



# Halting ocean plastics pollution

A Policy Brief from the Policy Learning Platform on  
Environment and resource efficiency

August 2021



**Interreg  
Europe**



European Union | European Regional Development Fund

**Contents**

Summary..... 3

Introduction..... 3

    Plastics – a new material conquers the world..... 3

    Plastics in the environment – the flipside of the success ..... 4

    A sustainable blue economy ..... 4

Ocean plastic pollution in the EU policy context..... 5

    Marine Strategy Framework Directive (MSFD) ..... 5

    European Strategy for Plastics in a Circular Economy ..... 5

    European Green Deal (EGD)..... 5

    Zero Pollution Action Plan ..... 5

    Blue Economy for a sustainable future..... 5

Implementing a system change to halt ocean plastics pollution ..... 6

Reduction and substitution of single-use plastic items..... 7

    Single-use plastic products ..... 8

Collection and recycling of plastic waste ..... 10

    Collection..... 10

    Recycling of end-of-life plastics ..... 11

Removing litter from the environment ..... 13

    Inspiring local initiatives ..... 13

European support against marine litter and plastic pollution..... 15

    EU financial support ..... 15

    Interreg Europe ..... 15

Recommendations and key learnings ..... 16

Sources for further information ..... 17

    Policy Learning Platform information: ..... 17

    Other sources: ..... 17



## Summary

Plastics are versatile materials used widely for packaging and in industry sectors such as building and construction, automotive and electronics. Their production is predicted to double again by 2040. However, plastics production, use and discharge are still “linear”, with less than 6% of plastics being recycled. Plastics are mostly incinerated, exported or landfilled and are ending up in the environment. In Europe, up to 500,000 tons of plastic waste are leaking into the ocean every year with devastating effects on marine and coastal ecosystems, animal and human health and the blue economy. Europe is determined to reverse the trend and is implementing numerous policies to halt plastic pollution by addressing single-use plastic items, separate collection, recycling, littering and more.

The present policy brief aspires to help municipalities and regions to find suitable solutions for addressing the challenges of ocean plastics pollution. It illustrates how communities are engaging the civil society to tackle the massive issue of littering in cities, forests, rivers and at beaches. It showcases how local businesses are creating circular value chains that allow recycling plastics and it highlights how plastics waste can be reduced by public administrations and the tourism industry, at festivals, beaches and in restaurants. It is also conceived to inspire every citizen to make an active contribution in the reduction of plastic waste and thus help halting ocean plastic pollution.

## Introduction

### Plastics – a new material conquers the world

The wide range of completely synthetic materials that are today known as modern plastics started to be developed [over 100 years ago](#) with the breakthrough of Belgian-American chemist Leo Baekeland who created Bakelite, the first real synthetic, mass-produced plastic in 1907.

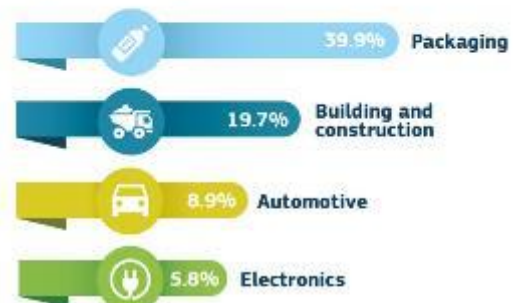
Today, plastics are used widely across the economy in sectors as diverse as packaging, construction, transportation, healthcare and electronics. Plastics are mainly derived from fossil fuels which are distilled to separate the heavy crude oil into groups of lighter components, called fractions. One of these fractions, naphtha, is the crucial compound for plastics production. Plastics can be grouped into [two main polymer families](#):

- Thermoplastics (which soften on heating and then harden again on cooling) such as Polyethylene (PE), Polyethylene terephthalate (PET), Polyvinyl chloride (PVC), Polypropylene (PP) and Polystyrene (PS);
- Thermosets (which never soften once they have been moulded) such as Epoxide (EP), Phenol-formaldehyde (PF), Polyurethane (PUR) and Unsaturated polyester resins (UP).

[The success of plastics](#) is reflected in the exponential growth in their production over the last century. Since 1964, plastics production world-wide has increased 20-fold, reaching 368 million tons in 2019. It is expected to double again over the next 20 years. In Europe, the plastics consumption rate has been quite stable at around 60 million tons per year but now started to show a decline: from 61.8 million tons in 2018 to 57.9 million tons in 2019.

### EUROPEAN PLASTICS DEMAND IN 2015

49 million tonnes



EU-28, Norway and Switzerland – Source: Plastics Europe (2016)

## Plastics in the environment – the flipside of the success

The [European Strategy for Plastics in a Circular Economy](#) points out that the way plastics are currently produced, used and discarded fails to capture the economic benefits of a more circular approach and harms the environment. It is estimated that plastic accounts for over 80% of marine litter. Plastic debris is transported by marine currents, sometimes over very long distances. It can be washed up on land, degrade into microplastics or form dense areas of marine litter trapped in ocean gyres. These environmental problems cast a long shadow over the production, use and consumption of plastics.

Large amounts of plastic litter are leaking into the oceans every year ([5-13 million tons globally](#)). [In the EU, 150 000 to 500 000 tonnes of plastic waste enter the oceans every year](#) from sources both on land and at sea. This represents a small proportion of global marine litter but plastic waste from European sources ends up in particularly vulnerable marine areas, such as the Mediterranean Sea and parts of the Arctic Ocean. This phenomenon is exacerbated by the **increasing amount of plastic waste** generated each year, the growing consumption of **'single-use' plastics** and new sources of plastic leakage such as **microplastics**, tiny fragments that can be ingested by marine life and that can also enter the food chain. Recent studies also found microplastics in the air, drinking water and foods like salt or honey, with yet unknown impacts on human health.<sup>1</sup>

According to [Zero Waste Europe](#), ocean-based sources of marine litter include the fishing and shipping industry, tourism boating and offshore oil and gas platforms. By far the biggest source of marine litter world-wide, however, is land-based (80%) and the key is to prevent litter from finding its way into the sea in the first place.



