

TRACK MAP CLEAN

### DIGITALIZATION FOR ENVIRONMENTAL PROTECTION GUIDE





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### Introduction of the

### CONSORTIUM







Slovakia



Synergia Braga

Portugal





Scout Society Romania



**Gdoce** Spain



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### Introduction

There is never too much talking and caring about the environment. In today's busy world people do not have time to look around and slow down. Even when walking in nature, by the riverside or in our neighbourhood, sometimes we do not notice the small things we are surrounded by. Small things which are creating our environment such as blooming trees, chirping birds or the scent of the ground. If people are too busy to notice the beauty of nature, are they able to notice or to think about the waste they produce, black dumps, trash in the forest, polluted environment or oceans filled with plastics? And if we do notice a load of trash by the riverside, a black dump in nature or a polluted environment we do not know how to react, what to do or where to report it.

This guide was created as part of the TRACK MAP CLEAN project. The consortium of the project partners consists of partners from Spain, Romania, Portugal, Italy and Slovakia. Together they created this guide together to provide you with a useful manual that can be used in your organization. The guide is full of information, recommendations, and interesting statistics regarding the waste management in the project countries. The aim of the publication was to develop *educational tool* for youth workers, NGOs and youth, in order to foster ecofriendly practices and encourage the search for innovative solutions to overcome environmental problems. The guide also aims to support youth workers, trainers and NGOs in their work with youth by introducing *good practices* connected with the usage of digital tools in environmental protection and a *training plan* meant to target the development of green skills.









# EUROPEAN AND NATIONAL CONTEXT OF THE WASTE DISPOSAL





### **Chapter 1: EU and National Context of the Waste Disposal**

What do we mean by Waste Disposal?

Waste disposal means removing, discarding, recycling or destroying unwanted materials called waste. These materials are byproducts of agriculture, households or industrial production. We could ensure a lower level of pollution and also lower the hazard for the environment by following the correct methods of waste disposal.

### 5 tonnes of waste

**Only 38%** 

**Over 60%** 

is produced by the average European each year

of waste in the EU is recycled

of household waste still goes to landfill in some EU countries

Source: European Commission

EU waste policy aims to protect the environment and human health and help the EU's transition to a circular economy. It sets objectives and targets to:

- improve waste management
- stimulate innovation in recycling
- limit landfilling

All the Member States shall take the necessary measures to ensure that waste management is carried out without endangering human health and without harming the environment.

European policy aims to contribute to the circular economy by extracting as much as possible high-quality resources from the waste and consists of the main jurisprudential pillars.

The Lisbon Treaty, amending the Treaty of the European Union and the Treaty Establishing the European Community, launched in December 2007, states that the environment is one of the areas with shared competence between the European Union and the Member States.

On the European level, in 2008, the Council and the Parliament accepted the EU waste management law.

The foundation of the EU waste management is the five-step "waste hierarchy", established in the Waste Framework Directive. It establishes an order of preference for managing and disposing of waste.

The Waste Framework Directive is the EU's legal framework for treating and managing waste in the European Union. It introduces an order of preference for the waste management called the "waste hierarchy".





### **Waste hierarchy**



Source: European Commission

Preventing waste is the preferred option, and sending waste to landfill should be the last resort.

The Waste Framework Directive lays down some basic waste management principles. It requires the waste to be managed:

- without endangering human health and harming the environment;
- without causing the risk to water, air, soil, plants or animals;
- without causing a nuisance through noise or odors;
- without adversely affecting the countryside or places of special interest

Packaging and Packaging Waste Directive sets out measures and requirements for the prevention, re-use and recovery of packaging wastes in Member States. Member States must ensure that packaging placed on the market complies with the essential requirements. The Directive implies the Producer Responsibility principle.

Every European state should as well focus its efforts on the Green Deal (11/12/2020), which provides the overall EU strategy to achieve the efficient use of resources by moving from a linear to a circular economy model and which aims to restore biodiversity and reduce pollution. In particular, the Green Deal identifies a need to reduce waste generation and foresees changes in the EU waste collection.

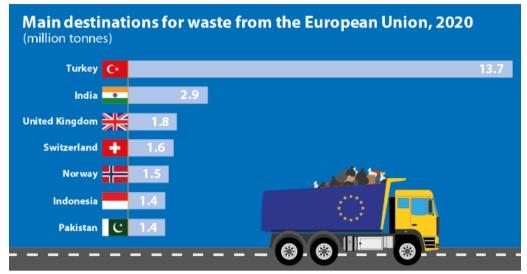
Despite the European legislation having very advanced regulations and permanently working on launching and updating its measures, there are still gaps to fill. European legislation on environmental offenses – and also on plastic waste – is very lenient for offenders," says Maurer, who retired last year. "The law sees offenders as 'economic actors'. Environmental offenses are seen as minor, admittedly in an obvious way. In most cases, cases against them (offenders) do not stand up in court, because the law makes it difficult to prove offenses.

In 2020, EU export of waste to non-EU countries reached 32.7 million tonnes, an increase of three quarters (+75%) since 2004. In contrast, import of waste from non-EU countries decreased by 10% since 2004, amounting to 16.0 million tonnes. In the reference period, the total municipal waste landfilled in the EU fell by 67 million tonnes, or 55 %, from 121 million





tonnes (286 kg per capita) in 1995 to 54 million tonnes (121 kg per capita) in 2021. This corresponds to an average annual decline of 3.0 %.



Source: ec.europa.eu/eurostat

In 2020, EU exports of waste to non-EU countries reached 32.7 million tonnes. The majority of waste exported outside the EU consists of ferrous and nonferrous metal scrap as well as paper, plastic, textile and glass wastes. According to <a href="the EU Monitor">the EU exports</a> of ferrous metal scrap and glass waste go mostly to OECD member countries, while those of non-ferrous scrap, paper waste, plastic waste and textile waste mostly go to non-OECD member countries.

### 1.1 Black dumps or illegal landfills

In the connection with the problem of black dumps or illegal landfills, it is important to mention **Landfill Directive** (Directive 2018/850) of the European Parliament and of the Council amending Directive 1999/31/EC on the landfill of waste). The directive aims to prevent or reduce the adverse effects of the landfills on the environment. The directive defines different categories of waste and applies to all landfills in the EU countries. It also classifies the types of landfills and obliges Member States to minimise biodegradable waste as well.

The approximate 'life' of a landfill lasts from 30 to 50 years. Therefore, every government should be interested in strict regulations regarding the waste disposal and management.

According to the Commission, estimations demonstrate that **90**% of Europe's 500,000+ landfills are "non-sanitary" landfills, which violate the EU Landfill Directive and use only limited environmentally protective technologies.

Illegal landfills, also known as "black dumps" or "fly-tipping", are a threat to our health and the environment.

Waste management practices vary significantly between EU countries and quite a few countries are still landfilling large amounts of municipal waste. According to the German legislation, anyone who places waste in the public space with no permission commits an





administrative offense or even a crime and can be legally prosecuted. Meanwhile, the practice of landfilling remains popular in the eastern and southern parts of Europe.

Ten countries landfill half or more of their municipal waste. Malta, Cyprus and Greece landfill more than 80% of their municipal waste. Croatia, Romania, Bulgaria and Slovakia landfill over 60% of their municipal waste, while it is also 50% or more in Spain and Portugal.

Lithuania, Latvia, Ireland, Italy, France, Estonia, Slovenia and Luxembourg also use incineration and send a third or less of their waste to landfill. Apart from Latvia and Estonia, these countries also recycled more than 40% of their household waste.

Landfilling is almost non-existent in countries such as Belgium, the Netherlands, Denmark, Sweden, Germany, Austria and Finland. Here incineration plays an important role alongside recycling. Germany and Austria are also the EU's top recycling countries.

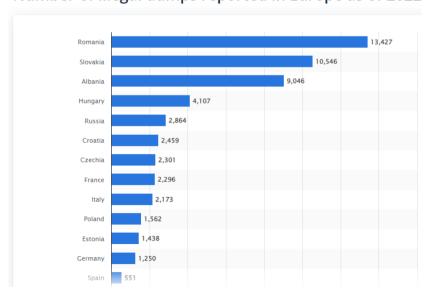
The most significant problem with landfills is that they can contaminate soil and water. The chemicals and non-biodegradable materials in the waste affect the physical environment and the waterways by contaminating groundwater and soil. The waste can also spread weeds and pests, thus affecting agriculture, wildlife and the entire environment. Moreover, it diminishes the quality of life and liveability of the surrounding area. This is a difficult issue that local and state governments must address on a continual basis.

Illegal dumping occurs for a variety of reasons, including:

- lack of convenient legal alternatives and presence of convenient illegal disposal sites;
- increasing disposal costs;
- lack of public awareness about the issue;
- lack of judicial understanding of environmental laws, and therefore, low fines.

Waste is illegally dumped at thousands of sites across Europe. Usually, people dump a bit of everything: constructions and other house-holding installations, mattresses, tires, plastics, furniture, plastic, clothing.

### Number of illegal dumps reported in Europe as of 2022







Source: statista.com

Only in *Romania*, in 2022, there were more than 13 000 illegal dumps reported. Also, Romania disposes of the most non-hazardous waste into landfills within the European Union. *Slovakia* has reported 10,546 dumps in 2022. *Italy* is in the middle of the statistics with 2173 reported illegal landfills. While *Spain* has 551 and *Portugal* 294 dumps, reports <u>Statista portal</u>.

Law enforcement and customs authorities across all EU countries, EU institutions, agencies and bodies, as well as partner countries and organisations, work together to combat this form of crime through investigations, seizures and other police operations.

Under the EU law, all Member States must recover and dispose of waste in a manner that does not endanger human health and the environment, prohibiting the abandonment, dumping or uncontrolled disposal of waste. Otherwise, they have to take responsibility.

If Member States fail to properly implement EU laws, the Commission may launch a formal infringement procedure against the country in question. Before launching a formal procedure, the Commission may also communicate with the Member States in order to investigate the matter.

For example, in 2015, the European Commission took Spain to the EU's Court of Justice for its failure to close, seal and ecologically restore 61 illegal landfills. In 2023, the Commission decided to refer Croatia back to the Court of Justice for continued pollution problems caused by illegal landfills. Greece has paid 66.5 million euros to the European Commission in fines since 2015 and is facing more penalties for failing to shut down and rehabilitate its illegal landfills.

