in the Czech Republic offer take-back programs for old electronics. Consumers can return their used electronic devices to these stores, which then ensure the items are recycled properly. Recycling Companies: Various private companies specialize in processing and recycling e-waste. These companies disassemble and recycle electronic components, recovering valuable materials and safely disposing of hazardous substances.	Ministry of the Environment: This governmental body is responsible for setting and enforcing regulations related to e-waste management. It ensures compliance with European Union directives and promotes sustainable waste management practices. Municipal Collection Points: Local municipalities provide designated collection points for e-waste. These points are often located at recycling centers or in partnership with retailers, making it easier for residents to dispose of electronic items responsibly.

Waste oil	EKO-KOM: While primarily focused on packaging waste, EKO-KOM also supports the collection and recycling of various types of waste, including waste oils, by providing infrastructure and working with municipalities and businesses.	Recycling Companies: Several private companies in the Czech Republic specialize in processing and recycling waste oils. These companies collect used oil from various sources, including households, automotive service centers, and industries, to process it for recycling or safe disposal. NGOs and Environmental Organizations: Non-governmental organizations play a role in raising awareness about the proper disposal and recycling of waste oils. They often run campaigns and provide information to help individuals and businesses manage their waste oils responsibly. Retail Take-Back Programs: Some retailers and service centers offer take-back programs for waste oils, particularly those related to automotive maintenance. These programs allow consumers to return used oil for proper	Ministry of the Environment: This governmental body regulates waste management practices, including those related to hazardous waste such as waste oils. The Ministry sets policies and ensures compliance with EU regulations to promote environmentally sound disposal and recycling of waste oils. Municipal Collection Points: Local municipalities often have designated collection points for hazardous waste, including waste oils. These points are typically located at recycling centers or specialized collection facilities.
Other…			

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4. Spain

4.1 Culture around waste collection and separation.

4.1.1 Environmental awareness with regard to nature care

Note: For the preparation of this section we have been guided by the questions below and we have conducted four interviews with people who are either professionally involved in the waste sector or who participate in environmental advocacy groups.

- do you see litter, rubbish, plastic waste in natural areas? countryside, mountains, riverbanks, beaches?
- And in urban spaces?
- Is there greater awareness and action in society to protect the environment than 10 years ago?
- Are the effects of climate change influencing people's habits towards caring for the environment? Please comment.
- Are there different behaviours according to gender?
- Are there different behaviours depending on whether we are in a rural/urban environment?

Despite the fact that we have been running environmental awareness campaigns for more than 40 years, waste, especially packaging and plastic waste, can still be seen in natural areas, in the countryside, mountains, riverbanks and beaches. Also in urban areas, although it is possibly an area in which public awareness and the availability of waste separation containers in the streets has made more progress in reducing its presence.

We can affirm that there is greater awareness and action in society to protect the environment than 10 years ago, but there is still a long way to go. *For some time now, it has been perceived as an important issue and citizens have been incorporating it into their daily lives, and now we see that it is an issue that is also on social networks and that there are people who have become influencers precisely because of environmental awareness. There is the same awareness and it is very present. The scale of citizen commitment and awareness is different because as a society we have changed, now it is visualised and fought in a different way to how it was ten years ago. The difference is more in the way we look at it, the way we take responsibility. Ten years ago, companies did not incorporate it into their CSR practices, but now it is rare for a company not to do so or not to transmit the responsibility of sustainability to you.*

People are more aware. One example is the use of sanitary towels. Before, people used to use them and flush them down the toilet. Now they throw

them in the bin. The use of metal or glass bottles for drinking water, not just plastic bottles.

For example, in the care of water. Awareness of its proper use is closely linked to the place of origin, and thus, in those areas where water shortages have been more prevalent and where water supply has been restricted for some time, for example, Castilla La Mancha, there is greater awareness of its use and care is taken with regard to its consumption than in other regions.

We note that there is concern about climate change, especially in a sector of the population that is sensitive to these practices, normally related to the environmental movement, feminists, groups in search of social justice, who are those who adapt their consumption habits to reduce emissions, use single-use packaging, responsible use of heating or air conditioning, reuse of clothes or objects, in short, practices related to de-growth.

This is the line taken by the people we have interviewed

C: *Yes, they are having an influence. From the farmer who has to adapt to the new climate, many of the industries have had to establish measures, for example, the air-conditioning of spaces is no longer free but is regulated between certain degrees. Solar panels are being installed because there is more and more sun. There is a public reaction, but to what extent is it sufficient? We are not yet measuring the consequences. A layer is spreading among citizens, political leaders and journalists who do not believe the scientists' data and who deny climate change. This is confusing ordinary citizens and is causing them to be more lukewarm or restrained in their reactions to what is happening.*

This concern is also noted by another interviewee, "*the voices denying climate change by far-right reactionary movements are very present".*

Nobody teaches you what is sustainable and what is not, and sometimes you don't have a choice. If your village is not getting water you have to buy plastic jerry cans in order to drink.

The effects of climate change can be seen for example in something as simple as not changing the clothes in your wardrobe any more, you have mixed winter and summer clothes because today it is very hot and maybe tomorrow you have to put on your coat. These are reactive changes, not proactive ones. I think we sense it when we listen to the weatherman but we don't yet have that much of a sense of reality but that will change with the facts, the weather is changing all the time.

Q: More *and more shops are opting for bulk products, where you can carry your containers so you don't consume plastic, the use of solid shampoos. Bulk shops are switching from plastic to paper. Yes, we are more aware. Recent very hot summers, very dry winters, torrential rainfall*

C: I am not so sure that habits have changed because it is difficult to get out of comfort or routine and although there are young people who are very aware of this, it is not as much as it seems because the figures are alarming.

Observations on behavioural differences with respect to gender, age, social class, urban/rural setting

There are differences in separate collection systems between rural and urban environments, mainly due to the demographic, geographic and infrastructure characteristics of each environment.