## A sustainable blue economy

In its communication on a [new approach for a sustainable blue economy in the EU](#), the European Commission points out that the blue economy operates the planet's largest eco-system: oceans hold 97% of all water and 80% of all life forms. The ocean provides oxygen, food for almost half of humanity and 4.5 million direct jobs in the marine environment (e.g. fisheries, shipping, energy generation) and on land (ports, shipyards, land-based aquaculture, algae production, local tourism).

Increasing pollution, including marine litter, is threatening the health of European and global marine ecosystems, and has costly environmental, social, and economic consequences. Climate change, biodiversity loss, over-exploitation of resources and the destruction of natural habitats are challenging the resilience of the blue economy and of our society as a whole. Instead, a sustainable blue economy can create opportunities for new jobs and businesses by using or generating renewable resources, preserving marine ecosystems, reducing pollution, and increasing resilience to climate change.

<sup>1</sup> [European Strategy for Plastics in a Circular Economy](#)

## Ocean plastic pollution in the EU policy context

### Marine Strategy Framework Directive (MSFD)

Since 2008, the [MSFD](#) provides a framework for monitoring, assessing and implementing measures to protect marine life and reducing pollution, including marine litter. It aims to achieve a **good environmental status** of the EU's marine waters and protect the resource base upon which marine-related economic and social activities depend, while allowing for these activities to be carried out sustainably. In June 2020, the European Commission published a [report](#) on the implementation of the MSFD and concluded that the Directive has provided a push towards **a better understanding of the pressures and impacts of human activities on the sea, and their implications for marine biodiversity, their habitats, and the ecosystems they sustain**. It provided evidence that there has been an increased accumulation of plastics and plastic chemical residues in most of the marine species. Amongst others, the results of the implementation of the Directive have been instrumental in the process that led to the adoption of the Single Use Plastics Directive ([SUP Directive](#)) and the introduction of the [threshold value for marine litter on coastlines](#) (less than 20 litter items for every 100 metres of coastline) in September 2020.

### European Strategy for Plastics in a Circular Economy

In January 2018, the European Union adopted the '[European Strategy for Plastics in a Circular Economy](#)' aiming at a stronger protection of the environment from plastic pollution whilst bringing new opportunities for innovation, competitiveness and job creation. Under the new plans, **all plastic packaging on the EU market will be recyclable by 2030, the consumption of single-use plastics will be reduced and the intentional use of microplastics will be restricted**.

### European Green Deal (EGD)

In December 2019, the European Union launched the [European Green Deal](#) putting forward an ambitious strategy to protect and restore biodiversity and to make Europe the world's first climate-neutral continent. The strategy is motivated by the alarming speed of global warming, the loss of biodiversity and the rate at which natural ecosystems are polluted and destroyed. The conservation of oceans and seas, in Europe and world-wide, is thus a crucial part of the European Green Deal.

### Zero Pollution Action Plan

On 12 May 2021, the European Commission adopted the [EU Action Plan: "Towards a Zero Pollution for Air, Water and Soil" \(and annexes\)](#) - a cornerstone of the EGD. It sets out an integrated vision for 2050: **a world where pollution is reduced to levels that are no longer harmful to human health and natural ecosystems**, as well as the steps to get there. To steer the EU towards the 2050 goal of a healthy planet for healthy people, the Action Plan sets key 2030 targets to reduce pollution at source, in comparison to the current situation. With regard to ocean plastics pollution, it aims at improving water quality by reducing waste, plastic litter at sea (by 50%) and microplastics released into the environment (by 30%).

### EU Blue Economy for a sustainable future

On 17 May 2021, the European Commission published its [new approach for a sustainable blue economy in the EU](#). The communication highlights the importance of the Europe's blue economy for job creation and growth as well as the cumulative impact the economic activities have on the marine environment from visible pollution such as plastic litter and oil spills to invisible pollution such as microplastics, underwater noise, chemicals and nutrients. The communication thus calls for blue economy operators to endorse the principles of the EGD.

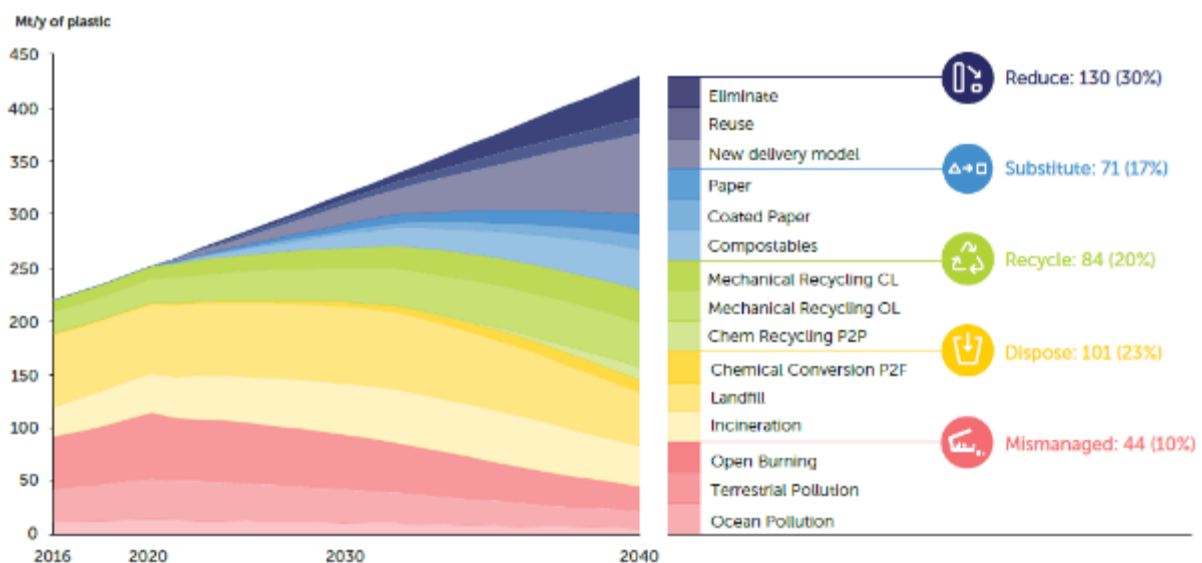
## Implementing a system change to halt ocean plastics pollution