Numerous research, conducted by the investigative journalists in different countries, shows how illegal landfills are being used by criminals for illegal activities globally, with governments across the world struggling to find solutions while fighting against the black dumps. Waste related crimes are so profitable, that targeting unregistered operators will not reduce the problem of waste dumping and fly tipping completely.

The price paid per tonne of illegal waste by those who want to get rid of it in western Europe, fluctuates between €30 and €50 in Eastern European countries¹. That is far cheaper than legal disposal of the waste in countries like Germany, Belgium, and Greece. Disposal of the hazardous waste can cost up to 1,000 euros per ton. Companies try to reduce their costs by shipping the trash to countries, where it could be processed cheaper. Here, quite often, the trash is simply dumped in landfills or burned, instead of being disposed of according to the regulations.

What is the correct procedure if we wish to report an illegal landfill? Usually, local authorities are responsible for waste removal. Therefore, a good choice is to report the landfill to the local authorities or an NGO taking actions in the community. Nevertheless, even when the responsible authority is easily identified, an effective and comprehensive platform for citizens

<sup>&</sup>lt;sup>1</sup> Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia,



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to report their findings is often missing. No public administration can refuse processing a report about illegal waste disposal, unless the report is untrustworthy, especially when reported anonymously.

In the following section, you can find examples of several cases focused on the ways how the black dumps can be fought. Germany could serve as a good example. German officials noticed that there was no coherent system to report illegal waste directly to the competent authorities. Indeed, when finding illegal deposits of waste, the first challenge for every citizen is to determine who is in charge of receiving the report.

In 2017, an app called MÜLLweg! DE ("Trash away") was created. The app allows citizens to report illegal dumping and communicate its location directly to the competent authorities through the built-in satellite navigation receivers on their mobile devices. Local authorities are hence able to better locate the landfill and remove the waste. The app operates on two databases covering around 10 000 municipalities or regional districts.

The lack of regulations in some countries is highly concerning. Europe's inability to tackle the illegal waste trade is in part due to the incoherent legislation agreed on in Brussels, where a number of institutions work on this issue. Helmut Maurer, a former senior expert in the European Commission's directorate for circular economy, who spent decades working on waste issues, says EU laws are too lenient.

The European Commission states that "divergent control/inspection systems and the lack of harmonized inspection criteria, in particular the frequency and quality of inspections, undermine uniform enforcement of the WSR", indicating that one of the main reasons for the persistence of illegal waste shipments is the lack of uniform enforcement across the EU.



Source: flickr





### 1.2. General information about the waste disposal in project countries.

According to the <u>European Commission</u>, 530kg of municipal waste per capita were generated in the EU in 2021. 49% of the municipal waste in the EU was recycled (material recycling and composting) in 2021. For 2021, municipal waste generation totals vary considerably, ranging in number of kilograms per capita. The variations reflect differences in consumption patterns and economic wealth, but also depend on how municipal waste is collected and managed. There are differences between countries regarding the degree to which waste from commerce, trade and administration is collected and managed together with waste from households.

### **Slovakia**

According to Eurostat (the statistical office of the European Union), the latest data shows that Slovakia generated 6.1 million tonnes of municipal waste. Out of this, 82% was landfilled, 16% was incinerated, and only 2% was recycled. While Slovakia does not have an encouraging recycling policy, it has one of the lowest levels of waste generation per capita in the EU. For the time being, the Slovak government has set a target to increase the recycling rate to 50% by 2025.

The amount of municipal waste generated in Slovakia has been increasing steadily over the past decade. According to the statistics, in Bratislava alone, about 100 thousand tonnes of garbage is produced annually.

However, as a common EU regulation, there is a mandatory waste separation, which forces households and businesses to separate the waste and makes a significant difference in the country. The waste is separated into five categories: paper, plastic, glass, metal, and residual waste.

Each municipality is responsible for organizing waste collection and managing the waste disposal facilities. One of the measures taken by the Slovakian government that can be offered as good practice is the deposit return system, a system that combines the efforts of producers, retailers, consumers and the state on behalf of the Ministry of the Environment of the Slovak Republic. Such a practice definitely makes the residents of the country more responsible, reduces the amount of litter in nature, supports recycling and increases the amount of collected PET bottles.



Usual container site in Bratislava (https://slovakiagarant.com/en/separate-garbage-collection-in-slovak/)





For example, the blue container is for paper, the yellow container is designed for plastic, the green container is for glass, and the black one is for unsuitable waste, such as biodegradable waste, egg packaging, used paper tissues and towels, metal packaging and canned food.

Nowadays, the Slovak government is making efforts to reduce the amount of waste that goes to landfill and increase the use of incineration and recycling. One of the recent measures is that the City of Bratislava has been required to introduce the collection of kitchen waste from January 1. 2023. The introduction of kitchen waste collection is aiming to create a convenient and sustainable, environmentally friendly system for the citizens of Bratislava. According to the data provided, 'the average participation rate is 85% for family houses and 95% for apartment buildings. From the beginning of the project until mid-April, 150 tonnes of kitchen waste was collected<sup>2</sup>.

### **Portugal**

According to Reuters, Portugal recycles about 28% of its urban waste which is below the European average of 46%. In terms of waste generation, according to recent data provided by Eurostat, Portugal generated 5.7 million tons of municipal waste. Of this, 63% was landfilled, 23% was incinerated, and 14% was recycled. The recycling rate in Portugal has been increasing in recent years, but the country still has one of the lowest recycling rates in the European Union.

Despite its poor reputation when it comes to waste, Portugal is making efforts to recycle the following: paper (e.g., newspapers, magazines, and cardboard boxes), plastic (e.g., bottles, straws, and packaging), metals (including aluminium foil), beverage packaging, batteries, electrical appliances, medications, small amounts of hazardous waste or chemical waste (e.g., detergents, varnish, paint, oil, cosmetics, and cartridges). In the country, waste separation is mandatory for both households and businesses. There are four categories of waste separation: paper and cardboard, glass, plastic and metal, and residual waste. Municipalities are responsible for organizing the waste collection and managing the waste disposal facilities.

An interesting fact about the country's waste management is that Portugal has a deposit system for beverage containers, which has been in operation since 2003. The system has been successful in increasing the recycling rate of these containers, with a reported rate above 90%. Currently, the Portuguese government has set a target to reduce the amount of waste sent to landfill to 10% by 2030.

<sup>&</sup>lt;sup>2</sup> Slovak recycling law: article - <a href="https://bratislava.sk/en/environment-and%20construction/environment/waste/recycling/biodegradable-waste-collection">https://bratislava.sk/en/environment-and%20construction/environment/waste/recycling/biodegradable-waste-collection</a>







Ecoponto recycling bins in Caldas da Rainha, Portugal (<a href="https://www.portugalvisitor.com/portugal-culture/recycling">https://www.portugalvisitor.com/portugal-culture/recycling</a>)



Recycling in Portugal, blue is for paper, green is for glass, yellow is for plastic (<a href="https://www.portugalvisitor.com/portugal-culture/recycling">https://www.portugalvisitor.com/portugal-culture/recycling</a>)



### Romania:

According to latest Eurostat data, Romania generates 11.5 million tonnes of municipal waste annually. Of this, 65% was landfilled, 20% was incinerated, and 15% was recycled. Romania has been making efforts to increase its recycling rate in recent years, but the country still lags behind many other EU member states. In terms of waste production and waste disposal, Romania registered a slight increase in waste generation (8.6 million tonnes), and the majority of municipal waste in Romania is currently landfilled.

According to Romania-Insider.com, Romania will use €1.2 billion of EU recovery funds to boost waste management, under the EU-backed National Recovery and Resilience Plan (PNRR). According to a Clean Recycle's analysis, the funds and the subsequent projects will allow Romania to reach its recycling target of 70% for packaging waste. Moreover, the Romanian government has set a target to reduce the amount of waste sent to landfill to 50% by 2030. The national program "Let's do it, Romania!" has so far had a major impact regarding waste reduction and positive recycling practices. The programme is also encouraging citizens to play an active part in strategic waste disposal and recycling.

In Romania, as in other European countries, waste separation is mandatory for both households and businesses. The waste is separated into four categories: paper, plastic and metal, glass, and residual waste. The municipalities are responsible for organizing waste collection and managing the waste disposal facilities. Romanian citizens, from urban and rural areas are still getting used to sustainable behaviour regarding waste disposal and recycling.

At the moment, the country desperately needs to improve its waste management system. According to Eurostat data, in terms of packaging recycling, the country ranks penultimate among EU countries with a recycling rate of 44.6%, second only to Malta.

### Spain:

Spain generated 22.4 million tonnes of municipal waste in 2020, according to Eurostat. Of this, 51% was landfilled, 23% was incinerated, and 26% was recycled. Spain's recycling rate has been increasing in recent years, but the country still has room for improvement. According to a survey by the Spanish Ministry for Ecological Transition and Demographic Challenge, 77% of Spanish households reported that they sorted their waste for recycling, a figure which is promising. According to a 2021 survey carried out by Ecoembes, the entity that manages waste from Spain, eight out of ten Spaniards said they recycle at home and 82.3 percent said they have several buckets to separate their waste.

According to Greenpeace, Spain is the fifth-largest producer of single-use bottles in the European Union, and very few of them are recycled. While the country generates less waste than countries, such as Germany, it recycles far less. Taking such figures into consideration, according to Deutsche Welle, the new recycling rules in Spain have officially declared war on waste. In spite of the lower recycling rate, there are some clear recycling rules in the country: the blue garbage bin is for paper and cardboard, the green bin is for glass bottles and jars of all shapes, colours and sizes, the yellow bin is for plastic water bottles, plastic cleaning product bottles, plastic bags, juice cartons, yogurt containers, plastic or metal caps and tin cans, the brown bin is for organic waste, like coffee grounds,





eggshells, corks, used napkins and pizza boxes with stains, the grey bin is for the rest of your waste, like diapers, ceramic shards and hygienic wipes.

Currently, the Spanish government has set a target to reduce the amount of waste sent to landfill to 10% by 2035. In 2021, for example, Spain also announced a ban on the sale of fruit and vegetables in plastic wrapping in supermarkets which will come into effect in 2023, as part of a decree drafted by Spain's Ministry for Ecological Transition.