Population density: In urban environments, population density tends to be much higher than in rural environments. This can influence the way in which separate collection systems are designed and operated. In urban areas, where there is a higher concentration of people and households, it is more practical to implement door-to-door separate collection systems or recycling bins in strategic locations, such as streets and squares. In rural areas, where households are more dispersed, these systems may be less efficient and costly to implement.

Infrastructure: Urban areas tend to have a more developed infrastructure in terms of public services, including waste management. This may include greater availability of recycling containers, waste treatment facilities and separate collection programmes. In rural areas, infrastructure may be more limited, which can make it difficult to implement efficient separate collection systems.

3. Types of waste: The types of waste generated in rural and urban areas may vary. For example, in urban areas it is common for more packaging waste to be generated due to the higher consumption of packaged products and the presence of shops and services. In rural areas, organic, agricultural and livestock waste may be more prominent. Therefore, separate collection systems can be adapted to manage the specific types of waste generated in each environment.

With separate collection, households tend to recycle more, although a major effort needs to be made by public institutions and manufacturers to raise awareness among citizens to recycle and reduce, to use much less.

With regard to gender, the relationship between gender and waste collection habits is related to the responsibilities traditionally assigned to men and women.

The three people interviewed agreed that women have a greater awareness among women about caring for the environment and that this extends to waste separation at home. *We are the carers and responsible for the upbringing, for the household.*

With regard to age, we have heard interesting reflections "*older people who, because of their life journey, have lived through circumstances of lack, looking at savings, everything has a use, objects are repaired. It is the older people who have experienced the changes in the climate, they are the generation of the proverbs that cannot be applied now".*
Ca. *The involvement of young people comes from the green movements and against climate change, but then in their habits of use they buy a lot online and not at all from kilometre zero, also because kilometre zero is generally more expensive and there is a class bias and there is a bias in access to information and access to knowledge.*

There is also an important phenomenon among young influencers who want to show that they care, that it is in their power to make a difference.
The people of 40 are the first generation of citizens to have received environmental education, the yellow bins arrived.

C. *Young people are interested and concerned, they are concerned about caring for the environment. The question is whether they have a voice to make their protests heard, they have social networks and they are powerful tools, but at the same time it is a society of misinformation and they have to move there. The change is in young people.*
P. *The Greta Thunberg phenomenon raised awareness, but do young people recycle more? We don't really know when we see on university campuses how they are full of plastic, or after a drinking binge.*

Reflections were also made on social class, economic status in consumption and recycling habits.

It is not the same as the facilities we have in a 25 square metre home with a small kitchen where having 4 bins for selective waste collection is quite complicated as having a 25 square metre kitchen. There may be differences in recycling due to lack of space in the home.

It is also a question of countries, and in countries like the USA, you can see how in places with a lot of purchasing power, working appliances are thrown away and destroyed. People who own a private plane pollute more.
It is not very clear to me that the social class measures at the same time have the economic means that allow to consolidate the more long term consumption and not the low cost.

The facilities provided by the administration are important. In the city there is selective waste collection, but in rural areas this is not always the case or there are only two selective collection points for the whole village. Access, especially for the elderly, is very limited because the municipalities do not have the same conditions, they do not make it available.

4.1.2 Waste collection and sorting

The Ministry of Ecological Transition and Demographic Challenge publishes the statistical information provided by the Autonomous Communities. This information is always very late in arriving. It is worth highlighting the time lapse required for the publication of the information, 3 years. This is an issue that environmental NGOs are calling for: greater agility and transparency in the provision of information. The latest data published show this general information on the amount of waste collected:

CANTIDAD DE RESIDUOS DE COMPETENCIA MUNICIPAL RECOGIDOS EN ESPAÑA. 2021

Fuente	Código LER - RESIDUO		Generación	Reciclado	Compostaje	Vertido	Incineración
MITECO	20 03 01	Mezclas de residuos municipales	16.854.362	956.214	3.860.735	9.801.637	2.235.777
	20 01 01	Papel y cartón	1.504.538	1.491.158	0	0	0
	20 01 02	Vidrio	16.134	16.134	0	0	0
	20 01 08	Residuos biodegradables de cocinas y restaurantes	989.283	0	766.353	173.266	49.664
	20 02 01	Residuos biodegradables de parques y jardines	444.667	0	335.051	99.246	10.370
	15 01 06	Envases mezclados	889.116	553.127	0	264.839	71.150
	15 01 07	Envases de vidrio	863.045	849.341	0	0	0
INE	20 01 40	Residuos metálicos	26.812	26.798	0	14	0
	20 01 39	Residuos de plástico	20.871	14.053	0	4.855	1.962
	20 01 38	Residuos de madera	168.901	140.617	0	1.319	26.965
	20 01 10 20 01 11	Residuos textiles	52.496	40.105	0	11.510	881
	20 01 21 20 01 23 20 01 35 20 01 36	Equipos desechados	84.052	77.651	0	6.401	0
	20 01 33 20 01 34	Residuos de pilas y acumuladores	2.328	2.328	0	0	0
	20 03 02 20 03 07	Residuos de mercados Residuos voluminosos	234.512	209.194	0	18.763	6.556
	20 02 02	Tierras y piedras de parques y jardines	0	0	0	0	0
TOTAL			**22.151.117**	**4.376.719**	**4.962.140**	**10.381.849**	**2.403.326**
%				**19,8**	**22,4**	**46,9**	**10,8**

The implementation of separate waste collection systems, such as different coloured bins to separate plastics, paper, glass and organic waste, has contributed to increasing awareness and participation in recycling among the population. These systems make it easier for people to separate their waste and contribute to the recycling process. These practices have reached the urban environment earlier than in rural areas.