Scientists are estimating that by now about 150 million metric tons of plastics waste have already leaked into the oceans. With plastic production expected to double by 2040 from today's 368 million metric tons, in a business-as-usual (BAU) scenario, the yearly flow of plastics into the seas will nearly triple at the same time reaching 29 million metric tons. This worrying trend will not only increase the pressure on marine ecosystems and the health of animals and humans, but it will also have devastating effects on the economy with billions lost in a linear plastics economy after a short, single use.

The 2020 Report 'Breaking the Plastic Wave' proposes a system change scenario for macroplastics and microplastics that would lead to a 80% reduction of plastics leakage into the ocean by 2040. The authors argue that there is no silver bullet to reduce ocean plastics pollution and call for an immediate and ambitious implementation of all solutions concurrently available. The majority of solutions requires intervention at the local and regional levels, combined with the implementation of national measures such as the full transposition of the SUP Directive:

1. **Reduction** (potential 30% reduction by 2040 compared to BAU):
  - Transition away from single-use packaging and disposable items;
  - Elimination of avoidable plastic and shift towards reuse products and services.
2. **Substitution** (potential 17% reduction by 2040 compared to BAU):
  - Substitute key product applications for which known material alternatives exist: monomaterial films, sachets and multilayer films; carrier bags; pots, tubs and trays; other rigid monomaterial packaging; and food service disposables.
3. **Recycling** (potential 20% reduction by 2040 compared to BAU):
  - Design of products and packaging for recycling;
  - Expansion of collection rates in collection systems;
  - Increased capacity for mechanical and chemical recycling (plastic-to-plastic conversion).

### Plastic fate in the System Change Scenario of 'Breaking the Plastic Wave'



'Breaking the Plastic Wave' - Copyright ©2020 The Pew Charitable Trusts

## Reduction and substitution of single-use plastic items

Single-use plastic products are made wholly or partly of plastics and are typically intended to be used just once or for a short period of time before they are thrown away. The impacts of this plastic waste on the environment as well as human and animal health are global and can be devastating as they are more likely to end up in the oceans than reusable options. **The 10 most commonly found single-use plastic items on European beaches, alongside fishing gear, represent 70% of all marine litter in the EU.** Hence, the reduction of these items, which are addressed by the SUP Directive, and their replacement with reusable alternatives is critical for combating ocean plastic pollution and littering.

**Lightweight plastic carrier bags** are one of the top ten littered, single-use items in Europe. They take centuries to fully degrade in the natural environment, break up into microplastics and often get ingested by terrestrial or marine animals ending up in the food chain. In light of this, the European Union has already amended the Packaging and Packaging Waste Directive (94/62/EC) in 2015 with the Plastic Bags Directive to deal with the unsustainable consumption and use of lightweight plastic carrier bags. The INTHERWASTE good practice 'A fee for plastic bags 50-150 µm thick' from Krakow illustrates how this Directive is transposed into Polish law and highlights that implementing a fee could lead to a decrease of plastic bags' consumption of 30 % in the first year. To facilitate the switch to reusable carrier bags, many municipalities and regions are adopting a common approach and offer reusable bags with local branding to their shops and businesses.

Since many of the plastic items abandoned on European beaches are food and drinks-related, the **food service, entertainment and hotel industries** also need to make a major effort to reduce their use of plastic packaging. The PLASTEKO project reported about the recent amendment of the German law on packaging that requires restaurants, bistros and cafes selling food and drinks for take-away from 2023 to offer their products in reusable packaging. Outstanding examples to **reduce waste at events and festivals** are featured by the WINPOL project (G'scheit feiern, Styria, Austria) and the CECI project. Shops, supermarkets and hotels are also looking into use of reusable packing and deposit schemes. Relevant examples are the loop project offered by a leading French chain of supermarkets and a Belgian delivery service company or the Finnish spread dispenser presented in the REDUCES project.



### NICKNACK- The reusable festival cup (Czech Republic)

In 2011, during a visit to a concert in Germany, the brothers Martin and Michal Hanak had an eureka moment. Back in the Czech Republic, they invented a durable, reusable plastic cup that features a unique handle and a hanging clip. Back then, the brothers were used to concert venues covered with used plastic cups. Today, their company produces more than 300.000 reusable cups per year which replace about 5 million disposable plastic cups that would otherwise generate over 60 tons of waste (2018).

The system works on the deposit principle whereby the festival organisers buy the reusable cups and sell them for €2 together with a drink. When a festival visitor buys another drink, he or she only pays the price of the drink. The cup can be taken home as a souvenir, reused at another event or can be returned at the end of the festival to get back the €2 deposit. In this way, the cups can be reused about 100 times in one season. Damaged cups are crushed and remanufactured into baskets, covers and furniture. The collaboration with Czech festivals, sports activities, and beverage companies has already been extended to Poland, Slovakia and Sweden.

Further information about the practice is available [here](#).

Image Source: <https://www.nicknack.eu>





### Reducing food and packaging waste with a spread dispenser (Finland)

In Finland, an automated spread dispenser is used in restaurant self-service areas and professional kitchens to make every day spread serving easier, more economic, hygienic and ecological. The dispenser is used in hundreds of schools, restaurants and day care centers in Finland and Sweden, helping them reduce food and packaging waste. A school in the town of Uusikaupunki (about 400 meals/day) was able to save 500kg of spread per year thanks to these dispensers.