### Italy:

In 2020, according to Eurostat, Italy generated 31.6 million tonnes of municipal waste. Of this, 44% was landfilled, and 22% was incinerated. Italy's recycling rate is one of the highest in the EU, but the country still faces challenges in reducing the amount of waste it generates. Even though the recycling rate has been rising, there is still work to be done to minimise littering and landfilling. Interestingly, according to statistics, Northern Italy accounts for the largest volume of municipal waste generated in the country, with almost double the average production of 7.5 million tonnes in the rest of Italy. Nonetheless, the Northern Italian regions have the highest proportion of sorted municipal waste in the country.

Compared to the general European Union level, Italians are eager recyclers. The country has one of the highest recycling rates in the EU. At least 51,3% of municipal waste is recycled, and 79% of collected waste was recycled in 2021. The numbers have been increasing especially since 2010. In the country, there are clear rules regarding the recycling process. People can sort out their waste in the following way: Blue for paper, Brown for organic trash, Yellow for plastic (recyclable), Turquoise for metals, Green for glass, Grey for general trash (non-recyclable).





As in the other European countries, the Italian government has set a target to reduce the amount of waste sent to landfill to 10% by 2035. According to Expatica, in 2022, the Italian government voted for the National Circular Economy Strategy. This initiative aims to introduce a new digital waste-tracking system, provide tax incentives to support recycling activities, revise the environmental taxation system and the right to reuse and repair. Additionally, the government will introduce a plastic tax in 2024 to reduce the production and purchasing of single-use plastics across the country.

### Conclusion

The European Commission and all the institutions have agreed on the following goals and deadlines: from the recycling of the municipal waste within specific deadlines (60% by 2030 and 65% by 2035) to limiting the share of municipal waste sent to landfills at 10% by 2030. To reach the following objectives, the EU implements various activities, initiatives and local laws, which come from the horizontal perspective.

Based on this, the mentioned above countries - Spain, Portugal, Italy, Slovakia and Romania - have different levels of success in waste management. In particular, Italy is leading the way in terms of recycling and has higher recycling rates than the EU average. While Spain is making progress in recent years and has one of the lowest amounts of garbage in terms of municipal waste per person. Interesting fact: Barcelona is one of the two European cities that has got zero waste certification (the second one is Munich). However, there is still room for improvement in all of these countries to reduce the amount of waste generated and increase the recycling rate: for example, to provide the waste management policies in Slovakia and Portugal; and to take actions in Romania, which demonstrates the lowest number of initiatives and governmental regulations.



# CHAPTER 2 BEST PRACTICES OF WASTE DISPOSAL





### Chapter 2: Best practices of waste disposal

### 2.1 Household waste

In terms of recycling and recovery, the EU has set a target to recycle 65% of municipal waste by 2035. However, in 2019, the overall recycling rate for municipal waste in the EU was 42.8%. While some European countries, such as Germany, Austria, and the Netherlands, have higher recycling rates, others lag behind.

Despite efforts to reduce landfilling, it remains a common practice for household waste in some European countries. In 2019, about 24% of municipal waste in the EU was landfilled, with Cyprus, Greece, Malta, and Romania having the highest landfill rates.



Photo source: Pexels

Waste prevention, including reducing household waste generation, is an important aspect of sustainable waste management. Some European countries have implemented policies and initiatives to promote waste prevention, such as "pay-as-you-throw" schemes, which charge households based on the amount of waste they generate, and Extended Producer Responsibility (EPR) programs, which make producers responsible for the waste generated by their products.

The concept of a circular economy, which aims to minimize waste and maximize resource efficiency, is gaining traction in Europe. The EU has adopted a Circular Economy Action Plan,





which includes measures to promote waste prevention, recycling, and resource recovery, as well as eco-design and product labelling initiatives.

Single-use plastics, such as plastic packaging, bottles, and disposable items, are a major contributor to household waste in Europe. To address this issue, the EU has adopted the Single-Use Plastics Directive, which bans certain single-use plastic products and promotes recycling and waste reduction measures.

Changing consumer behaviour and increasing awareness about household waste is crucial for reducing waste generation. Education, outreach campaigns, and community engagement initiatives are being implemented in many European countries to raise awareness about waste reduction, recycling, and sustainable consumption practices.

Overall, while progress has been made in Europe to manage household waste sustainably, challenges remain in achieving higher recycling rates, reducing landfilling, and promoting waste prevention. Continued efforts from policymakers, industries, communities, and individuals are needed to address the issue of household waste and move towards a more sustainable waste management approach in Europe.

Many people now lead busy and convenience-driven lifestyles, resulting in increased waste generation. Small changes such as being mindful of purchases, avoiding single-use items or adopting a minimalist approach can significantly reduce the waste production. Opting for reusable items like cloth bags, water bottles, and coffee cups can help reduce plastic waste.



Packaging waste, particularly from food and beverages, is a significant contributor to household waste. Choosing products with minimal packaging, buying in bulk, and avoiding single-use plastic packaging can help reduce waste. Properly storing and using up perishable items to minimize food waste is also crucial. Composting food scraps and yard waste can provide a sustainable solution for organic waste disposal.





Many people still struggle with proper waste sorting, leading to the contamination of recyclables and rendering them non-recyclable. Taking the time to properly sort waste into designated recycling bins and following local recycling guidelines could help to ensure that recyclables are effectively recycled and not sent to landfills. Instead of discarding items, repurposing or upcycling them could give them a new life and reduce waste.

Composting is a great way to divert organic waste from landfills and create nutrient-rich soil for gardening. Setting up a compost bin or using community composting programs can help reduce the amount of organic waste that ends up in landfills.

Repairing and maintaining items instead of discarding and replacing them can significantly reduce waste. Fixing broken appliances, electronics, and other items, and opting for repair services instead of buying new ones can help extend the lifespan of products and reduce waste generation.

Community engagement is crucial in promoting sustainable waste management practices. Organizing clean-up events, community composting programs, and educational campaigns can raise awareness and encourage responsible waste disposal practices among community members.

By making small changes in our daily lives, such as being mindful of our purchases, properly sorting waste, repurposing items, composting organic waste, and engaging with our communities, we can collectively contribute to a more sustainable waste management system and make a positive impact on the environment.

### 2.2. Tips&Tricks

### Part 1: Bathroom

The bathroom is a common area where household waste can accumulate. By making some small changes, you can reduce the waste generated in your bathroom and make a positive impact on the environment. Here are some tips and tricks:

### Switch to Reusable Personal Care Products

Instead of using disposable items such as cotton pads, cotton swabs, and menstrual products, opt for reusable alternatives. Reusable cloth pads, menstrual cups, and bamboo cotton swabs are eco-friendly options that can significantly reduce waste in your bathroom.

### Use Refillable Toiletry Containers

Rather than buying single-use plastic bottles of shampoo, conditioner, body wash, and other toiletries, invest in refillable containers. Many brands now offer refill stations or bulk options where you can refill your bottles, reducing the need for new plastic containers.





### Make Your Own Cleaning Products

Many commercial cleaning products come in plastic packaging and contain harmful chemicals. You can reduce waste and eliminate toxic chemicals by making your own cleaning products using simple ingredients such as vinegar, baking soda, and lemon juice.

### Avoid Disposable Razors

Disposable razors contribute to plastic waste, as they are typically made of plastic and cannot be easily recycled. Consider switching to a safety razor or an electric razor, which have reusable blades and produce less waste.

### Choose Solid Toiletries

Solid toiletries such as shampoo bars, soap bars, and solid deodorants are becoming increasingly popular as they often come with minimal or no packaging. They are a great alternative to liquid toiletries that usually come in plastic bottles.

### Part 2: Kitchen

The kitchen is another area where a significant amount of household waste is generated. By adopting some sustainable practices, you can reduce waste in your kitchen and promote a more environmentally-friendly lifestyle. Here are some tips and tricks:

### Reduce Food Waste

Plan your meals and buy only what you need to minimize food waste. Properly store leftovers and use them for future meals. Compost food scraps to divert them from the landfill and create nutrient-rich compost for your garden.

### Use Reusable Shopping Bags and Containers

Avoid single-use plastic bags by using reusable shopping bags made of fabric or durable materials. Bring your own reusable containers for bulk foods, leftovers, and takeout to reduce the use of disposable plastic containers.





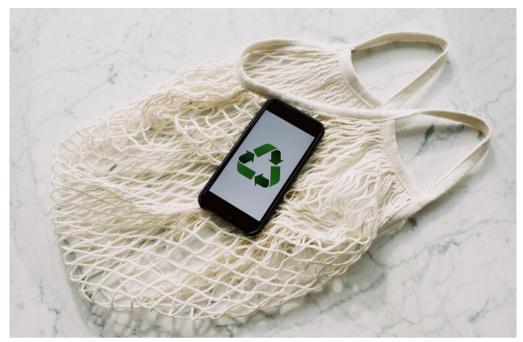


Photo source: Pexels

### Ditch Disposable Kitchenware

Instead of using disposable plates, cups, and utensils, opt for reusable ones. Invest in durable plates, cups, and utensils that can be washed and reused, reducing the need for single-use items.

### Compost Organic Waste

Set up a composting system in your kitchen to compost fruit and vegetable scraps, coffee grounds, and eggshells. Composting is a great way to reduce waste and create nutrient-rich soil for your plants.

### Choose Eco-Friendly Cleaning Products

Look for eco-friendly cleaning products that come in recyclable or refillable containers. Avoid single-use cleaning wipes and opt for reusable cleaning cloths or sponges that can be washed and reused.

### Part 3: Wardrobe

The wardrobe is an area where fast fashion and excessive consumption can contribute to significant waste. By adopting sustainable fashion practices, you can reduce waste in your wardrobe and promote more sustainable clothing choices. Here are some tips and tricks:

### Buy Less and Choose Quality

Instead of constantly buying new clothes, opt for quality garments that are made to last. Invest in timeless pieces that can be worn for a long time, rather than trendy items that quickly go out of style.





### Donate, Swap, or Sell Unwanted Clothes

If you have clothes that you no longer wear or need, consider donating them to charity, swapping them with others through clothing swaps or selling them to second-hand stores. This extends the lifespan of the clothes and reduces the amount of waste that ends up in landfills.



Photo source: Pexels

### Repair and Upcycle Clothes

Instead of discarding clothes with minor damages, consider repairing them or upcycling them into something new. Sewing on a missing button, patching a small hole, or transforming an old garment into a new one can give your clothes a new lease on life and reduce waste.

