



Project funded by the
EUROPEAN UNION



REGIONE AUTÒNOMA DE SARDIGNA
REGIONE AUTONOMA DELLA SARDEGNA



Plastic Busters CAP

PLASTIC BUSTERS CAP

Roadmap for marine litter policy priorities

Citation: Plastic Busters CAP, 2023. Roadmap for marine litter policy priorities. Deliverable 4.3.2.

This document has been developed within the framework of the Plastic Busters CAP project, with the financial assistance of the European Union under the ENI CBC Mediterranean Sea Basin Programme. The activity was led by MIO-ECSDE.

The contents of this publication are the sole responsibility of its authors and can under no circumstances be regarded as reflecting the position of the European Union or the Programme management structures.

Table of Contents

1. INTRODUCTION	4
1.1. The issue at stake.....	4
1.2. The Plastic Busters CAP in a nutshell.....	6
1.3. The Plastic Busters CAP policy context.....	7
2. THE PLASTIC BUSTERS CAP ROADMAP	11
2.1. The ambition and objectives.....	11
2.2. The methodological approach.....	13
2.3. The elaboration process.....	16
3. THE PLASTIC BUSTERS CAP POLICY PRIORITIES	17
4. REFERENCES	18

1. INTRODUCTION

1.1. The issue at stake

Marine Litter is globally acknowledged as a major societal challenge of our times due to its far-reaching environmental, economic, social, political and cultural implications. Marine litter negatively impacts coastal and marine ecosystems and the services they provide, ultimately affecting people's livelihoods and well-being (Gall and Thompson, 2015; Veiga et al., 2016). Marine litter, the vast majority of which is made of plastics, is defined as any anthropogenic persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment (Galgani et al., 2013). Plastics have become the basic component for manufacturing numerous everyday products, and since the 1950s, their production has consistently grown, with their global production reaching 322 million tonnes in 2015 and expected to double by 2035 (Barra et al., 2018).

Plastic litter enters the ocean from diverse point and diffuse sources, which can be both land-based and ocean-based, while it can also be transported over long distances before being deposited on shorelines or settling on the bottom of the oceans and seas (Veiga et al., 2016). Inadequate urban and industrial solid waste management, discharge of inappropriately treated/untreated wastewater, agriculture, and tourism and recreational activities are considered to be the main land-based sources of marine litter while the sea-based ones include fisheries and aquaculture, shipping (merchant, leisure and recreational) and off-shore oil and gas platforms that may dispose of drilling equipment, pipes, etc. (Li et al., 2016; UNEP, 2018). It should be highlighted that plastic litter may find its way to the sea by being transported from land-based sources via pathways, including rivers, canals, drains, sewage outlets, storm water outflows, winds and tides.