This solution produces one tenth of the amount of packaging waste compared to average spread package waste amount, and thus significantly reduces both environmental impact and the cost of waste disposal. The portion size is also controlled which reduces the amount of wasted spread. Moreover, automated spread dispensers can be remotely controlled using IoT technology, which allows users to collect data on usage and consumption.

Further information about the practice is available [here](#).

Image Source: <https://foodduck.com/laitemallit/>

## Single-use plastic products

The EU aims to become a forerunner in the global fight against marine litter and plastic pollution. To this end, the EU has adopted the [Single-use Plastics Directive](#) that aims to prevent and reduce the impact of certain plastic products on the environment and to promote a transition to a [circular economy](#). The Directive introduces market restrictions (ban) and marking of product rules that apply since 3 July 2021. Where sustainable alternatives are easily available and affordable, single-use plastic products cannot be placed on the markets of EU Member States. This applies to cotton bud sticks, cutlery, plates, straws, stirrers, and sticks for balloons. It will also apply to cups, food and beverage containers made of expanded polystyrene, and on all products made of oxo-degradable plastic.

For other single-use plastic products, the EU is focusing on limiting their use by:

- reducing consumption through awareness-raising measures;
- introducing design requirements, such as a requirement to connect caps to bottles (from 3 July 2024);
- introducing labelling requirements, to inform consumers about the plastic content of products, disposal options that are to be avoided, and harm done to nature if the products are littered in the environment;
- introducing waste management and clean-up obligations for producers, including Extended Producer Responsibility (EPR) schemes (from 31 December 2024).

*Ocean plastic pollution is a major global issue that we can tackle locally with decisive actions, strict rules and a well-functioning regulatory framework. While multilateral cooperation is needed to achieve long-term success, it is up to every single one of us to rethink our own choices both as producers and consumers.*

Sofia Savova, Stara Zagora Regional Economic Development Agency, PLASTEKO

The Directive foresees a binding target of at least 25% of recycled plastics for PET beverage bottles from 2025 onwards, and stipulates that in 2030 all plastic bottles will have to respect a target of at least 30% of recycled content. The EU is also tackling the scourge of wet wipes that help to clog sewers in the form of [“fatbergs”](#). Wet wipes, sanitary towels, tobacco filters and cups will be [labelled if they are](#)



[made with plastics](#). Packaging will warn consumers of environmental damage they do by disposing of these items incorrectly.

Regional and municipal authorities can make a major contribution through awareness raising campaigns and through their own purchasing power. Public bodies can comply with eco-labelling schemes and implement the reduction of single-use plastics in their [Green Public Procurement](#) policy for example in catering services or in the provision of drinking water.



#### Facilitating the placing on the market of alternatives to single-use plastics

In April 2021, the Stara Zagora Regional Economic Development Agency (BU) organised an interregional workshop on how to support the uptake of alternatives to single-use plastics, concluding that:

- **Green public procurement (GPP)** can be embedded into policy/regulatory instruments to reduce the purchase and use of disposable plastics. In 2018 the **Slovak Ministry of the Environment (SK)** banned the purchase and use of bottled water in its premises. Since then, tap water only is served in jugs during meetings. Since 2019 the region of **Flanders (BE)** is reducing single-use plastics in the procurement of catering-related services. Both decisions pursue objectives set by GPP action plans adopted for the 2016-2020 period. The case of a Spanish social services and medical care provider that adheres to the Basque GPP programme shows that also companies can include sustainability criteria in their tenders. The provider used to supply drinking water in hospitals by using rechargeable fountains and single-use plastic cups and to give patients bottled water at each meal, generating high expenditures and high amount of plastic waste. To address the issue, it decided to install water fountains connected to the public water network, thereby avoiding the use of approximately 147,000 cups, 4,000 large cooler bottles for the fountains, and 7,000 small water bottles per year.
- **Labeling schemes** like the **EU Ecolabel**, the most important scheme in Europe certifying environmental excellence of products based life-cycle assessment (LCA), the **Nordic Swan** for eco-designed products and the German **Blue Angel** for products with a high percentages of recycled plastics are successfully used to inform consumers about the environmental performance of products and give producers the possibility of advertising their products as 'green'. Moreover, compliance with such voluntary schemes can be indicated by public bodies as a prerequisite to be fulfilled for the award of procurement contracts.
- **Secondary raw materials (SRMs)** can be reused in production processes after their initial use. Most plastic waste fall into this category. Instead of being incinerated, landfilled, or otherwise released into the environment, it could feed-in a well-functioning secondary plastics market where manufacturers identify suppliers of SRMs and recyclers identify buyers of their products. Measures to remove barriers and **generate demand for recycled plastics** encompass GPP criteria creating market conditions for SRMs, scrapping regulations hindering recycling and introducing fiscal incentives. Comprehensive waste management plans, separate collection and sorting systems for SRMs and awareness raising initiatives *vis-à-vis* economic operators are also essential for **removing barriers**.

More information can be found in the input paper of this workshop, available on the Interreg Europe [library](#).  
*Image Source:* photo by [Volodymyr Hryshchenko](#) from [Unsplash](#).

## Collection and recycling of plastic waste

### Collection

As outlined in [the EU Strategy on Plastics in a Circular Economy](#), the implementation of the separate collection requirements is a pre-requisite to achieve a circular economy for the plastics industry. **Collection schemes have a particularly important influence on all the subsequent steps of the recycling chain.**

In certain cases, separate collection should be complemented or replaced by deposit-return schemes which are particularly efficient for the important plastics stream of PET bottles. In Germany they are catching 94% of the bottles on the market and in Lithuania, where the system has only been introduced recently, 91.9% of PET bottles are collected two years after the introduction of the Deposit-Return-System. However, only a few Member States have already achieved or are relatively close to meeting the target. According to [Deloitte's Sustainability 2019 report](#), Slovenia (69%), Bulgaria (64%) and the Czech Republic (58%) are the top performers when it comes to the collection rates for plastics waste (2014). However, even these high collection rates still need to improve substantially in order to achieve the 2025 recycling targets. The report estimates that an 88% collection rate needs to be applied to all resins and shapes to achieve the targets.