### Choose Sustainable Fabrics

When buying new clothes, opt for garments made from sustainable fabrics such as organic cotton, bamboo, hemp, or recycled materials. These fabrics are usually produced with fewer chemicals, pesticides, and water, and are more environmentally-friendly compared to conventional fabrics.

### Rent or Borrow Clothes

For special occasions or one-time events, consider renting or borrowing clothes instead of buying new ones. Renting formal wear, costumes, or other clothing items can be a sustainable and cost-effective option that reduces the demand for new clothes and minimizes waste.

### Take Care of Your Clothes

Properly care for your clothes to extend their lifespan. Follow washing and care instructions on garment labels, air dry clothes instead of using a dryer, and avoid excessive washing or dry cleaning. Taking care of your clothes can prevent premature wear and tear and reduce the need for new purchases.

Embracing sustainable fashion practices in your wardrobe not only benefits the environment but can also have significant financial advantages. By buying less and opting for quality,





long-lasting garments, you can reduce the frequency of clothing purchases, ultimately saving money in the long run. Donating, swapping, or selling unwanted clothes extends their usability, and the income generated from selling items can be reinvested in more sustainable clothing choices. Repairing and upcycling clothes can be a cost-effective way to refresh your wardrobe without breaking the bank. Moreover, selecting sustainable fabrics may initially have a slightly higher price tag, but these garments tend to be durable and resistant to wear and tear, translating to long-term savings. Renting or borrowing clothes for special occasions can be a budget-friendly alternative to buying new outfits that may only be worn once. In summary, adopting sustainable fashion practices can be financially rewarding while reducing your ecological footprint.

By making small changes in our daily life, such as using reusable personal care products, opting for refillable toiletry containers, reducing food waste, using reusable shopping bags and containers, choosing eco-friendly cleaning products, buying quality garments, repairing and upcycling clothes, choosing sustainable fabrics, renting or borrowing clothes, and taking care of our clothes, we can significantly reduce household waste and promote a more sustainable lifestyle. Remember that every effort counts and collectively, we can make a big impact on reducing waste and protecting the environment for future generations.

### 2.3. Best practices around the world

Many countries have implemented waste reduction and recycling programs in workplaces to encourage responsible waste disposal practices. This can include providing separate recycling bins for different types of waste, such as paper, plastics, and glass, and promoting awareness and education among employees about proper waste disposal practices.

There are numerous creative and innovative ideas being implemented worldwide for waste disposal. For example, some countries, such as Japan, France, Sweden, Germany and the United States, have implemented "waste-to-energy" programs where non-recyclable waste is incinerated to generate electricity. Others have implemented "zero-waste" initiatives that aim to reduce waste generation to minimal levels through recycling, composting, and waste reduction measures. Some examples include "The Zero Waste Scotland" initiative, the Extended Producer Responsibility (EPR)" in Sweden, the "Zero Waste City" program in San Francisco, and the "Zero Waste Town" initiative in Kamikatsu, Japan.

Schools can play a crucial role in promoting waste reduction and recycling among students. Many schools have implemented recycling programs, set up composting systems for food waste, and organized educational campaigns to raise awareness about waste management. Students can also be involved in creating artwork or useful products from recycled materials as a creative way to promote waste reduction.

Leisure activities can also incorporate waste-reduction practices. For example, parks and recreational areas can have proper waste bins for different types of waste, with clear signage to encourage visitors to recycle or dispose of waste properly. Events and festivals can also implement waste management measures, such as providing recycling stations and promoting responsible waste disposal practices among attendees.





Sustainable waste disposal practices can also be incorporated into travel and tourism. Many countries have implemented waste management programs in tourist areas, such as providing recycling bins, promoting responsible waste disposal practices, and organizing clean-up initiatives. Travelers can also reduce waste by using reusable water bottles, avoiding single-use plastic items, and properly disposing of waste in designated bins.

In **Slovakia**, there are efforts to promote recycling and waste reduction. The country has implemented a system of separate collection of municipal waste, including paper, plastics, glass, and bio-waste. Slovakia also has "Let's Clean Slovakia in One Day" campaign, a nationwide initiative that encourages citizens to participate in cleaning up public spaces and raising awareness about waste management.

In **Portugal**, there are initiatives such as "Ponto Verde" which promote recycling and responsible waste management. Ponto Verde is a recycling program that encourages citizens to separate waste at source and deposit it in designated recycling bins. They also provide education and awareness campaigns to promote responsible waste disposal practices among citizens.

In **Spain**, there are efforts to promote recycling and reduce waste generation. Many cities have implemented door-to-door waste collection systems, where different types of waste are collected separately. Spain also has "Ecoembes," a non-profit organization that promotes recycling and environmental education, and "SIGRE," a program for proper disposal of unused medications.

In **Italy**, there are initiatives such as "Ricicli + Viaggi" which encourages travellers to recycle while on vacation. The program provides information and resources for tourists to properly sort and dispose of their waste in designated recycling bins. Italy also has regulations on electronic waste management and has implemented recycling programs for items like batteries, textiles, and packaging.

In **Romania**, there are initiatives such as "Let's Do It, Romania!" which organizes community clean-up events to raise awareness about waste management and encourage citizens to properly dispose of waste. They also promote waste reduction through initiatives like "Buy Only What You Need" campaign, which encourages responsible consumption and discourages over-purchasing.

**Germany** is another country that has made significant progress in waste management. They have a well-developed system of waste separation, where households are required to sort waste into multiple categories such as paper, glass, plastics, organic waste, and more. Households face consequences, usually they are fined, if they do not comply with the waste separation system, which is mandated. They also have a strong focus on waste prevention, with policies that promote packaging reduction and product design for recyclability.







Photo source: Pexels

**Sweden** is known for its innovative waste management system that has made it a global leader in recycling and waste-to-energy production. Less than 1% of Sweden's household waste ends up in landfills. They have a "recycling revolution" where waste is sorted at source into different categories, including food waste, recyclables, and non-recyclables. They also have a successful waste-to-energy program where non-recyclable waste is incinerated to produce electricity and heat for homes.

**Japan** is known for its efficient waste management system, particularly in urban areas with limited space for waste disposal. They have a system of "three Rs" - reduce, reuse, and recycle. They practice strict source separation of waste, where waste is sorted into different categories at home, work, and public places. They also have advanced recycling technologies and incineration facilities to generate energy from waste.





Photo source: Pexels

**South Korea** has implemented a pay-as-you-throw system where households are charged based on the amount of waste they generate. This has led to increased recycling rates and reduced waste generation. They also have a successful food waste recycling program where food waste is converted into compost or animal feed.

**New Zealand** has a unique approach to waste management with their "Love Food Hate Waste" campaign, which aims to reduce food waste at the source. They provide resources and education on meal planning, portion control, and using leftovers to minimize food waste. They also have community-based initiatives such as "The Free Store" where surplus food is distributed to those in need.

**Taiwan** has implemented a comprehensive waste management system that includes waste reduction, recycling, and resource recovery. They have achieved impressive recycling rates of over 50% through a combination of public education, strict waste separation, and recycling regulations. They also have a successful recycling program for electronic waste and promote the concept of the circular economy.





### 2.4. Award winning initiatives

### The "Zero Waste Scotland" Initiative

Zero Waste Scotland is a government-funded organisation that works towards achieving zero waste goals in Scotland. They have implemented various waste management programs and initiatives, including the "Resource Efficient Circular Economy Accelerator Programme," which supports innovative waste reduction and recycling projects. This initiative has received multiple awards, including the "Circular Economy Award" at the Scottish Resources Awards in 2019.

### The "Zero Waste City" Program in San Francisco, USA

San Francisco is known for its ambitious zero waste goals and innovative waste management practices. The "Zero Waste City" program, which aims to achieve zero waste by 2020, has received recognition and awards for its comprehensive approach to waste reduction and recycling. This includes source separation, composting, and recycling programs, as well as public education and outreach efforts. The program has received awards such as the "Excellence in Municipal Solid Waste Management Award" from the Solid Waste Association of North America (SWANA).

### The "Zero Waste Town" Initiative in Kamikatsu, Japan

Kamikatsu, a small town in Japan, has gained global recognition for its zero waste initiatives. The town has implemented a strict waste sorting and recycling program, with the goal of achieving zero waste by 2020. Their approach includes extensive source separation, composting, and recycling programs, as well as community education and awareness efforts. The town has received awards such as the "Zero Waste Certification" from the Zero Waste International Alliance and has been featured in international media for its innovative waste management practices.

The "Sustainable Resource Management and Circular Economy" Initiative in Flanders, Belgium

The Flemish government has implemented a comprehensive waste management program focused on sustainable resource management and circular economy principles. This includes waste prevention, reuse, recycling, and energy recovery measures, as well as public education and awareness campaigns. The initiative has received awards such as the "European Week for Waste Reduction (EWWR) Award" for its innovative approaches to waste management and circular economy.

### The "Waste-Free Oceans" Initiative

Waste-Free Oceans is a global organisation that aims to tackle marine pollution by collecting and repurposing plastic waste from the ocean. Their innovative approach involves using plastic waste collected from the ocean to create products, such as recycled plastics for manufacturing, while also raising awareness about the issue of marine pollution. The initiative has received awards such as the "Circular Economy Entrepreneurship Award" from the Ellen MacArthur Foundation and has been recognized for its efforts in reducing ocean plastic pollution.







### 2.5. Citizen-led initiatives and practices

Citizen-led initiatives and practices can also play a significant role in waste management and have been recognized for their positive impact. Here are a few examples:

The Repair Café is a global movement that promotes repair, rather than disposal, of household items. It involves organising local events where volunteers with repair skills help citizens fix broken items, such as electronics, furniture, and clothing. This initiative encourages repairability, reduces waste, and promotes a culture of sustainability. The Repair Café has been recognized with various awards, including the "Advocate of the Year Award" from the Right to Repair campaign in the United States.

The Share Economy is a growing movement that encourages sharing and borrowing instead of buying new items, reducing consumption and waste. Examples include community tool libraries, bike sharing programs, and clothing swaps. These initiatives promote resourcefulness, reduce waste, and foster community engagement. The Share Economy has been recognized with awards such as the "People's Voice Award" from the Webby Awards for its positive environmental and social impact.