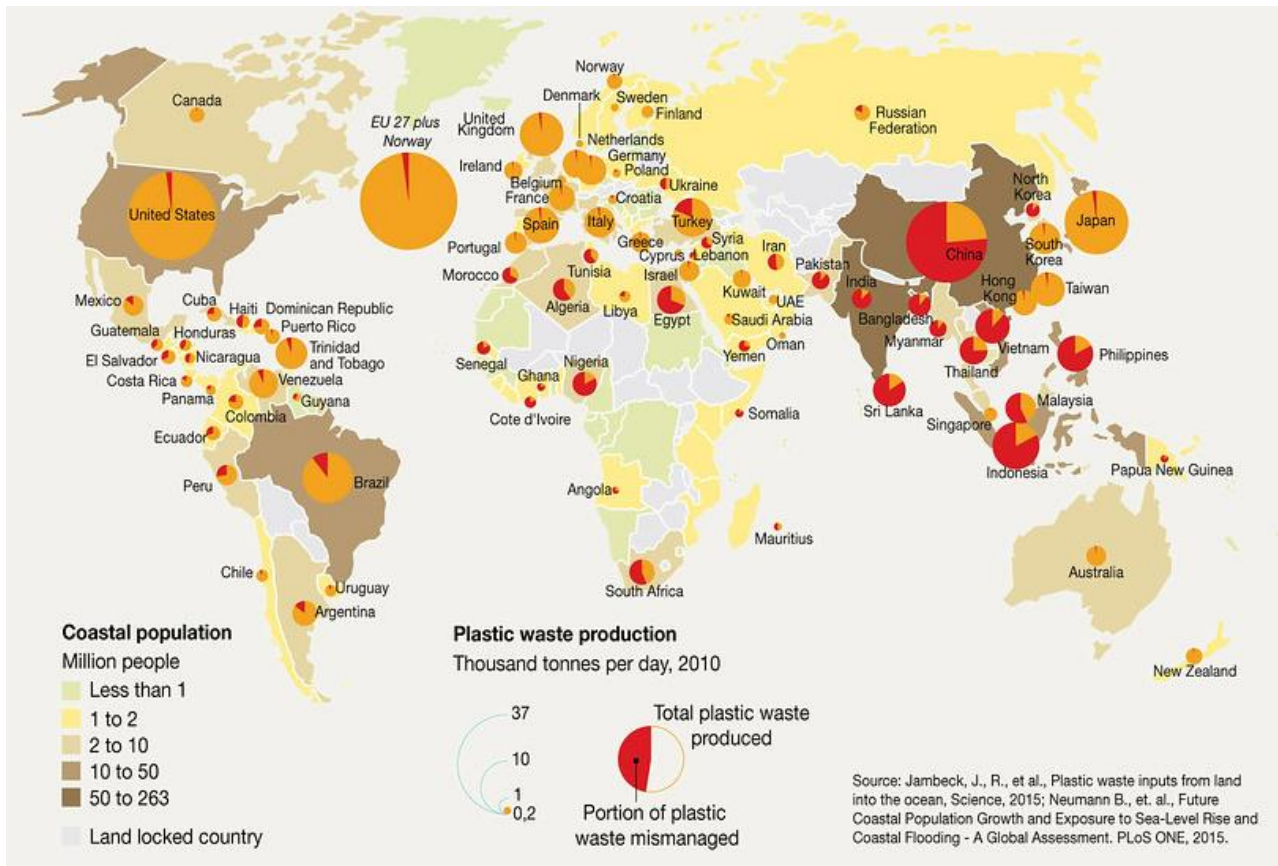


Figure 1-1. Plastic waste produced and mismanaged (Jambeck et al., 2015).

It is widely accepted that the Mediterranean Sea is one of the most affected seas by marine litter worldwide. Indicatively, the median beach macrolitter density at Mediterranean level was found to be 659 items per 100-metre of coastline (range: 128-2002 items/100m) (UNEP/MAP, 2015). This value is 5 times higher than the threshold value for beach litter set within the UNEP/MAP Integrated Monitoring and Assessment Programme (130 items/100m). This value is 33 times higher than the threshold value for macrolitter on beaches set within the EU Marine Strategy Framework Directive (130 items/100m). Even in pristine environments of the Mediterranean, such as coastal and marine protected areas, marine litter is building up threatening habitats and species and inhibiting sustainable development. The median beach macrolitter density for coastal and marine protected areas has been found to be from 7 to 147 times higher than the threshold value for macrolitter on beaches set within the Marine Strategy Framework Directive (Fossi et al., 2022).

A large amount of the litter items found on Mediterranean beaches are single-use plastics, such as cigarette butts and filters, plastic caps and lids from drinks, cotton bud sticks, drink bottles, crisps packets and sweets wrappers, etc. (UNEP, 2017). In order to address the issue of single-use plastics, Mediterranean countries have reached a consensus to focus their efforts on tackling specific single-use items that hold paramount importance for the region (see Table 1-1) (UNEP/MAP, 2021).

Table 1-1. Mediterranean priority list of single-use plastics.

Group of items	Items
Packaging	Bags
Smoking-related	Cigarette filters
Food and beverage packaging	Drink bottles, caps and lids, crisp packets and sweet wrappers
On-the-go food and beverage packaging	Cutlery, plates and trays, straws and stirrers, drinks cups and cup lids, food containers including fast food packaging
WC flushed items	Sanitary applications, including cotton buds, wet wipes and sanitary towels
Personal protective equipment	Masks and gloves

With regard to the sources of marine litter the Mediterranean, it mainly comes from land-based sources; however, sea-based sources also contribute with significant litter inputs. Some 40-50% of litter items found on beaches, the sea surface and the seafloor are generated on land, mainly from tourism and recreational activities and poor waste management practices (UNEP/MAP, 2015). The contribution of fisheries and aquaculture related items to the total number of items collected on European beaches has been found to be 15% (Addamo et al., 2017). The contribution of fisheries and aquaculture related items to the total number of items collected by seafloor trawl surveys has been found to be 17% at the Adriatic and Ionian Seas basin (Vlachogianni et al., 2017).