RESIDUOS DE COMPETENCIA MUNICIPAL TRATADOS SEGÚN TIPO DE INSTALACIÓN. 2021		
Instalaciones de tratamiento de residuos	**Nº de instalaciones**	**Entrada (t/año)**
Instalaciones de clasificación de envases	94	889.372
Instalaciones de triaje	9	1.401.559
Instalaciones de compostaje de fracción orgánica recogida separadamente	69	642.996
Instalaciones de triaje, biometanización y compostaje de fracción orgánica recogida	7	250.878
Instalaciones de triaje y compostaje	69	9.539.580
Instalaciones de triaje, biometanización y compostaje	23	3.155.122
Instalaciones de incineración*	11	2.366.961
Vertederos**	111	11.723.671

Fuente: Información proporcionada por las CCAA.

In the current situation, we are generating 467 kg of waste per inhabitant per year in Spain. Selective collection remains at low levels: 76% of the waste collected is classified as residual waste, i.e. it is not suitable for recycling, i.e. 355 kg per inhabitant per year is still managed by landfill and incineration. We are at the lowest level of reuse, with only 1 in 7 containers being reusable.

These are data from Rezero's speech at the Conference held on 7/5/2024 generated from statistics from MITECO and INE.

According to the report EVOLUTION OF THE CIRCULAR ECONOMY IN THE 21st CENTURY by the BBVA Foundation and IVIE, Spain has gone from generating a greater amount of urban waste per capita than the European average (653 kg per inhabitant) in 2000 to reducing this figure by 32.5% and being more than 10% below the European average in 2021 (472 kg per inhabitant). However, these good results are not repeated for other types of waste, such as electronic waste, which more than doubled between 2009 and 2018, or packaging, which has grown by 12% since the beginning of the century. The increase in the amount of this waste is a phenomenon shared by the rest of the EU countries, which can be explained by digitalisation and the spread of online commerce.

Just as important as knowing the volume of waste generated is knowing how it is treated. One of the pillars of the circular economy is precisely the need to reuse waste and incorporate it back into production processes. However, Spain is no longer well positioned in the indicators on waste treatment, as it is at the bottom of the list in terms of urban waste recycling rate, with only 36.7% recovery, more than 10 points below the EU-27 average. Something similar happens if we compare the recycling rate of all waste (48% in Spain compared to 58% in the EU-27). Even so, it should be noted that since the beginning of

the century Spanish recycling rates have increased considerably, especially in the case of urban waste (99%) and certain wastes such as packaging (76%), electronic waste (8% since 2010), etc.

Weakness in terms of recycling means that our circular material use rate, which measures the ratio of circular material use to overall material use, is also below the EU-27 average in 2022 (7.1% vs. 11.5%) and has even worsened over time, dropping 3.3 percentage points from 10.4% in 2010 to 7.1% in 2022.

Return of packaging

Julio Barea, waste expert at Greenpeace, points out another pending issue: "The yellow container has been at its maximum capacity to recover packaging for decades, while the sector does nothing but boycott any measure to modify this system". So what can be done? "The first thing to do is to eliminate all disposable containers. And then we have to go for a packaging return system in which when you buy a product you leave a small deposit (from 8 to 50 cents) which is recovered when you return the packaging.

This system already works in countries such as Germany, Denmark or Portugal and helps to improve rates. "In Germany, there are PET plastic bottles that can be reused 40 or 50 times. They are prepared for this and when they are returned they are washed and reused," he says. Consumers keep the bottles and take them to machines in supermarkets, which give them a receipt showing how much money they can deduct from their next purchase. "In contrast, 51 million beverage containers are sold every day in Spain, of which only 20 million are recovered for recycling.

A research carried out by the consultancy firm Eunomia has recently been presented with the "Analysis of compliance with the separate collection targets for plastic beverage bottles up to three litres in Spain. May 2024".

The findings of this report are worrying. Firstly, they reveal significant limitations in the current data on packaging and packaging waste in Spain and in the control and monitoring processes, especially in terms of transparency. As a result, it is difficult to have certainty in the reported statistics.

Secondly, the calculation methods used to determine the reported separate collection rate are not consistent with good practice in the EU, with several important factors not covered by the methods used. These factors make a substantial difference to the assessment of whether Spain is on track to meet its national and EU separate collection obligations.

Thirdly, they show that the preliminary data presented so far largely overestimate the Spanish performance. This risks creating a false impression

that separate collection is on track in Spain, when in reality it appears that Spain is likely to need urgent policy interventions to meet its legal obligations.

The best available estimate for separate collection of SUPD bottles in Spain in this report is 36% by 2021, well below the target of 70% by 2023 in Spanish legislation and 77% by 2025 in Spanish and EU legislation.

Social perception and culture regarding waste collection and waste management can vary significantly between different segments of the population and regions of Spain. In general, it can be said that there is a growing environmental awareness in Spanish society regarding waste management and the importance of recycling, although much remains to be done.

This scenario coincides with the scenario of the well-known MITERD report by TRAGSATEC, which already stated in 2022, that with the current system it is not possible to meet the separate collection targets for SUPD bottles. This conclusion led the Spanish legislation to establish an intermediate target in 2023, so that, if not met, a DRS would be implemented within two years to ensure that the 77% target for separate collection of SUPD bottles would be met by 2025.

Textile waste collection in Spain-Europe

In recent years, the fashion textile industry has become one of the industrial sectors with the highest global environmental impact, mainly due to its high carbon and water footprint.

In the last 15 years, global clothing sales have doubled, yet on the day we shed these clothes, they have been worn 36% fewer times than at the start of this period. As a result, fashion brands are producing almost twice as much clothing today as they did before 2000, the baseline year for the start of the fast-fashion phenomenon, with an overall increase in demand for clothing production of 2% per year. The increase in consumption and the efficiency of the clothing production system have in turn contributed to the fall in the price of clothing. Low prices amplify the phenomenon of buying more and wearing less frequently, favouring the fast-fashion model.