Plogging is a fitness trend that originated in Sweden and involves picking up litter while jogging or exercising outdoors. This citizen-led initiative combines physical activity with environmental stewardship, helping to clean up public spaces and raise awareness about waste pollution. Plogging has gained recognition worldwide and has been featured in various media outlets for its innovative approach to waste management.





Zero waste lifestyle is a personal commitment to reducing waste and minimising environmental impact. This can involve practices such as reducing consumption, composting, recycling, and using reusable items, among others. Zero waste advocates and practitioners have gained recognition through social media, blogs, and community engagement efforts, and have been recognized for their efforts in promoting sustainable waste management practices.

"Community-led Recycling Programs": In many communities around the world, citizens have taken the initiative to establish and manage their own recycling programs, often in collaboration with local authorities or waste management organisations. These programs involve setting up recycling collection points, educating community members about proper recycling practices, and advocating for improved waste management policies. Community-led recycling programs have been recognized for their grassroots efforts in promoting sustainable waste management practices at the local level.



### **Conclusions**

In conclusion, Chapter 2 of our exploration into household waste and best practices around the world reveals a complex landscape of waste management, both in Europe and on a global scale. While significant progress has been made, there are still substantial challenges to overcome.





In Europe, household waste accounts for a substantial portion of total municipal waste, and despite ambitious recycling targets, the recycling rate in the European Union remains below the desired level. Landfilling, which is environmentally damaging, is still common in certain countries, necessitating a shift in waste management practices.

Efforts to tackle household waste are multifaceted and include waste prevention measures, the promotion of a circular economy, the reduction of single-use plastics, and increasing public awareness about responsible waste management. These strategies are not only the responsibility of policymakers but require active participation from industries, communities, and individuals.

The second part of the chapter provides readers with practical tips and tricks for reducing waste in everyday life, specifically in the bathroom, kitchen, and wardrobe. These small lifestyle changes can collectively lead to significant waste reduction and make a positive impact on the environment.

The chapter then delves into international best practices. Various countries have adopted innovative waste management approaches, from waste-to-energy programs to zero-waste initiatives. Schools, parks, and even leisure activities have been enlisted to promote responsible waste disposal. Travel and tourism have also been incorporated into these efforts.

We highlighted specific initiatives and practices recognized for their positive impact on waste management. Notably, citizen-led movements like the Repair Café, the Share Economy, plogging, zero waste lifestyles, and community-led recycling programs have all contributed to a culture of sustainability.

The chapter underscores the importance of waste management as a critical environmental issue. While many commendable initiatives and practices exist, further efforts are required on both an individual and collective level to reduce household waste and embrace sustainable waste management approaches. By adopting these practices and supporting local and global initiatives, we can collectively work towards a cleaner, greener future.





## CHAPTER 3: RECOMMENDATION FOR NGOS





### Chapter 3: Recommendation for NGOs

Many NGOs want to be more ECO friendly, implement activities, share wisdom, and show that the transformation to ecological thinking is not difficult at all. Sometimes we can be discouraged by others' opinions or a lack of interest. But please do not give up. This chapter will provide you with the tools you can use to motivate people to be more thoughtful to nature and the environment. You will find many different ways on how to motivate people to see sustainability differently. This chapter is also full of specific activities for people who are coming to your organisation, to your events and you can try them out with them. One thing is to spread awareness and organise activities with the focus on the environment but there is also more you can do. Little things you can change in your venue, with your team or the team of volunteers to lighten up the Earth and show people that even small things make a big change. Read further and find out more about what we recommend.

### 3.1. Motivate people to live sustainable life

The term motivation hides a kind of internal force that drives us to a specific activity or behaviour. It can be based on our needs, which when they are not satisfied, the motivation to fulfil them arises. However, with some activities, our motivation decreases or is not high enough to carry out a given activity. For example, if we care about the environment, we are separating the trash, walking instead of driving a car if possible, eating local food, etc., and then seeing someone using their car on ridiculous distances, littering in nature or refusing to separate the trash, might be demotivating. There is a difference between being forceful and judgmental and motivating others. This sub-chapter will focus on recommendations on how NGOs can motivate young people, coworkers and people around us to live more sustainably and more in harmony with nature.

### What many people thinks sustainable life is

As the word sustainability peeks out from every single corner, people might get lost in actual understanding what sustainability is. There are many myths regarding the sustainable lifestyle.

### It is all about recycling

The 5R approach has become popular regarding the environment. Refuse, reuse, reduce, repurpose and recycle. Have you noticed that recycle is the last one? It is because this should be the last option. Recycling itself is not the response to the plastic pollution problem. If we do not produce trash in a first place, then there is nothing to recycle. Many people believe that sustainability is only about recycling, or not using any plastics at all. Creating all what we use takes energy, reusing metals, paper, and plastics reduces the need to get all these materials from the ground, forests, or fossil fuels. Of course, recycling is important, but it is a piece of the puzzle. Living sustainable is not only about recycling.







Source:https://garystockbridge617.getarchive.net/amp/media/marines-pick-up-garbage-on-araha-beach-march-28-as-988cd8

#### Being sustainable is expensive.

Being eco-friendly is often associated with the assumption that sustainable life is expensive. The main point of sustainability is using less of everything. Instead of buying the latest trend, to be more sustainable we can try to use what we already own and find a new purpose for things we barely use. People think that to live sustainably means, they must only shop for bio products, own electric cars, buy clothes from local designers and implement the newest sustainability trends in every area of their life. Sustainability does not have to be expensive! Buying second-hand is cheap, using a bicycle to work/school if possible doesn't cost you anything and these are just a few examples on how to introduce more sustainability into your everyday life. On the other hand, many products which are produced as sustainable can be more expensive, but many of them can save your money in the long term.



#### Sustainability is inconvenient and lowering our standard of living.

For many people, a sustainable way of living is that we must do more with less. As Paul Hawken (environmentalist, activist) says, once we start to organize ourselves and innovate within that mind-set, the breakthroughs are extraordinary. They will allow us to achieve greatly superior rates of resource productivity, which in turn allow us to be prosperous, fed, clad, secure."

#### Individual's choices will not make a difference

Why should I change my behaviour when they do not change it?

"In a world of more than seven billion people, each of us is a drop in the bucket. But with enough drops, we can fill any bucket." David Suzuki

Many people do not see a reason why they should change something in their life, when this change will not stop the climate crisis. The same way might think millions of people, who could, even with small action change a lot. It is difficult to understand why they are being inactive. Moreover, you could be a role model for someone in your life, your kids, your siblings, or friends. As the journey starts from a young age, if you make changes and take steps towards a more sustainable life your kids will be influenced, and maybe more people around you will do the same.



source: pixabay

#### Sustainability means being a vegan

As <u>statistics shows</u> cows and other farm animals produce about 14% of human-induced climate emissions. This is a solid reason to cut off meat consumption. But you do not have to go vegan to be more sustainable. There are many people who can not be vegan, whether it is because of health problems, accessibility, or any other reason. Any kind of reducing meat and





dairy consumption is helpful for the environment. What you can do is when organising an event, training or any other meeting, you can choose to provide vegetarian or vegan meals for all participants. This way, you are protecting the planet, plus imagine how many people might realise how delicious vegan food is and include it in their diet.

Certainly, there are more myths about sustainability. Many worldwide brands use the word sustainability to attract customers while it is usually just marketing or greenwashing.

#### What sustainable life really is

Sustainable lifestyle is a lifestyle philosophy that aims to reduce our impact on our environment by making positive changes which act against climate change and any other negative environmental issues. Sustainable living means to act in favour of nature and reduce our carbon footprint. Simply said, people who are living sustainably try to minimise their use of Earth's resources and decrease their impact on the environment in every sphere of their life. Practising sustainability in our household (like recycling, composting, using solar alternative sources of energy...), work, community and lifestyle ensure that we prioritise using renewable resources. This is the only meaningful way we can make sure the future generation will live without compromises.

But sustainability is not only about individuals. The way we live our lives and a sustainable approach are highly interconnected and reach deeper into larger, global principles. In 2015 all United Nations Member States adopted The Agenda 2030 for Sustainable development. The agenda consist of 17 goals which are an urgent call for an action for all countries in a global partnership. The SDG provides a plan for prosperity, peace for the future generation, for people and the planet.





NO POVERTY

































source: un.org







#### Why do we want to motivate people to live more sustainable life

There are still so many people who do not even believe that the climate crisis is a real problem which we are currently facing. We can see so many indicators such as increasing average temperature, melting the icebergs, long drought which damages the corp, severe fires caused by drought... If we want to stay living without compromises and make sure our descendants will have a future, then we must act now. Everyone must start from themselves but if we can influence the community, masses or even another individual we should do it.

As we said in the beginning of this chapter, motivation is rooted from our beliefs. But we people are easily influenced by our friends, by commercials, by suggestions of our coworkers or our neighbour.



source: pexels

#### How can we motivate people to live more sustainable life

Above are listed a few reasons why people doubt sustainability and why are many people discouraged to adopt green habits. The following section will give you five ways to motivate people to switch to a more sustainable lifestyle.

<u>Give knowledge</u> – On a daily basis, people are overwhelmed by the amount of information they receive. It has become uneasy to follow what is correct and what is not. Media, posters, grocery stores, and technological companies, the whole world is using the word sustainability and for many people, it is difficult to understand what this word stands for. People need to know why they should take action and how to do it. People tend to refuse unfamiliar changes, so it is better to provide them with the information step by step. We do not recommend overwhelming someone with a lot of statistical data. Give them the knowledge to understand why a sustainable lifestyle is a way to preserve the Earth for the future generation and tell them how to do it. Small steps are more likely to become a habit than a big change at once.



<u>Help people to process the information</u> – People tend to absorb information and ideas in specific ways. Therefore, it is unlikely that if we show them pictures of a sinking polar bear, they will make up their minds and change their lifestyles. People are most affected by stories and someone else's experiences. Repeating the message about climate change and hearing the same multiple times could be bothersome. So instead give them interesting stories, tell them about new sustainable approaches or about a change you have made in your life and how that makes you feel.

<u>Take one step at the time</u> – People want to feel comfortable and major change can be overwhelming. Consider combining new things with something that people already know so they would not feel like it is a big transformation. Simple example – if someone likes to hike, a new thing may be - take a trash bag with you and pick up trash along the way. They would still be doing the same activity they enjoy, but picking up litter would have added value. Find ways to gradually introduce new things.