Growing scientific literature documents the threats that marine plastic litter poses to wildlife and ecosystems, with impacts varying from entanglement and ingestion, to bio-accumulation and bio-magnification of toxics either released from plastic items (e.g. PBDEs, phthalates, Bisphenol A) or adsorbed and accumulated on plastic particles (e.g. POPs, PAHs); facilitation of introduction of invasive alien species; damages to benthic habitats and communities (e.g. through abrasion of coral reefs from fishing gear, disruption of colonies, reduced oxygenation or 'smothering' of communities) (Fossi et al., 2019, Vlachogianni et al., 2020). The Interreg Med Plastic Busters MPAs research data have confirmed the high impact of plastic contamination on the Mediterranean biodiversity. Results show that 96% of the 1280 samples of 46 bioindicator species (i.e. invertebrates, fishes, turtles, cetaceans, etc.) analysed had ingested marine litter (including microplastics) (Fossi et al., 2022).

1.2. The Plastic Busters CAP in a nutshell

Marine litter is globally acknowledged as a major societal challenge of our times due to its significant environmental, economic, social, political and cultural implications. The Mediterranean Sea is one of the areas most affected by marine litter worldwide. Marine litter is found lying on the shores, as well as floating anywhere from the surface to the bottom of the sea. Even in pristine environments of the Mediterranean, such as coastal and marine protected areas, marine litter is building up, threatening habitats and species. Impacts vary from entanglement and ingestion, to bio-accumulation and bio-magnification of toxics released from litter items, facilitation of introduction of invasive species, damages to benthic habitats, etc.

The Plastic Busters CAP is an ENI CBC MED funded project aiming to facilitate decision-makers and stakeholders in effectively tackling the problem of marine litter by integrating EbM (Ecosystem-Based Management Approach) into ICZM (Integrated Coastal Zone Management) planning towards good environmental status. The project entails actions that address the entire management cycle of marine litter, from monitoring and assessment to prevention and mitigation actions. The project in the long-term will contribute to enhancing ecosystem services via a reduced leakage of marine litter and marine plastic pollution in the Mediterranean Sea and reduced emissions of greenhouse gases by a wise-use and sustainable disposal of plastics.

Plastic Busters CAP is a 24 month-long project, with a total budget of €1.109.976,27 million and is co-funded by the European Union under the ENI CBC MED Programme 2014-2020. It brings together partners from 7 countries of the Mediterranean region, namely Egypt, Greece, Italy, Jordan, Lebanon, Spain and Tunisia.

The backbone of Plastic Busters CAP is the Interreg Med Plastic Busters MPAs; both projects deploy the multidisciplinary strategy and common framework of action developed within the Plastic Busters Initiative led by the University of Siena and the Sustainable Development Solutions Network Mediterranean. This initiative frames the priority actions needed to tackle marine litter in the Mediterranean and was labelled under the Union for the Mediterranean (UfM) in 2016, capturing the political support of 43 Euro-Mediterranean countries.

1.3. The Plastic Busters CAP policy context

The policy context of marine litter in the Mediterranean involves global, Mediterranean, European and national policies, agreements, strategies, action plans, directives, etc. (see Table 1-1). The main legislative frameworks related to marine litter in Mediterranean coastal and marine protected areas are the EU Marine Strategy Framework Directive (2008/56/EC, 2010/477/EC, 2017/848/EC) and the Barcelona Convention Ecosystem Approach (COP19 IMAP Decision IG.22/7) (see Fig 1.2 and Fig 1.3).

Table 1-2. Main global, Mediterranean and European policies and legislations related to marine litter and Mediterranean coastal and marine protected areas.