Source: [WINPOL](#) project

To increase separate collection rates, municipalities and regions are increasingly using intelligent collection and container systems. The [WINPOL](#) project is presenting several good practices on intelligent collection such as a network of [underground collection points](#) that the citizens of Ghent (Flanders, Belgium) can use for five different types of waste and the Maltese [smart bins](#) helps avoiding the nuisance of overflowing bins but also increases the efficiency of the routes for waste trucks. In Slovenia, the [route optimization](#) of waste collection has also led to 20% higher collection of packaging waste whilst reducing the costs of collection.

**INTHERWASTE**  
Interreg Europe



#### Packaging deposit-refund system (Estonia)

In Estonia, the producers' organisation Eesti Pandipakend has obliged all retailers of soft drinks and low-alcohol beverages with an area of 200 m<sup>2</sup> to install a packaging deposit point. Packaging not bearing the Eesti Pandipakend mark cannot be accepted for return and the deposit cannot be refunded.

The packaging deposit-refund system is very effective with a collection rate up to 90%. In 2016, 88% of PET packaging was returned (74% of cans and 87% one-way glass). The system helps to minimize waste collection costs for public authorities and is very helpful to achieving the recycling target set by EU.

Further information about the practice is available [here](#).

Image Source: <https://www.interregeurope.eu/intherwaste>

The Horizon2020-funded [‘PlastiCircle’](#) project developed collaborative strategies and tested technologies for plastic packaging waste within three pilot cities (see box).

The results of a first pilot in the City of Valencia (Spain), carried out in 2019, showed a clear reduction of air pollutants as well as a reduction of around 900 kg of CO<sub>2</sub> emissions per tonne of packaging waste collected. Moreover, an increase in the quality of the collected material (average reduction of unwanted material from 21% to 8%) has been observed.



PlastiCircle test in Alba Iulia (Romania) shows [promising results](#)

## Recycling of end-of-life plastics

Today, about 95 % of the value of plastic packaging material [is lost to the economy after a very short first-use cycle](#). Industry data show that disposal and energy recovery remain the most common treatment options for plastic waste.

While landfilling has decreased over the past ten years, [incineration has been growing with big disparities](#) linked to the state / choices of implementation of EU waste legislation in the Member States. Moreover, out of the 25.8 million tons collected-for-recycling, less than 30% (7.6 million tons) were recycled. Of this amount, [a significant share leaves the EU to be treated in third countries](#), where lower environmental standards may apply.

This confirms **the need for urgent and concrete steps to improve the recyclability and reusability of plastics** and to encourage innovation in this field. Priscilla Castro, Media and Outreach Officer responsible for PlastiCircle at [ICLEI Europe](#) underlines this need and states that: *“The low reuse and recycling of end-of-life plastics in Europe represent enormous losses for the environment and the economy. The proper recycling of plastic materials would not only save the EU 10 billion EUR per year but also significantly minimise energy needs for the population, and drastically reduce land pollution and marine litter. In order to optimize recycling, changes are necessary on the sides of consumers and manufacturers, who should add more recycled content in their production cycles. After all, plastic is too valuable to waste.”*

The Interreg Europe projects [SYMBI](#) and [REPLACE](#) also propose to close loops in plastics recycling practices at local level such as plastic beverage bottle recycling in Slovenia and a detergent bottle using 100%-recycled plastics in Hamburg. See boxes on the next page.



The [PlastiCircle](#) project aimed at transforming plastic packaging waste into valuable products focusing on four waste treatment phases:

1. **Collection:** Identification of the quantity and quality of packaging deposited in smart containers and automatic information to waste transport companies
2. **Transport:** plastic compaction techniques were tested and a measuring system linked to an Internet of Thing (IoT) solution allowed containers to be collected by trucks only when full;
3. **Sorting:** technologies to achieve better separation of different plastic types in treatment plants were enhanced as plastics can be only recycled if separated correctly;
4. **Reprocessing:** extrusion, injection and compression moulding were performed to reprocess recovered waste into added-value products such as automotive parts and foam boards for wind turbines.

The project website features a series of publicly accessible [deliverables](#) and explains how innovative ways to treat plastic packaging waste were tested in three pilot cities, [Valencia](#) (ES), [Utrecht](#) (NL) and [Alba Iulia](#) (RO).





### Plastic bottle for plastic bottle (Slovenia)

The sustainable project «Plastic bottle for plastic bottle» proposes a closed loop process in the beverage industry involving three Slovenian companies. One is collecting and sorting plastic packaging waste and delivering waste plastic bottles to a recycling company which transforms them to produce the recycled raw material 'rPET' which is in turn processed into blank PET preforms. Finally, the blanks are blown into new plastic bottles by a beverage company which also fills the bottles with fruit juices and sends them onto the market.

As a result, the beverage company has raised its use of recycled PET content in the plastic bottles delivered to the market from 30% to 50%. The use of recycled PET preforms is estimated to reduce CO<sub>2</sub> emissions by 60% compared to virgin (non-recycled) PET preforms.

Further information about the practice is available [here](#).

*Image Source:* Photo by Jonathan Chng from [Unsplash](#)



### Hamburg bottle – introducing a closed loop of plastics (Germany)

Since recycled plastics often turn grey, virgin material is preferred by industrial companies and plastics waste is mostly down-cycled for example as material in road construction. In Hamburg, all local stakeholders of a product value chain **established a closed loop cycle** to overcome the downcycling issue and to produce a detergent bottle from 100% recycled plastics instead. In the case of the “Hamburg bottle”, an already existing detergent brand received a new packaging on basis of recyclates from locally gathered plastic waste. Since the product is exclusively sold in Hamburg, the waste packaging is afterwards again used for new packaging. In fact, the project brings together all partners of the value chain. The gathering of plastic waste is organised by Stadtreinigung Hamburg, a recycling company that extracts high density polyethylene (HDPE) and recycles it as a new resource, and a multinational company fills the new bottles with an established detergent and distribution to Hamburg-based consumers is conducted by a local retailer. Scientific assistance to the project is provided by the Technical University Hamburg. Consumers benefit from the project by receiving a visible and tangible example of recycling and get the opportunity to support regional recycling processes in their purchasing decision.