<u>Set an example</u> – Setting an example for your community, family, friends, or coworkers is the easiest thing you can do. You do not have to tell them why you separate the waste, or why you bring your own cup to the café and have your reusable water bottle always in your bag. When they see it, they might be curious, or they might just like the print on your fabric bag, so they would get one and start using it for shopping. You can remind them to turn off the light when they are visiting your house, or maybe introduce them with your compost earthworms. These little things can change someone's whole perspective on sustainability.

<u>Show them all the advantages</u> – Sustainable living has many benefits. For many people, saving money is the most interesting thing. And it is true when you do not waste energy, water, and other resources you would find out how much you can save on their costs. The same applies to groceries. If we waste food, we are literally throwing money into the garbage. If we prepare a shopping list, we will buy what we actually need and reduce food waste = save money. This applies to many other areas of everyone's life. Saving money is an amazing benefit of sustainability. Health benefits can also be attractive to many people. Reducing meat and dairy consumption can help more than just our wallets. High meat consumption is strongly linked to health problems.

<u>New project/initiative focused on environment</u> – Joining a new project can teach you a lot of new things as an organisation that you may never have considered. There are many possibilities for funding a project with an ecological focus. You may either join a project or you can come up with your own ideas and create a project of your own design. This way you can involve at the local level the public, schools, other organisations, or sport clubs.

<u>Create a space for support</u> – Let local businesses, corporates and stakeholders know about the ecological activities, projects, or events which you are organising so they can contribute in any way they can. In this way, you can also raise awareness among their employees, customers and business partners. Their decision to contribute can be beneficial for your NGO, for the environment and can also help to improve the social status of the involved company/stakeholder/corporate. The decision will be beneficial for all parties involved.

<u>Capacity building and training</u> – You can offer training programs and capacity-building workshops to empower individuals and communities to act for the environment. These





programs can focus on sustainable farming practices, renewable energy technologies, eco-friendly business practices, and conservation techniques.

<u>International awareness campaigns</u> – Participate in global environmental campaigns, such as Earth Day, World Environment Day, or Climate Action Week. By joining these initiatives, NGOs contribute to a broader global movement and help raise awareness about environmental issues on an international scale.

<u>Organise an ecological event</u> – It does not matter if it is plogging, cleaning illegal dumps or a day full of activities that teach kids to care for the environment. Everything counts. This way you can lead people to think more about the way we treat our Earth and inspire them to be more thoughtful, resourceful and respectful to our planet.

<u>Engagement of the community</u> – You can work closely with local communities to foster environmental awareness. This could include organising community clean-ups, tree planting initiatives or supporting local sustainable projects. Involving community members in hands-on activities will help them gain a deeper understanding of environmental issues.

<u>Media and social media campaigns</u> – It is good to utilise traditional and digital media platforms to spread environmental awareness. They can create compelling content, share success stories, and highlight environmental challenges through documentaries, articles, videos, and social media campaigns. This helps reach a wider audience and spark public debate.

#### 3.2 Good practices

There is no doubt that the best time to start learning the principles of sustainable approach is at birth. The best way to learn and acquire habits is from a young age. We are less likely to turn the other way in our lifetime. Many who have been taught this since they were kids do not even realise, they are living sustainably, for them it is just a normal way of living. However, we can change our attitude towards the environment at any time.

This chapter will introduce the good practices for NGOs regarding the waste management. A verified approach can be implemented or can be used as a motivation for others to use it. The chapter also contains a few examples of entertaining ways to teach people to take care of the environment, separate waste and save water and energy. There will be some activities aimed at children, but we will also provide you with some ideas for youth and adults.

5 practices of waste management – 5R'S

Mostly we hear about the importance of recycling. According to 5 practices of waste management recycling is at the end. Prior to recycling is refuse, reduce, reuse, repurpose, and recycle. Applying the 5 R'S to your waste management might positively influence the amount of waste your NGO produces. We will explain each 5 R's, their benefits and how to use them in practice.





Implementing these 5 practices may take a lot of thought at first but once you master it, understand the hierarchy, and start thinking about recycling as one of the last options you will forget any other way of waste disposal.



#### Nr.1 REFUSE

Refuse represents the first element of the 5 R's. Especially in the NGO sector, this might be more difficult as gifts or sponsorships could be crucial for their work. However, if you want to implement the waste strategy you must learn how to say no to garbage. Adopting this step into your strategy is a very beneficial way how to minimise your waste production. Talk to your partners, stakeholders and sponsors about the replacement of things which are not sustainable or reusable. Refuse unnecessary products such as promotional gifts. When having one supplier talk with him about reusable containers/ or boxes. Dealing with the situation and setting an example of your waste strategy is beneficial for you and also your partners and sponsors can also try to figure out a more sustainable solution. Saying no to waste is the first important step to minimise your waste.

#### Nr.2 REDUCE

Reduce the use of harmful and non-reusable products. Second step of the 5 R's is *reduce* which means, reduce the amount of the sources you are using. If you reduce your independence of non-recyclable products less of the waste materials will end up in the landfill and this way you are also reducing the negative environmental impact. We suggest always using the minimum recommended amount. For example, if you are printing, print double-side to cut down on your waste.





#### Nr.3 REUSE

Single plastic has become present in our everyday life. It has become normal to buy a smoothie and throw the plastic cup to the trash can 10 minutes later. This plastic culture and the rate of plastics consumption has become one of the world's environmental crises. To reduce plastic waste - try to change what is possible for a reusable option. Start focusing on one area at a time. Great start for example is swapping out rechargeable batteries, swapping plastic cutlery for reusable cutlery or swapping out printer cartridges for refillable ones.

#### Nr.4 REPREPOSE

Anything we can't reject, reduce or reuse, we can try to reuse. This method is also called upcycling in the green community. You would be surprised how many common items can serve more than one purpose. Sometimes you need to use your creativity to find out how to repurpose some of the items, but you can also search for it on the internet. There are plenty of ideas. You can repurpose cardboard boxes for your supplies, Mason jars as a holder for pencils and pens in your office. You can set up one "upcycling station" so everyone in your community can check there if they will not find what they need before buying a new item.

#### **NR.5 RECYCLE**

Once you have gone through all 4 practices there is one last left - recycling. If you do not recycle in your organisation, you should start right now. You would be surprised by the amount of waste your organisation can reduce by implementing an effective recycling system.

Now think for a moment about the 5R's practices of waste management. It makes sense to take a few steps to reduce the waste and it can also be a creative activity. It is never late to implement this strategy to your organisation.

#### 3.3. How can you deal with the waste in your organisation

In the previous chapter we provided some advice on how to motivate people to be more sustainable. Also, all 5R's are the best and most efficient steps you can take. In this subchapter, we would like to give you a few specific examples on how you can manage your waste.

The NGO sector is very wide- range and can influence masses of citizens, stakeholders and other organisations. For some people the only needed stimulus is to have a role model. Others need to be led to recycle the trash, reduce their usage of the plastics and so on.

If you are interested in the environment and care about the green future of our planet you might find these 4 practices useful.

#### Trash segregation

The most basic thing you can do is have bins for waste separation. This way everyone who will ever come to your organisation, will be forced to think about where to throw their garbage.





You might put up a manual on what belongs to which bin, and they can be divided according to colour. It is as simple as it sounds.

#### No single use products

The European Union has already banned single-use plastic plates and straws. We can not buy them in the stores anymore. Many people think that replacing plastic cups, cutlery, or plates with paper ones is more sustainable or green. In this way there is still the production of garbage after a single use, it cannot be considered a better choice. The best choice is to use ceramic plates and regular cutlery. We know cleaning them takes energy and it might be boring, but you will never use them just once or twice in a lifetime, so it is the best option.

#### **Eco-friendly events**

Your organisation is in the process of preparing a big event for youth and your creative team is brainstorming all necessities. The preparation phase is the best one for thinking about our environment and how we can make it as green as possible. There are many manuals and advice on the internet on how to make your event more sustainable and what you have to think of in advance. Once your event is in harmony with nature, you're already promoting your organisation as caring and responsible. Take a little bit of extra time and think about how you can prepare your event more sustainably.

#### Spread awareness!

NGO's and youth workers have a great position and responsibility; they can spread the word into wide communities. It is very important to emphasise how important is waste segregation, efficient use of resources and sustainable living to youth. This can be done by implementing ecological practices into different activities, identity of the organisation.

#### Adopt healthy habits

Focus on education about waste, which you can implement, for example, in the form of workshops or several frequent publications for individual periods. Try to focus on basic sustainable skills such as separation and recycling of different materials, proper waste containers, etc.

#### 3.4. Activities to reduce the waste

#### Give a thing a new purpose

Create a workshop where you will give an old thing a new purpose. What can be an old broken cup used for? Create a fancy flowerpot, if the cup is just a little bit broken off and it has a beautiful pattern you can plant a flower there. It would be a shame just to throw it away when it can be a decoration. What can you do with old gappy jeans? Give them a new look, with a little bit of touch of a needle you can create a practical jeans bag. Give your trash a new look. The participants can use their creativity while having fun and doing something beneficial for the environment.

#### Organise a swap

Swap is the best opportunity to get rid of the thing you do not need. Things which would eventually become your trash. This is an event where you can involve everyone, youth, public,





colleagues. Everyone can bring sorted out clothes, books, maybe some items they do not use anymore, but it is still perfectly usable. This one thing which no longer has a place in your home might be a perfect fit for someone else. This is a win- win situation as you will get rid of something you do not need anymore and someone else can get a thing which they need and do not have to buy a new one.



Source: pexels.com

#### Make a fun competition

Make a competition and create a sport equipment or vehicle from garbage. Have you ever seen a boat made of plastic bottles? Or a greenhouse made of plastic bottles? It is possible to create. It depends on what you need and what you can use in your community. Plan it in advance- make a competition for people in your organisation. Who will collect most of the garbage/ material which you need for the activity. You can also make a competition of who can create something useful out of the garbage and then rate the outcome.

#### Organise a tour

Take youths from your organisation for a tour to different companies focused on trash segregation or to a landfill if possible. There are already few organisations that offer a tour around their property, where they can provide information, what they are doing and what technology they use. There are also companies who are using the trash to produce new products using innovative modern technologies. This is a way which might also motivate youth to create something innovative. Maybe there will be someone who can come up with an idea on how to use certain types of waste for a good purpose.