In Spain, it is estimated that around 990,000 tonnes of textiles go to landfill each year. Textile recycling rates remain low: only 10-12% of post-consumer textile waste is collected separately for reuse and/or recycling, and less than 1%

of the total production is recycled in a closed loop (with the same or similar use).

The overall data on the selective collection of textile waste documented amounts to 108,296 tonnes throughout the territory, which represents 12.16% of the total estimated generation (890,244 tonnes). There is some divergence between the values of annual textile waste generation in Spain. However, considering studies from sources such as INTEXTER UPC and the Foundation for the Circular Economy, the value of 19 kg/inhabitant/year is considered to be the most in line with the current reality.

The most prominent textile waste collection system is the on-street container system, with 19,548 units having been identified. The quantity collected via this system is around 101,700 t, i.e. practically the entire quantity collected that could be documented. The operator with the greatest relevance in the collection of textile waste at national level is Caritas/ moda re-, which collects 41% of the total, followed by Humana and Aeress with 16% each.

In recent years, the major fashion industries have begun a process of awareness-raising in their sector regarding the environmental impact of textile manufacturing and the need for responsible management of the textile waste generated.

Some groups such as Inditex, El Corte Inglés, Mango and H&M have signed collaboration agreements with entities for the collection of used clothing. Likewise, they have promoted initiatives for the recycling of clothing to obtain recycled fibres for their new collections. Also noteworthy for its size and uniqueness is Inditex's support for university research both in Spanish and European universities and through a collaboration agreement with the Massachusetts Institute of Technology (MIT).

Compared to other European countries, our number of second-hand clothing shops is much lower, for example, the British Heart Foundation (BHF) had 560 second-hand clothing shops for charitable purposes distributed throughout the UK in 2017, and Oxfam had more than 600, compared to the 238 identified in Spain of the 5 largest textile waste collection operators. It would therefore be desirable for the number of shops to grow in order to encourage the reuse of textile products, which is one of the challenges facing the sector in order to meet the targets set out in European legislation.

Environmental awareness of citizens

C. There is a greater awareness of waste separation, we find it in the street. Ecoembes and the yellow bin, the city councils that already recycle in the bins,

specialised lorries in the different bins have worked before. This discourse is already in society. Civil society adapts if it is given the guarantees and possibilities, if the containers are close by. It is important to respond to the more practical side and speed. We live in a society in which everything flies, either you make it easy for me or I don't do it, and the role of public institutions is fundamental. We live in a society with an excess of possibilities and sometimes the packaging is present or absent among all these possibilities. The system is prepared to consume, stimuli that lead to buying.

There is a need for many, there is a need for big companies and big manufacturers to change the way they do things, for the polluter pays principle not to have to be paid. Ecoembes is not reducing plastic waste, plastic is not being recycled as much, and there is waste bricks that cannot be worked. Greenpeace unmasks this wonderful data that Ecoembes sometimes puts out.

4.1.2 Environmental education

Schools, non-governmental organisations and other actors have been working on environmental education programmes to promote awareness of waste management from an early age. These programmes can help to instil sustainable habits and a responsible attitude towards waste management in the younger generation.

The role of local councils in educating citizens and making resources available for the correct recycling of packaging and waste is fundamental, especially in educational centres, so that these practices are adopted and internalised from an early age.

Ch. A special sensitivity is being noted at the university level, not only with regard to awareness raising but also in the generation of innovative projects to reduce the presence of waste.

S. *In some schools it is done, but it is not done in a generalised way and often when it is approached it is done from the subject of Biology and if an Environmental Education project is done, it often comes from the Biology department and sometimes from the coexistence teams who do projects to raise awareness of the environment, rubbish... It is not done in a generalised and transversal way in the schools.*

4.2Social awareness campaigns. Greenwashing

Awareness campaigns: At both national and local level, awareness campaigns have been conducted to encourage more sustainable waste management practices and promote recycling. These campaigns generally emphasise the importance of recycling, proper waste separation and reducing the use of single-use products. However, return or reuse is not highlighted as a way to significantly reduce packaging production.

Awareness campaigns also have their limits, as one of our interviewees pointed out: "*It doesn't work when citizens realise that the efforts they are making to separate their waste are useless because the rubbish collection truck mixes the waste, or when there is news that Ecoembes gives incorrect data on the volume of recycling..." The political side doesn't help when it denies climate change, they use fake news, which has a big impact on this issue. You don't know anymore what is true or not. It is essential that city councils, schools, at work, wherever awareness campaigns are set up on a daily basis, invite you to do the right things".*

Awareness campaigns always help, what doesn't help are those who dissociate themselves from it and deny climate change, that destroys and damages. I thanked my local council for the door-to-door campaign to separate waste.

4.2.1 Main organisations raising awareness of nature protection in your country

Non-governmental organisations play an important role in promoting sustainable waste management practices and in raising public awareness of the importance of reducing, reusing and recycling. NGOs can carry out awareness campaigns, environmental education programmes and volunteer projects to encourage greater public participation in waste management. They can also advocate for stronger waste management policies and regulations at local, regional and national levels.

- Greenpeace Spain: Greenpeace is a particularly active international organisation known for its environmental involvement and awareness-raising campaigns. It also publishes reports and campaigns on a wide range of environmental issues, including waste management. Its project La Lupa Verde is the environmental and social observatory of the Recovery, Transformation and Resilience Plan: Spain Can. Promoted

by Greenpeace, it aims to provide, in addition to data and analysis on environmental and social impact, assessments and information on transparency and compliance. La Lupa Verde offers open data, contrasted and referenced information, analysis from economic and political independence and easy access and understanding for the whole of society.