Further information about the practice is available [here](#).

*Image Source:* Unilever Deutschland

## Removing litter from the environment

In addition to measures that aim at reducing, reusing and recycling waste, corrective measures such as clean-up actions are needed to remove litter from the environment. Implementing clean-up campaigns is of interest to almost all regions, as the problem of litter carelessly thrown away is omnipresent. According to [Zero Waste Europe](#), litter is not only causing environmental and health issues. It also has an important economic impact, with marine litter deterring tourism and costing a lot of money to coastal cities. Municipalities in the United Kingdom, for instance, spend €18 million a year for removing beach litter, while both Belgium and the Netherlands invest approximately €10,4 million a year in this [activity](#).



Source: GreenMatters srl

## Inspiring local initiatives

Clean-up campaigns are often organised by voluntary movements and NGOs. An inspiring frontrunner initiative is the [Let's Do It](#) movement in Estonia that began as early as 2008. A team of volunteers came together, developed an application that allowed to map over 10,000 littering points in forests and at beaches and encouraged 50,000 people to clean up the entire country in just five hours through a motivating awareness campaign. Today, the movement has grown into a network of 180 countries which engages millions of people in the [World Cleanup Day](#) every year.

The good practice 'Clean is trend' identified by [PLASTEKO](#) illustrates how the local policy level can implement clean-up initiatives. The Augsburg (Bavaria, Germany) clean-up campaign can be taken as a model in this respect, with the municipal waste management company taking the lead in organising actions.

The [CAPONLITTER](#) project identified the BlueBag initiative in Croatia which is offering inspiration for coastal communities to implement a practice which can be more innovative and motivating than a traditional clean-up campaign. CAPONLITTER is also showcasing the [Zero Beach project](#) of the Metropolitan Area of Barcelona (Catalunya, Spain) that aims at promoting zero waste strategies along its coastal and beach areas. The beaches are very crowded areas, reporting a 40% increase in waste generation during summer months. The Metropolitan Area tested three pilot studies to reduce waste on beaches, including the simulation of a deposit return system (DRS) for drink containers, a smoking ban and an awareness-raising initiative among beach users. The pilots showed that banning smoking on beaches can reduce the presence of cigarette butts by up to 80%. Furthermore, 900 containers per week were collected on average through the DRS system. After the pilots finished, these strategies were legally evaluated to facilitate their implementation by the public administration. This data is now being used to call for policies that create a new regulatory framework for municipalities to implement that result in waste free beaches.

***"There is a litter problem everywhere that needs to be addressed by comprehensive national strategies for dealing with litter and the prevention of littering as required by EU rules – it's not an option, it's an obligation."***

Lise Keilty Gulbransen

President, Clean Europe Network  
CEO, Hold Norge Rent (Keep Norway Beautiful)



In July 2020, the [Clean Europe Network](#) has launched a common European pictogram to encourage citizens to correctly dispose of used personal protection equipment (PPE), such as single use protective gloves and both single use and reusable masks and visors.



### Clean is trend – Clean-up campaign in Augsburg (Germany)

From over 15 years, the Augsburg's municipal waste management company 'AWS' organises an annual clean-up campaign called "Clean is trend" ("Sauber ist in"). The campaign started in single city districts in 2005 and expanded to the entire city in 2011. Groups or individuals of all ages participate in the campaign. Many kindergartens, schools, companies and associations adhere to the initiative each year. AWS provides appropriate gloves, buckets, tongs, and rubbish bags to the participants of the clean-up campaign. The company also ensures that waste collected by the participants is picked up by garbage trucks at an agreed location. The campaign usually ends with a big closing event where the so-called "creativity awards" and "clean awards" are handed out.

The clean-up campaign is very successful. Since 2011, the number of participants increased significantly from around 700 people to 4,800 people in 2019 who collected an impressive 88 m<sup>3</sup> of litter, the equivalent of 3,260 littering bins. Due to the COVID-19 pandemic, the campaign could not take place in 2020.

Further information about the practice is available [here](#).

Image Source: [PLASTECO](#)



### The BlueBag initiative (Croatia)

BlueBag is an eco-tourism initiative started in Croatia in 2014 on the island of Krk to address the burning problem of debris that enters the Adriatic Sea through river watercourses, currents from other seas and winds that bring waste from the shore or by means of vessels. The objective of the initiative is to encourage the voluntary cleaning-up of the coastline through the distribution of blue bags to residents, tourists, fishermen and boat owners, who are invited to clean-up while they visit beaches and bays. The bags are distributed by local tourist boards, marinas, gas stations or they can be found at frequently visited spots along the coast.

From 2014 until 2020, more than 40,000 BlueBags were distributed and filled with the debris found on the coastline and then disposed at the appropriate collection point. The initiative was recognised and implemented by numerous coastal authorities, utility and public and private companies in Croatia by following the original idea started on the island of Krk.

Further information about the practice is available [here](#).

Image Source: [CAPONLITTER](#)



## European support against marine litter and plastic pollution

### EU financial support

The Multiannual Financial Framework ([MFF](#)) adopted for the period 2021-2027 will support European regions in becoming greener and more circular. EU structural and investments funds ([ESIFs](#)) and direct funding instruments like the [LIFE](#) and [Horizon Europe](#) programmes will be accessible for projects aimed to increase sustainability in many areas including waste and wastewater management, product design, shipping, fisheries and consumption and behavioural patterns. In these areas decisive improvements are needed to prevent the generation of marine litter and reduce its enormous impact on the oceans.