#### Connect different generation

Our ancestors did not have to think about being sustainable. They didn't know any other way. At their time there was a lack of many products we have on a daily basis these days, so they





appreciated it more. They didn't throw away the food, they planned the meals in advance. What they grew and did not eat, they canned or froze. The milk was distributed in glass bottles, many people had their own garden to grow their vegetables and during the winter they were only using local products from the summer season. They had a great knowledge on how not to waste. Even if there was a little bit of food waste- mostly vegetable peels, it ended up as a food for the animals. When they went shopping, they always had their own reusable bags, those which are now considered as something trendy. They used them as the most basic thing. If an electronic broke down, there was always someone around who was able to repair it. The ladies were able to sew and could repair a torn-up jacket or trousers, so they did not end up at the landfill. The same happened with a broken shoe. Everything was different those days. As now we have different time, fast paced environment, advanced technologies we do not want to compare the generation. We want to refer to their habits, to what they consider as common we must learn, and some people do not understand why it is needed. Therefore, it might be beneficial to our environment to connect elderly generation with youth so they can show them it is not that difficult to live more sustainably.



source: pexels

#### Conclusion

For the protection of our planet, we must change something, not only individuals, but communities, business, corporate, NGO's and politics.

Getting back to the habits of our ancestors is beneficial for the future of our planet, for the environment and it is prosperous for us. Creating waste is easy, we do not even have to think





about it but our planet is suffering under the piles of trash. Let's bring the change and motivate the young generation to acquire new sustainable habits.

In the end it doesn't matter if you are an NGO focused on the environment or not, everyone can be a contributor to the change. Even small things can lead to a better and greener future. We summarised the most common myths about sustainable lifestyle. Not everything can work for you or your organisation, but once you will try to change something you will see it is not that difficult and people in your community will get used to it very quickly.

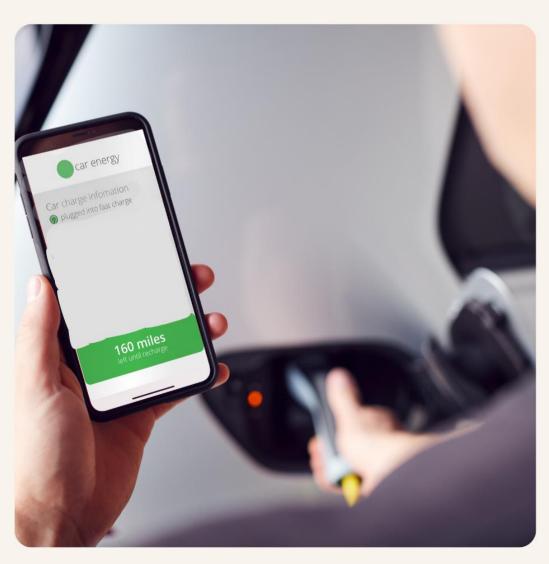
All the games, activities and changes in your office- all of this should be implemented step by step. You can reach a longer distance with smaller steps. Give a chance to a change and you will see the results immediately, even if it would be one person who will take notice and get inspired.

All activities listed in the last sub- chapter can be adjusted and are suitable for any age group.



# **CHAPTER 4:**

# EXAMPLES OF DIGITAL TOOLS THAT TACKLE ENVIRONMENTAL ISSUES





# Chapter 4: Examples of digital tools that tackle environmental issues.

#### 4.1. Digital way of spreading the environmental message

Technology's rapid growth has completely changed how people communicate, share information, and form opinions. The internet has developed into an essential tool for sharing ideas, generating awareness, and encouraging action in the digital age. A sustainable future must be built by utilising the power of digital platforms to spread the environmental message. Greater interest, understanding, and engagement in environmental conservation, sustainable living, and appropriate waste disposal can be encouraged by including young people through online platforms.

The following needs are addressed when online waste disposal techniques are utilised to promote sustainable lifestyles:

- Accessible Information: The internet offers a wealth of information readily available to anyone with an internet connection. Online platforms allow individuals to access valuable resources, educational materials, and practical tips on sustainable living and waste management. By making this information widely accessible, it is easy empower individuals to make informed decisions and adopt eco-friendly practices.
- 2. Global Outreach: The internet transcends geographical boundaries, enabling the environmental message to reach a global audience. Through social media, websites, and online campaigns, environmental organisations and activists can connect with individuals from different cultures, backgrounds, and age groups, creating a united front for environmental conservation. This global outreach is essential to address environmental challenges that transcend borders, such as climate change and habitat destruction.
- 3. Engaging Visual Content: Digital platforms provide a dynamic medium for delivering engaging and visually captivating content. Through videos, infographics, and interactive media, we can effectively convey the urgency and importance of sustainable living. Visual content not only captures attention but also has a higher potential for sharing, making it an effective tool for raising awareness among young people and inspiring them to take action.
- 4. Peer Influence and Social Networks: The online world is driven by social networks, and young people, in particular, are heavily influenced by their peers. By integrating environmental messages into social media platforms, online influencers, and youth-oriented websites, we can leverage the power of peer influence to promote sustainable lifestyles. Encouraging and facilitating dialogue about environmental issues within these networks allows for the exchange of ideas, fostering a culture of environmental responsibility.
- 5. Young People: Young people play a vital role in shaping the future of our planet. Engaging them in the environmental movement is crucial for sustainable development. The digital realm is the natural space to connect with this target group due to their high level of internet usage, tech-savviness, and inclination towards online activism. By tailoring messages to resonate with their interests, values, and aspirations, we can mobilise young people to become change agents in their communities. Moreover,





empowering young people with knowledge and tools to promote sustainable lifestyles and responsible waste disposal online fosters a sense of ownership and responsibility towards the environment.

The digital way of spreading the environmental message holds immense potential to promote sustainable living and responsible waste disposal. By utilising online platforms, we can reach a vast audience, engage young people, and inspire them to adopt eco-friendly practices. The digital wave has the power to create a global movement that transcends boundaries and ignites a passion for environmental conservation. Let us harness the power of technology and digital communication to build a sustainable future, one online interaction at a time.



To address this issue, digital tools can be allies in waste management and preservation of the environment. If the increased use of new technologies benefits society in general, their use in such an important aspect as waste management is just as important. The application of new technologies such as Artificial Intelligence, blockchain, the Internet of Things (IoT), data analytics, cloud computing, and robotics in waste management and treatment can indeed bring about significant benefits in achieving more sustainable materials management. Here's how each of these technologies contributes to this goal:

- 1. Efficiency and Optimization: All can be used to optimise waste collection routes and schedules, ensuring that trucks are deployed where and when they are most needed. This reduces fuel consumption and emissions. All can also predict equipment maintenance needs, minimising downtime and reducing the need for new equipment, which in turn conserves resources.
- 2. Waste Sorting and Recycling: Robotics and Al-powered machines can sort and separate recyclable materials from waste more efficiently than manual labour. They can recognize and categorise different types of waste, improving recycling rates and reducing the amount of waste sent to landfills or incineration.





- 3. IoT and Sensor Technology: IoT devices can be installed in waste bins and containers to monitor their fill levels in real-time. This data can be used to optimise collection routes, reducing unnecessary trips and fuel consumption. Moreover, sensors can detect leaks or other issues at waste disposal sites, preventing environmental contamination.
- 4. Data Analytic: Data analytics can process vast amounts of data from various sources, including sensors, GPS, and waste composition analysis. This information can be used to identify trends, assess the effectiveness of waste management programs, and make data-driven decisions to improve efficiency and sustainability.
- 5. Blockchain for Transparency: Blockchain technology can be used to create transparent and tamper-proof records of waste management activities. This can help ensure that waste is disposed of properly and legally, reducing illegal dumping and ensuring accountability throughout the waste management supply chain.
- 6. Cloud Computing: Cloud-based platforms can centralise data and applications, making it easier for waste management companies and municipalities to access and share information. This promotes collaboration and coordination among stakeholders and enables real-time monitoring and control of waste management processes.
- 7. Resource Recovery: Technologies like AI and robotics can be used in waste-to-energy facilities to maximise energy recovery from waste. This not only reduces the environmental impact of waste disposal but also generates renewable energy, contributing to a more sustainable energy mix.
- 8. Cost Reduction: Many of these technologies can help reduce operational costs in waste management. For example, AI can minimise labour costs, while optimised routes and reduced equipment maintenance can save on fuel and maintenance expenses. These cost savings can free up resources for further investments in sustainability initiatives.
- 9. Environmental Impact Reduction: By optimising waste management processes, increasing recycling rates, and minimising transportation and disposal-related emissions, these technologies collectively reduce the overall environmental impact of waste management, aligning with sustainability goals.

Technological innovation will make it easier for manufacturers to use recycled materials as it will allow consumers to make better purchasing decisions and improve recycling companies' access to better logistics and the quantities of material to be recycled, among other things. An example of this are the Smart Waste services, which improve waste recovery and management by favouring a circular economy through the use of Big Data and IoT, thereby helping to optimise waste collection truck routes. Smart Waste Management is an innovative method of processing and collecting waste. Smart waste management, which is based on Internet of Things (IoT) technology, offers information on the behaviour and trends of trash generation. By addressing budget cuts and high sustainability goals, this enables towns, cities, and garbage collectors to efficiently manage their waste operations, be more sustainable, and make better business choices. One company reinventing the waste management sector with smart sensors and data insights to improve the way we collect and handle waste is





NORDSENSE, which provides smart waste services. Israel, Europe, and North America are the current operating regions for NORDSENSE. ENEVO, EVREKA, SENSONEO, etc. are further examples of businesses that provide Smart Waste services globally.



Another example in waste collection is the process of documentation, communication and billing. Here, the ongoing switch from paper-based administration systems to digital systems, as seen in other industries, will further increase the efficiency of processes and flow of information. The technologies involved include digital identity tags for waste bins and containers, digital order processing, digital billing and payment, digital user interfaces for communication with consumers, and connecting public waste collection providers with other relevant governmental databases. If these digital technologies are applied in documentation processes, they can be used to gather waste-related data from the public.

Digitalization also enables the development of advanced 'know-as-you-throw' schemes. In these schemes, waste management operators use radio-frequency identification (RFID) to monitor waste fractions at household level. A chip follows the waste and, once the operator has determined the quantity and quality of separation, this information is automatically fed back to the individual or company who generated the waste. Providing tailored messaging — e.g., appreciation for waste savings or good separation behaviour — can help nudge consumers towards better waste management practices, intersecting with waste prevention programmes.