POLICY & LEGISLATION TITLE	SHORT DESCRIPTION
GLOBAL CONTEXT	
UNEA Resolution on a Plastics Treaty (2023)	An international legally binding treaty on plastic pollution is currently under development. The treaty is to include a series of technical provisions, that would consider how to promote sustainable production and consumption of plastics from product design to environmentally sound waste management, through resource efficiency and safe and just circular economy approaches.
UN 2021-2030 Decade of Ocean Science for Sustainable Development (2017)	The United Nations has proclaimed a Decade of Ocean Science for Sustainable Development (2021-2030) to support efforts to reverse the cycle of decline in ocean health and gather ocean stakeholders worldwide behind a common framework that will ensure ocean science can fully support countries in creating improved conditions for sustainable development of the Ocean.
UN Convention on Biological Diversity (1993 & 2016)	Convention - Parties are urged "to develop and implement measures, policies and instruments to prevent the discard, disposal, loss or abandonment of any persistent, manufactured or processed solid material in the marine and coastal environment (Decision of 2016 XIII/10 on addressing impacts of marine debris on marine and coastal biodiversity, points 6 and 8).
UN 2030 Agenda for Sustainable Development (2015)	Action plan - Sustainable Development Goal N. 14 - By 2025, prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution.
MARPOL Convention - Annex V "Prevention of Pollution by Garbage from Ships" (1988)	Convention - Annex V related to controlling and preventing pollution from garbage, meaning pollution from solid waste, including plastic waste.

MEDITERRANEAN CONTEXT	
Regional Plan on the Management of Marine Litter in the Mediterranean (Barcelona Convention) (2013 & 2021)	Action plan - The main objectives are to prevent and reduce to the minimum marine litter pollution in the Mediterranean and its impact on ecosystem services, habitats, species, public health, and safety; remove to the extent possible already existent marine litter; enhance knowledge on marine litter.
2030GreenerMed Agenda (Thematic Axis 2) (Union for the Mediterranean) (2021)	Agenda - It will support actions to prevent and reduce pollution on the land, sea, and air from different sources, focusing on plastic pollution and marine litter, strengthening the mechanisms for their prevention, facilitating investments in infrastructure, and promoting nature-based solutions whenever feasible.
Integrated Monitoring and Assessment Programme of the Mediterranean Sea (IMAP) (Barcelona Convention) (2016)	Programme - a key achievement for the Mediterranean region for quantitative, integrated analysis of the status of the marine and coastal environment based on common regional indicators, targets, and Good Environmental Status descriptions - EO 10: Marine litter: Marine and coastal litter do not adversely affect the coastal and marine environment.
The Ecosystem Approach (EcAp) (2008)	The EcAp process seeks to reach the ultimate objective of achieving Good Environmental Status (GES) in the Mediterranean Sea. To this end, contracting parties have agreed to protect and restore the structure and function of marine and coastal ecosystems thus also protecting biodiversity, in order to achieve and maintain good ecological status and allow for their sustainable use. Ecological Objective deals with marine litter.
EUROPEAN CONTEXT	
EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil' (2021)	Action plan - The 2021 Zero Pollution Action Plan, a key deliverable of the European Green Deal puts forth key targets to speed up reducing pollution at source. Target 5 addresses the improvement of water quality by reducing waste; by 2030 the EU should reduce by 50% plastic litter at sea and 30% microplastics released into the environment. Furthermore, the significant reduction of waste generation and by 50% residual municipal waste, is aimed at.
Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment (SUP Directive) (2019)	EU Directive - Where sustainable alternatives are easily available and affordable, single-use plastic products cannot be placed on the markets of EU Member States. Different measures are being applied to different products. For other single-use plastic products, the EU focuses on reducing consumption, introducing design requirements, labelling requirements, and Extended Producer Responsibility (EPR) schemes. Regulation on fishing gear is also included.
Directive (EU) 2019/883 on port reception facilities for the delivery of waste from ships (2019)	EU Directive - It regulates the discharges of waste from ships by improving the availability and use of adequate port reception facilities and the delivery of waste, including derelict fishing gear from the fishing sector. The directive further targets "fished waste" (waste collected in nets during fishing operations).
EU Strategy for Plastics in a Circular Economy (2018)	Strategy - The first EU-wide policy framework adopting a life-cycle approach integrating design, use, reuse, and recycling of plastic products.
Directive (EU) 2018/852 amending Directive 94/62/EC on packaging and packaging waste	EU Directive - Amending Directive 94/62/EC on packaging and packaging waste. The latest amendment contains updated measures to prevent the production of packaging waste and promote the reuse, recycling and other forms of recovering packaging waste. It also sets specific targets for recycling by 2025 and 2030.