- SEO/BirdLife: This organisation focuses primarily on the conservation of birds and their habitats, but also addresses broader conservation and environmental issues.
- WWF Spain: WWF is another international organisation with an active presence in Spain. They publish reports and campaigns on a wide range of environmental issues, including waste management and nature conservation.
- Friends of the Earth Spain: This organisation is dedicated to promoting environmental justice and sustainability. They publish reports and campaigns on issues such as waste management, pollution and climate change.
- Ecologistas en Acción: characterised by its broad social base and territorial implantation.

4.2.2 Main organisations raising awareness of waste and litter in your country

1. Return to https://www.retorna.org/es/

It is a platform formed to date, May 2024, by 128 organisations that have signed the Manifesto La Ley de Residuos debe cumplirse, YA in which they point out: "The Royal Decree on Packaging of December 2022 confirmed the targets of
prevention, set the roadmap for the arrival of the Deposit and Return System and set specific targets for the reuse of packaging both in hotels, restaurants and cafés (30% for water, 80% for beer, 60% for soft drinks and 20% for other beverages by 2025), and for the domestic channel (10% of the volume placed on the market by 2030).
If the Law is complied with, after years of delay due to pressure from certain sectors, we will soon be able to see the implementation of a Deposit System such as the one already operating in many European countries and which is expected to be implemented in 15 more states in the next two years. With this practice, more than 90% of these containers can be reused or converted into new cans, bottles or beverage cartons.
Despite the evidence presented by social and environmental organisations, experts and public administrations themselves on the lack

of efficiency and transparency in the current management of packaging waste, for the moment, neither the Autonomous Regions nor the state government are taking the necessary steps to deploy the measures included in the Law and the Royal Decree on Packaging, which would enable us to use reusable packaging and return cans, bottles and bricks to the shop by 2026.
The new government cannot leave this law forgotten in a drawer. It must comply: promote reuse, encourage the implementation of a Deposit, Return and Refund System and not allow its arrival to be blocked. This is the only way to ensure that producers, supermarkets and the managers of packaging collection containers take 100% responsibility for all their beverage cans, bottles and cartons, ensuring that they are reused or recycled in their entirety and no longer buried, burned or lost by the millions every day, as they are now. In addition, these measures will allow European regulations to be enforced and avoid penalties for non- compliance that end up impacting on the taxes paid by citizens".

This Platform is carrying out important advocacy work in order to achieve the objectives set by civil society and citizens in the legislative sphere and one of these tasks has been the presentation of the Eunomia Report on the rate of separate collection of plastic beverage bottles of less than 3 litres in Spain.

2- Rezero, a foundation that promotes specific actions and policies for waste prevention and responsible consumption, working in a network with social and economic agents. It is made up of environmental organisations, town councils, universities, companies and consumers in order to move forward in a cross-cutting way to change the production and consumption model. Its basic principles are to reduce the amount of waste, that everything placed on the market should be reusable or repairable, recyclable or compostable and that selective collection should be excellent.

3- Zero Waste Europe connects and supports a vibrant network of 36 local and national NGOs across Europe that share common values and objectives and work together towards a zero waste future. The member organisations promote zero waste in line with the EU waste hierarchy, manage the network of zero waste municipalities and work hand in hand with decision-makers and businesses. The ZWE network is a space for growth, inspiration and innovation, where members work together around a united and strong voice to amplify positive change in Europe.

4- The Zero Waste Alliance is made up of the organisations Friends of the Earth, CECU,
Ecologistas en Acción, Greenpeace, Per la Mar Viva, Retorna, Rezero and Surfrider and it is the

Spanish representative of Zero Waste Europe. It is part of Zero Waste Europe, a platform formed by 36 organisations from 24 European countries, which work together to promote the implementation of a Zero Waste model in Europe. It arose in 2018 from the union of different Spanish environmental organisations whose common objective is waste prevention. Together with municipalities and cities, it seeks a change in the waste generation model, the Zero Waste model, which promotes environmental policies in favour of solving current environmental problems. It pursues the promotion of a circular economy that moves towards minimum waste generation and maximum rates of preparation for reuse and recycling.

5- Consumer organisations have also been an important voice in this regard with issues such as planned obsolescence.

6- Citizens: Citizens play a key role in waste management through their consumption and waste disposal habits. Proper separation of waste at source, reducing the use of single-use products and participating in recycling programmes are some of the ways in which citizens can contribute to more sustainable waste management. In addition, citizens can put pressure on public institutions and businesses to adopt more responsible waste management practices.
Citizen movements at a local level have great importance and visibility, which are articulated through platforms such as change.org with petitions that, for example, defend the trees in a municipality and ask for signatures to prevent the felling of trees in a locality because they are going to build houses. There are many causes that you can inform yourself about through these platforms.

7- Businesses: Businesses have a key role to play in waste management, both in terms of minimising the amount of waste they generate and in ensuring responsible management of the waste they produce. This can involve implementing more sustainable production practices, designing products with lower environmental impacts, and participating in recycling and reuse programmes. Companies can also collaborate with local authorities on waste management, for example through the financing of waste treatment facilities or participation in extended producer responsibility programmes.

Platforms representing waste managers:

- State platform of social entities dedicated to reuse, repair and recycling https://aeress.org/

- Repacar- Asociación Española de Recicladores Recuperadores de Papel y Cartón, Repacar, founded in 1968, is the only national organisation that represents and defends the interests of companies in the paper and cardboard waste recovery and recycling industry. It has 115 member companies.

4.2.3 Incidents that from an environmental point of view have had a social repercussion in the country that generated mobilisations, campaigns, complaints and a greater commitment to care for the environment.

In the last 30 years, Spain has been the scene of several environmental incidents that have generated significant social repercussions, provoking mobilisations, campaigns, complaints and a greater commitment to care for the environment.
One of the most emblematic cases was the Aznalcóllar disaster in 1998, when a mining pond belonging to the Boliden-Apirsa company ruptured, releasing millions of cubic metres of toxic sludge into the Guadiamar river, affecting the Doñana National Park. This incident provoked a massive social mobilisation and numerous denunciations by environmental organisations, as well as an increase in awareness of the need to protect natural spaces and greater regulation of mining activities.