In recent years, environmental problems have become a more serious issue worldwide due to the increasing damage caused by climate change. People's environmental awareness has grown, and public opinion is now demanding effective action. The role of young people has







become more important on this topic. Young people constitute a large part of the world population and young people will have to live longer with the consequences of current environmental decisions than the elders. Future generations will also be affected by these decisions and the extent to which they have addressed concerns such as the depletion of resources, biodiversity loss, and long-lived radioactive wastes.

Young people can play an active role in protecting and improving the environment. They can change their lifestyle and how it affects the environment. The youngsters serve as an excellent informational conduit for many community players. They are more knowledgeable about modern digital tools. By giving them the necessary training and abilities, they will be better equipped to gather, package, and distribute knowledge about sustainable urban waste management throughout their communities.

The youth have a lot to offer on waste management, especially with the emergence of social media. An example of this is a Facebook Ad campaign from Kredsløb, the organisation that manages waste collection and recycling in the city of Aarhus, Denmark. As thousands of new students are moving in and out of the city, Kredsløb invites the public to learn more about the city and also how to manage their bulky waste. (attached link of the facebook video for reference) https://www.facebook.com/watch/?v=598614988456935&t=0

One youth can mobilise thousands with just a click from their phone. They can make their homes, schools and youth organisations more environmentally friendly by adopting environmentally friendly practices, recycling of different materials as well as preserving resources such as water and electricity. Engaging youth in environmental protection not only creates a direct impact on changing youth behaviours and attitudes, but possibly influences their friends, relatives and families.





#### 4.2. What other environmentally focused apps, tools exist

#### 1- TrashOut, Slovakia (App)



#### https://www.trashout.ngo/es-ar/home

TrashOut is an environmental project which aims to map all illegal dumps around the world and help citizens recycle more. Thanks to TrashOut, all people can have a real impact on their environment, all you need is a smartphone.

#### How does it work?

- 1. Report an illegal dump.
- 2. If an illegal dump is found, take a picture and report it using the TrashOut mobile app. Relevant people get notified.
- 3. Environmental organisations, municipalities and interested individuals who subscribed to receiving notifications will be notified via email.
- 4. Cleaning event is organised.
- 5. Environmental organisation, municipality or a local activist organises a cleaning event. You can even join in.
- 6. Dump which was reported is cleaned up. After the event, the user will be notified that the dump reported has been cleaned up. On to the next one!

Active in more than 100 countries worldwide.

TrashOut is also active on Facebook where the app's use and knowledgeable content is published. https://www.facebook.com/trashout.ngo/

#### 2- Ecosia, Germany (Search Engine)



https://www.ecosia.org/?c=es





Plant trees while searching the web! In order to plant trees where they are most needed, this search engine uses the revenue generated from searches. This search engine is a free browser extension that "plants trees with every search."

#### What Ecosia stands for:

- 1. 100% of the profits are for the good of the planet. All the profits of Ecosia are used for climate action, with at least 80% going to finance forestry projects around the world.
- 2. Privacy of the users comes first. Ecosia is interested in the trees, not data of the users.
- 3. Sweeping transparency: Stay up to date with Ecosia's latest tree planting projects, how much money is made from the searches, and how the profits are spent. No secrets or greenwashing.
- 4. Beyond neutrality: Ecosia's solar panels produce twice the energy needed to power the searches of the users.

How does Ecosia work?

- Search the web with Ecosia
- Search ads generate income for Ecosia
- Ecosia uses this income to plant trees

Ecosia plants in more than 35 countries worldwide with local organisations. Over 174 million trees have been planted all around the world.

#### 3- Go Green Challenge, Germany (App):



https://play.google.com/store/apps/details?id=net.exystem.greendharmaproject&hl=es\_419&gl=ES

The globe will become a little bit greener due to this application's contribution to environmental preservation. Users of the app are given daily and weekly challenges to complete. By solving tasks, users can improve their impact on the environment according to the principle: Many few make a lot!

#### Features:

Weekly and daily tasks





- Get points with history
- Directions and information about environmental issues

#### 4- Oroeco, California (Search Engine):



#### https://www.oroeco.org/

For more than a decade, Oroeco has been developing technology tools that make climate action fun and useful for everyone. Thousands of climate champions representing nearly every country in the world have used Oroeco, and Oroeco has earned many awards and media mentions along the way. However, Oroeco still needs to gain momentum in order to achieve its aim of building a platform that would enable billions of people to live sustainable lives and magnify their voices into a powerful global force for good.

For the launch of Oroeco 3.0, Oroeco collaborates with the 360Plus Foundation and their global network of young climate champions known as the Leadership Collective. A nonprofit's mission is most suited to achieving Oroeco's objectives for increased climate action.

To combat climate change, Oroeco is launching an online and mobile platform that makes it enjoyable, simple, and rewarding for everyone to participate.

#### 5- EcoHero, Slovakia (App):



https://ecohero.app/





Be the change & inspiration. Users of the EcoHero app can monitor their impact on the environment with each activity they perform. See how simple it is to change behavior to save resources and cut pollution! Small adjustments to daily actions can have a significant influence on the environment. Keep track of all environmentally friendly activities. Users' footprint summary will demonstrate how much CO2, land, and water were successfully conserved.

#### Tracked activities:

- 1- Meals
- 2- Transport
- 3- Lifestyle
- 4- Plastic

**Share activities and inspire others-** All of the tracked activities of the users can be seen in the news feed by their followers, and the users can also share their contribution to the environment on social media.

**Motivate & Educate yourself-** Learn about the potential effects of conserving land and water, as well as how much CO2 may be cut by making small behavioural adjustments, with EcoHero. Through weekly challenges, award badges, and a level system, discover new eco-activities and remain motivated to advance.

#### 6- JouleBug, US (App):



#### https://www.ioulebua.com/

JouleBug is a smartphone app for employee engagement that informs and inspires individuals to take action in support of the organisation's sustainability and environmental goals. The software makes it simple, enjoyable, and easy to get people involved in sustainability goals.

JouleBug involves people in practical tasks and hands-on learning opportunities that change behaviours and yield quantifiable outcomes. Through the power of play, education, and group effort, the challenges offered in the app progress the company mission through collaboration and competition.

- Design authentic, brand-aligned educational activities in a matter of minutes.
- Select from more than 70 measurable sustainability initiatives or create one for personal use.
- Keep tabs on personal, the team's, and the organisation's environmental impacts for CO2, water, and waste.
- Foster collaboration by providing employees with a private, secure network where they can express their sustainable action progress and accomplishments.





Collectively, JouleBug participants saved the following in 2022:

14.2 million litters of water; 116 million kilograms of CO2; and 75,000 kilograms of waste

#### 7- iRecycle, US (App):



#### https://play.google.com/store/apps/details?id=com.earth911.irecycle&hl=es&gl=US.

The key to making the earth cleaner is iRecycle. By assisting users in sorting and depositing recyclables successfully, iRecycle aims to enhance US recycling rates. Users can search for the recyclables and recyclers that will accept them using the iRecycle app. It includes a well-designed search directory that enables users to seek up products of all categories, from household goods to automobiles, and it gives pertinent information about the drop-off point, such as location address, phone number, and opening hours. The iRecycle app also has a news area that presents the most recent information on the garbage and recycling industries.

More than 110,000 recycling programs in more than 250,000 locations can be reached through iRecycle's location, phone, and website connections. iRecycle makes recycling simpler.

With iRecycle, get involved in the recycling movement!

#### 8- Litterati, California (App):



https://www.litterati.org/





Providing Data On The World's Litter- Giving people the tools they need to make the world a cleaner place.

What if residents knew exactly what was leaving their neighbourhood littered? Each and every item, component, brand, and their placements. maps of problem areas and unlawful dumps. Governments, communities, and enterprise customers can diagnose the situation of litter with Litterati's Analyze platform and take decisive steps to stop it from occurring in the first place.

Determine Each Item's Brand, Material, and Use- Users can obtain precise information about what is left behind on the streets, walkways, and beaches, whether it be a Starbucks plastic cup, a Coke aluminium can, or a Marlboro cigarette butt.

Block by block Measurements- Why are certain streets filthy while others are clean? What kind of trash can be found in a certain area? Users can learn more about the underlying issues and decide where to focus their efforts by comparing various districts, neighbourhoods, or even streets.

Millions of Data Points at the Fingertips of users- Diagnose the root cause of litter. From easy-to-use visualisation tools to advanced analytics, the Analyze platform helps users understand what litter is appearing where.

Active in 185 countries.

#### 9- Love Clean Streets, UK (App):



#### https://www.lovecleanstreets.com/reports/home

The application is only available in the UK.

Use the UK's Top Environmental Reporting Service to Report Environmental Issues.

Making an environmental report is easy. Love Clean Streets makes it simple to automatically report environmental issues to the local government. Users can report graffiti, fly-tipping or fly-posting, potholes, abandoned cars, dog mess, and many other waste categories. When users make a report, they can choose from a list of categories relevant to their area.

The only application that 'Keep Britain Tidy', 'Keep Scotland Beautiful', and 'Keep Wales Tidy' endorse and support. It is totally free and simple to use.





#### Conclusion

In conclusion, the chapter discusses examples of digital tools that tackle environmental issues. It emphasises the importance of using digital platforms to spread the environmental message, particularly to young people. By promoting sustainable lifestyles and waste disposal online, we can engage a wider audience and inspire action. Additionally, the chapter stresses the significance of sustainable waste management, highlighting its environmental consequences like contamination, climate change, and health risks. Sustainable waste management involves waste reduction, recycling, and composting. The chapter concludes by showcasing various digital tools and apps that address environmental issues, illustrating how technology can promote sustainability, engage individuals, and positively impact the environment.



### TRACK MAP CLEAN

"The greatest threat to our planet is the belief that someone else will save it."

— Robert Swan —











## Objectives of the project are:

- Create educational tools to support youth workers in their trainings targeting the development of green skills of young people;
- Raise awareness of the environmental issues caused by waste, among young people;
- Create digital solutions to environmental problems in the youth work field;
- o Foster youth civic participation in the development of innovative solutions to overcome environmental problems.



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