The European Regional Development Fund ([ERDF](#)) could further be accessed in the next seven years to facilitate the implementation of projects like [ML-REPAIR](#), which encouraged the dissemination of innovative technologies and approaches for reducing and preventing marine litter in the Adriatic Sea in the context of the [Interreg Italy-Croatia](#) programme between 2014 and 2020.

The European Maritime and Fisheries Fund ([EMFF](#)) could be used to grant support to fishermen to collect waste and remove lost fishing gears and marine litter to the benefit of biodiversity and the seas. This would ease the implementation of the Marine Strategy Framework Directive ([MSFD](#)) and of the [Plastics Strategy](#) in coastal areas and contribute to achieving the separate collection targets for plastic bottles introduced by the [SUP](#) Directive.

With its consolidated tradition of helping communities address marine litter and plastic pollution, the LIFE programme is also likely to welcome the submission of new project proposals in this field. Projects like [LIFE SMILE](#), which reduced the amount of land-based solid waste reaching the Ligurian Sea, [LIFE DEBAG](#), which encouraged Greek consumers to use alternatives to single-use plastic bags for their shopping, and [LIFE LEMA](#), which tested cost-effective solutions to detect, monitor and predict the accumulation of floating marine litter in the Bay of Biscay, can certainly inspire local and regional policymakers to act in the 2021-2027 period.

Horizon Europe, on its part, will build on the important [legacy](#) of the previous EU research and development funding programmes (chiefly [FP7](#) and [Horizon 2020](#)) and of ongoing projects like [TOPIOS](#), which will run until 2022 under the aegis of the European Research Council ([ERC](#)) to develop a 'novel comprehensive modelling framework' to track plastic movements through the oceans. The Horizon Europe mission on '[Healthy oceans, seas and inland water](#)', in particular, is expected to be instrumental for the development of solutions to prevent, reduce, mitigate and remove marine plastic pollution and to stimulate the research on new materials like biodegradable plastic substitutes.

### Interreg Europe

Interreg Europe projects entail the sharing of experience and development of regional action plans to improve policy frameworks. Each project gathers and studies policy examples, hundreds of which are available in the [Good Practice Database](#) of the Interreg Europe Policy Learning Platform ([PLP](#)). Some of them have been featured in this brief. The PLP is pro-actively supporting learning and exchange of experience and a number of on-demand services which, among others, can assist cities and regions in finding solutions against marine litter and plastic pollution. These services include an [online helpdesk](#), [matchmakings](#) and the [peer reviews](#). The latter represent a constructive tool for local or regional authorities to obtain input and feedback on the challenges policymakers are facing. Carefully selected European peers are invited to the beneficiary organisation for a structured exchange of experiences and to provide input and recommendations addressing the specific local challenge.

## Recommendations and key learnings

The challenge of halting ocean plastics pollution requires regions, municipalities and citizens alike to embark on a systemic change for reducing the consumption of plastic waste, substituting single-use plastic items and engaging in separate collection and recycling. The time to act is now and there are many excellent examples available that can inspire action at all levels. The main inspiration that can be drawn from interregional cooperation as presented in this policy brief is summarised as follows:

### Reduction and substitution of single-use plastic items

- Implement awareness raising campaigns on plastic litter and promote existing alternatives to single use plastics also by [charging](#) the use of light-weight plastic carrier bags;
- Set ambitious targets for plastic waste reduction and make voluntary commitments;
- Make greater use of green public procurement ([GPP](#)) and funding to replace disposable plastics and recycling of plastics to reduce the plastic items as suggested in the context of [PLASTEKO](#);
- Facilitate placement of alternatives to single-use plastics on the market;
- Use labelling schemes to inform customers for example on recycled content and/or environmental excellence of products and packaging;
- Engage in regional seas conventions, in particular to develop regional plans against marine litter;
- Provide reusable carrier bags to local shops and businesses;
- Encourage deposit systems for take away food and drinks at local restaurants and cafes;
- Work with the food service, hotel and entertainment industry to develop zero waste concepts such as [spread dispensers](#), [reusable cups](#) and organise zero waste festivals like '[G'scheit feiern](#)';

### Collection and recycling of plastic waste

- Promote separate waste collection;
- Consider the introduction of Pay-As-You-Throw ([PAYT](#)) schemes such as in [Argentina](#);
- Step up the separate collection of plastics waste and improve the way in which this is done with [smart bins](#) in Malta, route optimisation in [Slovenia](#) (WINPOL) and the [Horizon 2020](#) funded [Plasticircle](#) project;
- Provide [waste collection infrastructures](#) for locals and tourists, particularly near the coast;
- Consider the introduction of deposit-return schemes like in [Estonia](#) and get inspired by the [Zero Beach](#) project in Barcelona;
- Take concrete steps to improve dialogue and cooperation across the local value chain to implement close loop recycling practices such as the [beverage bottles](#) in Slovenia and the [detergent bottle](#) in Hamburg (Germany);
- Facilitate the establishment of a well-functioning secondary plastics market;

### Removing litter from the environment

- Work with your local waste management to take the lead in a [local waste clean-up day](#) as organised in the City of Augsburg (Bavaria, Germany);
- Raise awareness on littering and consider the introduction of fines and bans (e.g. smoking bans) which, as shown by the zero waste beach project in Barcelona, can reduce the presence of cigarette butts by 80%;
- Support your civic movements to collect litter such as [MerTerre](#) in France;
- Promote beach clean-up activities such as the [BlueBag](#) initiative in Croatia;
- Join the [World Clean-Up Day](#);
- Improve coordination between the authorities responsible for waste management, water and the marine environment.