Another significant event was the oil spill from the Prestige in 2002, which sank off the coast of Galicia. This disaster caused an ecological catastrophe, polluting thousands of kilometres of coastline and severely affecting fishing and tourism. The social response was immediate, with thousands of volunteers joining the clean-up efforts and strong pressure on the authorities to improve maritime legislation and preventive measures against future spills.

In 2021, the rare earth mining project in the province of Ciudad Real generated intense social opposition and campaigns by environmental groups and local citizens. Concerns about potential environmental and public health impacts led to the cancellation of the project, demonstrating once again the capacity of social mobilisation to influence environmental decisions.

The latest high-profile event is from December 2023, when a ship lost its cargo of 1,050 bags of plastic pellets near Viana do Castelo, Portugal, causing a spill that severely affected the coasts of Galicia, Asturias and Cantabria. These microplastics, mistaken for food by marine fauna, generated an environmental and health crisis. The public response was immediate, with mobilisations and clean-up days on the affected beaches.

The incident underlined the need for greater cooperation between administrations and the implementation of more effective preventive measures.

4.2.4 Have greenwashing practices been reported in your country?

Yes, greenwashing practices have been reported in Spain. Greenwashing refers to the practice of companies or organisations promoting themselves as environmentally friendly or committed to sustainability, when in fact they are carrying out actions that are not as environmentally friendly as they pretend to believe.

In Spain, there have been cases of greenwashing in various sectors, such as fashion, the food industry, tourism and energy.

Environmental and consumer organisations, as well as the media, play an important role in identifying and exposing greenwashing practices. Through research, monitoring and public pressure, they seek to increase the transparency and accountability of companies in relation to their environmental claims and to promote more sustainable practices in all sectors.

In this regard we refer to the complaint that Ecoembres has been denouncing for years. Ecoembes is a non-profit organisation in Spain that is responsible for the management of plastic packaging, cans and briks through the selective collection and recycling system. Its main objective is to promote the circular economy and encourage the recycling of packaging to reduce its environmental impact.

While Ecoembes plays an important role in waste management and the promotion of recycling in Spain, it has been the subject of criticism and controversy regarding its practices and transparency. These have been denounced for years in Spain and have also been reported in the Chanching Markets Foundation report, "Talking trush. The corporate playbook of false solutions to the plastic crisis". Some of the criticisms that have been directed at Ecoembes include:

- Lack of transparency: The transparency of Ecoembes in the management of the funds it receives from producers and in the effectiveness of its recycling programmes has been questioned.
- Concentration of power: Ecoembes is an organisation that is dominated by the packaging producers themselves, which has led to concerns about a possible conflict of interest and lack of independence in its actions and decisions.
- Recycling effectiveness: Some critics have pointed out that the separate collection and recycling system managed by Ecoembes is not as effective as promoted, and that a significant proportion of the packaging collected is not adequately recycled.
- Excessive promotion: Ecoembes has been accused of excessive and costly marketing campaigns that may be perceived as greenwashing, as they could exaggerate the organisation's achievements in terms of recycling and sustainability.

Other cases also detected by the people we interviewed:

Repsol, an energy company, is very interested in communicating the bio-based fuel it generates, but at the same time and without publicity, it puts downward pressure on the purchase price of used oil so that the companies that collect it are not sustainable, while it uses palm oil from new crops for the production of biodiesel.

Electricity companies: The use of renewable energies is made visible, but what happens when the useful life of the windmills comes to an end, where does the waste go?

Clothing shops that take back the garment you have bought so that you can buy it again, they realise that there is a market that is working, that of Wallapoop or Binter, and they don't want to be left out.

4.2.5 Which of the observed issues of waste generation and consumption habits are you going to choose in the project activities?

We believe that the work being done by Retorna and the Waste Now Law Platform to implement the Deposit and Return system is particularly relevant because of the benefits this system has on the reduction of single-use plastic packaging.

4.2.6 What type of waste do you plan to choose for reporting in the workshops?

That is why we would like the workshops we are going to hold to spread this message and, with the creativity that runs through the project, we would like to use these plastic elements to recycle and generate new objects.

4.2.7 What about performance?

In addition to plastic containers, we would like to raise awareness of the importance of collecting used oil properly, as its disposal in homes requires a large amount of water for cleaning, water that is becoming increasingly scarce. In addition, this waste is the economic activity that sustains the insertion company that promotes Otro Tiempo called Otro Tiempo Otro Planeta. We collect used oil in the Community of Madrid. In 2023 we collected 169 tonnes of oil. For this reason, we are particularly interested in publicising the work they do and in households donating the used oil they generate.

4.3 Waste management and the role of the different social agents:

Type of waste	Main organisations managing waste	Private management: companies / NGOs	Public Management: Municipalities/ Public
Organic waste	Municipalities		
Packaging		Ecoembes	Municipal clean points
Plastics		Ecoembes	Municipal clean points
Glass		Ecoembes	Municipal clean points
Paper	Repair	Ecoembes	Municipal clean points

Textile		Caritas - Moda-re 41% of the total Human 16% Human	Municipal clean points
Electronic devices			Collection at the Municipal Clean Point
Used oil		Resigras, Discoil	

4.4Sources of information

Interviews conducted:

- Charo González, manager of the insertion company Otro Tiempo Otro Planeta, which collects used oil for the production of biodiesel.
- Cristina , participates in different environmental groups and in the Plataforma Retorna.
- Pablo Trapero, from the technical secretariat of the cross-union trade union Unión Sindical Obrera, is a member of the Plataforma Retorna.
- Carmen Aja, coordinator of the Spanish Association of Social and Solidarity Economy Recuperators
- Soledad Trujillo, high school teacher in the Community of

Madrid. Sources and webography:

https://eur-lex.europa.eu/ES/legal-content/summary/eu-waste-management - law.html
Talking Trash. The corporate playbook of false solutions to the plastic crisis

State platform of social entities dedicated to reuse, repair and recycling https:// aeress.org/

Return to https://www.retorna.org/es/

Manifesto The Waste Law must be enforced, NOW!
https://drive.google.com/file/d/1phIxGRXBCBp0EFHFQzAEU-gg 9zE2CT/view

Blog Producer of sustainability
https://www.productordesostenibilidad.es/2024/05/consideraciones-para-el-debate-sobre-el-plastico/ Data at European level

Greenpeace. Observatory The Green Magnifying Glass
https://es.greenpeace.org/es/en-profundidad/la-lupa-verde/

https://www.cinconoticias.com/campanas-ambientales/ Martos, Carmina (2022, 23 February). Environmental campaigns: 15 environmental campaigns that will make you think. Cinco Noticias <ahref="https://www.cinconoticias.com/ campanas-ambientales/ ">https: //www.cinconoticias.com/campanas- ambientales/

Reports

- Ministry for Ecological Transition and the Demographic Challenge. Annual report on the generation and management of municipal waste. 2021 *https://www.miteco.gob.es/content/dam/miteco/es/calidad-y-evaluacion- ambiental/sgecocir/residuos-municipales/Memoria%20anual%20de%20generaci%C3%B3n%20y%20gesti%C3%B3n%20de%20resid uos.%20Residuos%20de%20Competencia%20Municipal%202021.pdf*
- Rezero - Foundation for the Prevention of Waste and Consumption
- The Spanish State towards zero waste and responsible consumption. Current situation and indicators for the transition. October 2022. *https:// www.rezero.cat/wp-content/uploads/2022/10/Informe-indicadores_2022-ESP.pdf*
- BBVA Foundation and the Valencian Institute for Economic Research (Ivie)
- Essentials, Circular Economy, compiled from Eurostat data *https:// www.fbbva.es/wp-content/uploads/2024/02/esenciales_01-2024-economia-circular.pdf*
- Eunomia. Analysis of the compliance with the separate collection targets for plastic bottles for drinks up to three litres in Spain. May 2024 *https:// es.greenpeace.org/es/wp-content/uploads/sites/3/2024/05/Estudio-Eunomia-version-completa-ESP.pdf*
- Fashion-re Analysis of the collection of used clothing in Spain. Moda Re- May 2021 *https://modare.org//wp-content/uploads/RESUMEN-Analisis-de-la-recogida-de-la-ropa-usada-en-Espana.pdf*
- Chanching Markets Foundation. Talking trush. The corporate playbook of false solutions to the plastic crisis *https://talking-trash.com/wp-content/uploads/ 2020/09/TalkingTrash_FullReport.pdf*
- El Salto Diario, Una investigación internacional señala a Ecoembes como el lobo con piel de cordero del reciclaje en España *https:// www.elsaltodiario.com/ecoembes/investigacion-internacional-senala-lobo-piel-cordero-reciclaje-envases-espana?trk=public_post_comment-text*

5. Slovakia

5.1. Environmental awareness regarding the care of nature:

- Do you see litter, rubbish, plastic waste in natural spaces? countryside, mountains, riverbanks, beaches?

yes

- And in urban

areas? yes

- Is there greater awareness and action in society to protect the environment than 10 years ago?

yes

- Are the effects of climate change influencing people's habits towards caring for the environment? Please comment.

Yes, they are influenced. More and more people pay attention to environmental protection. The topic is especially relevant among young people.

- Are there different behaviours according to

gender? Not really.

- Are there different behaviours depending on whether we are in a rural/ urban environment?

Not significant differences. The rural people are more nature-friendly, but sometimes there is no possibility for example for selective waste collection. In urban areas it is no problem. Introduction of packaging recycling helped a lot.

5.1.2. Separate collection systems:

- Is waste separated in

households? yes

- Is there a separate waste collection system in cities, in small municipalities?

Yes. It depends on the system used by the waste collection company. In any case, this is in accordance with the legislation in force. With some exceptions.

- Are there waste collection points for batteries, furniture, electronic equipment, waste oil? Who manages these points?

For batteries and electronic equipment there are collection points in the electronic shops. For waste cooking oils from households in some cities there are special containers placed next to the garbage containers for collecting. These oils can also be dropped off at some petrol stations. For furniture there are no official collecting points. In most cities and even in the rural area there are spring and autumn clean-up days when it is possible to throw away any kind of rubish which is then collected by the municipalities.

- Is there more awareness and action in society in relation to waste management compared to 10 years ago?

Yes. Lot helped the EU legislation and the policies of the country, also the information in the education system.

- Are the effects of climate change influencing people's waste management and sorting habits? Please comment.

This topic is up to date. There are ongoing campaigns by various institutions and NGOs, resulting in a change in people's thinking and habits in this area. But it is a lengthy process.

- Are there different behaviours according to

gender? Not really

- Are there different behaviours depending on whether we are in a rural/ urban environment?

We have no numbers on this topic, but we guess, rural people don´t care so much about the climate change but they live in more close to nature conditions, where acticities artificially promoted by organizations in cities are normal.

5.1.3. Environmental education:

- Are actions developed in schools, institutes, universities?

Of course, the topic is integrated in the school curriculum, too.

- Is there information on the natural resources in protected areas, and are guided talks organised to get to know them?

The portal Enviroportál has info: https://www.enviroportal.sk/indicator/detail? id=1662&print=yes

- Are there different behaviours according to

gender? Not really

- Are there different behaviours depending on whether we are in rural or urban areas?