## Sources for further information

### Policy Learning Platform information

- Policy Brief on [Sustainable waste management in a circular economy](#)
- Policy Brief on [Separate waste collection](#)
- Policy Brief on [Sustainable water management in a circular economy](#)
- Peer Review on [Sustainable waste management in a circular economy](#)
- Peer Review on [Effective regional framework for sustainable waste management and the circular economy](#)
- Peer Review on [Waste prevention and separate waste collection in a circular economy](#)
- Peer Review on [Land-use and landfill rehabilitation options for the City of Greifswald](#)
- Matchmaking on [Designing a Pay-as-you-Throw \(PAYT\) system for Burgas Municipality](#)
- Webinar on [Creating regional opportunities through landfill rehabilitation](#)
- Webinar on [Acting now: Policy solutions to stop plastic pollution and marine litter](#)

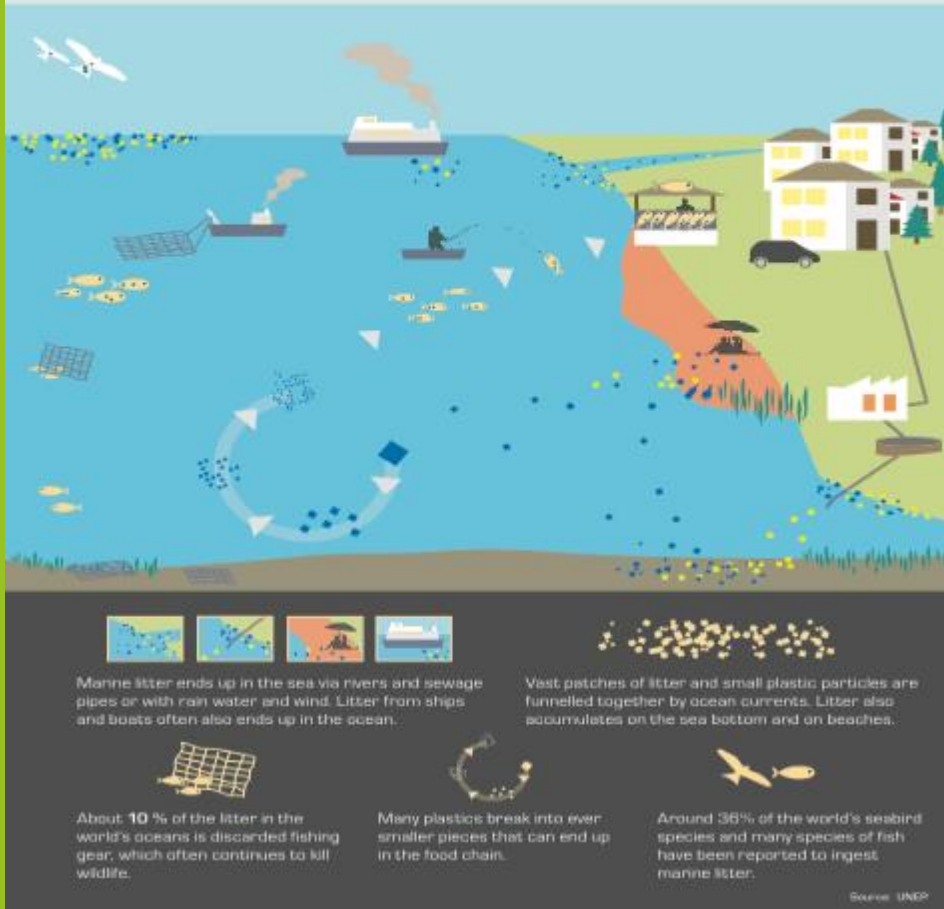
### Other sources

- The [European Green Deal](#)
- The [new Circular Economy Action Plan](#)
- The revised [EU waste legislation](#)
- [The EU Blue Economy Report](#) (2019)
- IPCC Special Report on [the ocean and cryosphere in a changing climate](#)
- Joint Research Centre Technical Report on ['A European Threshold Value and Assessment Method for Macro Litter on Coastlines'](#) (2020)
- Let's do it world, [video](#)
- Eureau, briefing note on ['Microplastics and the water sector'](#) (2019)
- European Parliament, Own-initiative report on ['the impact of fisheries on marine litter'](#) and press release ['Parliament urges EU to take drastic action to reduce marine litter'](#) (2021)
- Eureporter, ['Plastic in the ocean: The facts, effects and new EU rules'](#) (2021)
- Oceana, ['Plastics in the deep: an invisible problem'](#) (2020)
- Waste Free Oceans Europe:
  - Project to [convert plastic waste into shelters](#) (e.g. for refugees)
  - Project on education ['Plastian: the little fish'](#)
- Oceanic Society, ['7 ways to reduce ocean plastic pollution today'](#)
- Environment International, Schmalz et al. ['Plastic pollution solutions: emerging technologies to prevent and collect marine plastic pollution'](#) (2020)
- Horizon 2020 ongoing project 'Smart technology for MARinE Litter SusTainable RemOval and Management' ([MAELSTROM](#))
- Plasticsphere: [A podcast on plastic pollution in the environment](#) (2020)
- Les plastiques en mer : la chasse aux micro-particules de surface à bord du voilier "[Expédition 7e continent](#)"
- Les plastiques en mer (2) : [les archives de cette pollution stockées dans un laboratoire de l'Ifremer](#)



**Marine litter**

Increasing amounts of marine litter are ending up in the world's oceans and harming the health of ecosystems, killing animals as they get trapped or swallow the litter. Human health is also at risk as most of this waste is plastic, which breaks down into smaller pieces that may subsequently end up in human food. These are just a few of the problems emerging from the waste collecting in our seas.



Interreg Europe Policy Learning Platform on Environment and resource efficiency  
Policy Brief 'Halting ocean plastics pollution'  
August 2021

Thematic experts:  
Astrid Severin & Marco Citelli  
[a.severin@policylearning.eu](mailto:a.severin@policylearning.eu) / [m.citelli@policylearning.eu](mailto:m.citelli@policylearning.eu)  
[www.interregeurope.eu](http://www.interregeurope.eu)

Cover image source : Photo by [A Different Perspective](#) from [Pixabay](#)



**Interreg Europe**