As in most areas, in urban regions there are more informations about the topic which reach more people.

Include statistical data as far as possible and sources of information.

5.2.Social awareness campaigns

5.2.1 Main organisations that raise awareness in your country about nature protection.

Ministry of the Environment

Štátna ochrana prírody Slovenskej republiky - https://www.sopsr.sk/web/?cl=1 Slovenská agentúra životného prostredia

- https://www.sazp.sk/

The other organizations are listed here: https://www.minzp.sk/ochrana-prirody/medzinarodne-dohovory/dohovor-biodiverzite/relevantne-organizacie-institucie-sr/relevantne-organizacie-institucie-sr.html

5.2.2 Main organisations in your country that raise awareness about waste and littering

5.2.3 Name incidents that, from an environmental point of view, have had a social impact in your country that have generated mobilisations, campaigns, complaints and a greater commitment to care for the environment.

Floods in Middle and Eastern Slovakia

5.2.4 Have greenwashing practices been reported in your country?

Some info here: https://cms.law/en/int/publication/cms-green-globe/slovakia

https://www.littera-scripta.com/wp-content/uploads/2019/05/Greenwashing-and-its-Impact-on-Slovak-Consumers-1.pdf

5.3 - Waste management and the role of the different social agents

Type of waste	Type of waste	Type of waste	Type of waste
Organic waste	On the portal https://www.odpady-portal.sk/Adresar.aspx there is a possibility to register the companies dealing with waste in any field.	Www.odpady-portal.sk – giving theoretical info	Ministry of environment – waste policy, waste management. Local municipalities – realization of policies – green yards Envirofond – financing projects
Packaging	As above	Www.odpady-portal.sk www.ecohero.sk www.nulaodpadu.sk www.zerowasteslovakia.sk The companies selling beverages have to ensure collecting of recyclable packaging – by the shopping centres and shops there are	Ministry of environment – waste policy, waste management. Local municipalities – realization of policies – contracts with private companies for collecting waste.

Plastics	As above		As above + there are days that the collecting companies collect plastic waste from
Glass	As above		As above + there are containers for collecting glass waste are placed in frequented
Paper	As above		As above+there are days that the collecting companies collect paper waste from households.
Textile	As above	Envirotech sro. - https://envirotex.eu/	As above + there are containers for collecting textile waste are placed in frequented
Electronic equipment	The companies selling electronic equipments have to ensure collecting of recyclable used items – at the shopping centres and shops it is possible to leave devices or there are also services		

Waste oil	As above		As above + there are special containers for collecting used baking oil from households placed in the area of blocks of flats. Oil companies and gasoline stations also
Other…	For example metal: There are the 10 biggest companies:https://www.odpady-portal.sk/Dokument/103490/top-10-odpadovych-firiem-na-slovensku-dominuju-spracovatelia-kovov.aspx		

6. Differences and similarities between the project countries

We outline the points of particular interest in the reports that have been produced.

In all countries waste collection is a municipal responsibility and selective waste collection is carried out to a greater or lesser extent. There are still landfills for waste disposal. Private organisations are also involved in waste management and NGOs play a special role in raising environmental awareness.

All reports state that environmental awareness has increased, alarm about droughts in the countries and more frequent fires, and young people are particularly involved in environmental awareness. Women are perceived to be more sensitive to environmental protection, with the exception of Slovakia, which does not perceive a difference.

There is consensus on the need to adopt a lifestyle whose quality is less dependent on the consumption of industrial products and services.

Compliance with EU waste management directives has driven many of the legislative and operational changes in the country. The EU's drive towards a circular economy has also encouraged more sustainable waste practices.

Greenwashing practices have been reported in all countries, reflecting a wider trend across Europe.

Concerning Hungary:

A big problem for the rivers is waste management - or the lack of it in this case - in upstream countries. Every year, Ukraine sends around 10,000 tonnes of waste into Hungary via the Tisza. The Tisza is the longest ecological corridor in Hungary, and there is a special interest in cleaning it up and protecting this aquatic ecosystem.

Regarding Chez Republic

Compared to the EU27 average, the production of communal waste in the Czech Republic is low and reaches 64% of the EU27 average. The Czech Republic has not yet set any specific reduction targets and has reacted negatively to EU efforts.

The Czech government has implemented the Waste Management Plan, which is in line with EU directives to reduce reliance on landfills and increase recycling rates. Programmes such as the 'Don't be a Dumpster' campaign have successfully engaged citizens, especially the younger generation, in more environmentally friendly waste management practices.

In the Czech Republic, environmental education is actively integrated at various levels of the education system. It is integrated into the curriculum from an early age and is maintained even at universities.

With regard to Spain

The entire development of the waste management system is integrated into European regulations and has its own development that extends the requirements of the EU. There have been many environmental awareness and waste separation campaigns that were more significant 20 years ago and now it is a habit that has been incorporated into the habit of citizens, especially that of waste separation.

In this context, the role played by local councils with organic waste on the one hand, and by the organisation that manages the recycling of plastic and glass waste, Ecoembes, on the other, is of particular relevance. In contrast, it provides unreliable recycling data. To date, the Public Administration has not changed this situation, which is also influenced by the lack of transparency, lack of contrast and time delay in the information provided.

There is a significant network of NGOs, platforms and associations calling for a substantial improvement in waste treatment and environmental protection, for example with the introduction of the DRS.

Concerning Slovakia

The situation in Slovakia is not so bad, the recycling rate is in the EU average. There are campaigns by state institutes, NGOs and private companies to draw attention to these issues.

For furniture there are no official collection points. In most cities, and even in rural areas, there are clean-up days in spring and autumn where any kind of waste can be thrown away and then collected by the municipalities. Companies that sell electronic equipment have to ensure the collection of recyclable used items: in shopping centres and shops it is possible to leave the devices or there are also services for exchanging old ones for new ones.

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