(Packaging and Packaging Waste Directive) (2018)	
Directive (EU) 2018/851 amending Directive 2008/98/EC on waste (Waste Framework Directive) (2018)	EU Directive - Amending Directive 2008/98/EC on waste. The latest amendment contains updated measures to protect the environment and human health by preventing or reducing the generation of waste, the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use, which are crucial for the transition to a circular economy and for guaranteeing the Union's long-term competitiveness.
Directive (EU) 2015/720 amending Directive 94/62/EC as regards reducing the consumption of lightweight plastic carrier bags (Plastic Bags Directive) (2015)	EU Directive - It requires the Member States to take measures such as national reduction targets and/or economic instruments (e.g. fees, taxes) and marketing restrictions (bans).
Marine Strategy Framework Directive (MSFD) 2008/56/EC	EU Directive - The first EU legal instrument to explicitly address marine litter; it required "Good Environmental Status" for marine litter to be achieved by 2020, i.e. that "properties and quantities of marine litter do not cause harm to the coastal and marine environment". Assessment of the status, target setting, monitoring, reporting, and implementation of marine litter and microlitter measures are carried out following relevant MSFD provisions and have been further specified within a Decision by the European Commission (2017/848/EU).

Box 1-1. The Marine Litter Operational Objectives and respective Indicators within the framework of the Barcelona Convention Ecosystem Approach and the Integrated Monitoring and Assessment Programme.

Marine Litter and the Barcelona Convention Ecosystem Approach

Ecological Objective 10 (EO10): Marine and coastal litter do not adversely affect the coastal and marine environment.

IMAP Common Indicator 22: Trends in the amount of litter washed ashore and/or deposited on coastlines (including analysis of its composition, spatial distribution and, where possible, source).

IMAP Common Indicator 23: Trends in the amount of litter in the water column including micro plastics and on the seafloor.

IMAP Candidate Indicator 24: Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds, and marine turtles.

Box 1-2. The Marine Litter Descriptor and respective criteria within the framework of the EU MSFD.

Marine Litter within the EU MSFD

Properties and quantities of marine litter do not cause harm to the coastal and marine environment (Descriptor 10)

Criteria D10C1 - Primary: The composition, amount and spatial distribution of litter on the coastline, in the surface layer of the water column, and on the seabed, are at levels that do not cause harm to the coastal and marine environment.

- ✓ amount of litter washed ashore and/or deposited on coastlines, including analysis of its composition, spatial distribution and, where possible, source (10.1.1)
- ✓ amount of litter in the water column (including floating at the surface) and deposited on the seafloor, including analysis of its composition, spatial distribution and, where possible, source (10.1.2)

Criteria D10C2 - Primary: The composition, amount and spatial distribution of micro-litter on the coastline, in the surface layer of the water column, and in seabed sediment, are at levels that do not cause harm to the coastal and marine environment.

- ✓ amount, distribution and, where possible, composition of microparticles (in particular microplastics) (10.1.3)

Criteria D10C3 - Secondary: The amount of litter and micro-litter ingested by marine animals is at a level that does not adversely affect the health of the species concerned.

- ✓ amount and composition of litter ingested by marine animals (10.2.1)

Criteria D10C4 - Secondary: The number of individuals of each species which are adversely affected due to litter, such as by entanglement, other types of injury or mortality, or health effects.

2. THE PLASTIC BUSTERS CAP ROADMAP

2.1. The ambition and objectives

Recognizing the pressing need for a collective, multidisciplinary and coordinated vision and long-term strategy for marine litter management with multiple and widespread levels of endorsement, the Plastic Busters CAP sought to develop a roadmap for marine litter policy priorities aiming to promote and encourage a consolidated and ambitious approach based on scientific evidence and lessons learned from regional efforts.

At the heart of the Plastic Busters CAP roadmap lies the knowhow obtained via the overall Plastic Busters Initiative and the corresponding actions on the science-policy-society interface. The roadmap fully utilizes the collective insights from the interplay of scientific research, policy formulation, and societal engagement. The Plastic Busters CAP roadmap is an action-oriented document that identifies a core set of high-impact solutions to effectively combat marine litter. Geared towards targeted stakeholders, there is a particular emphasis on the national and local levels.

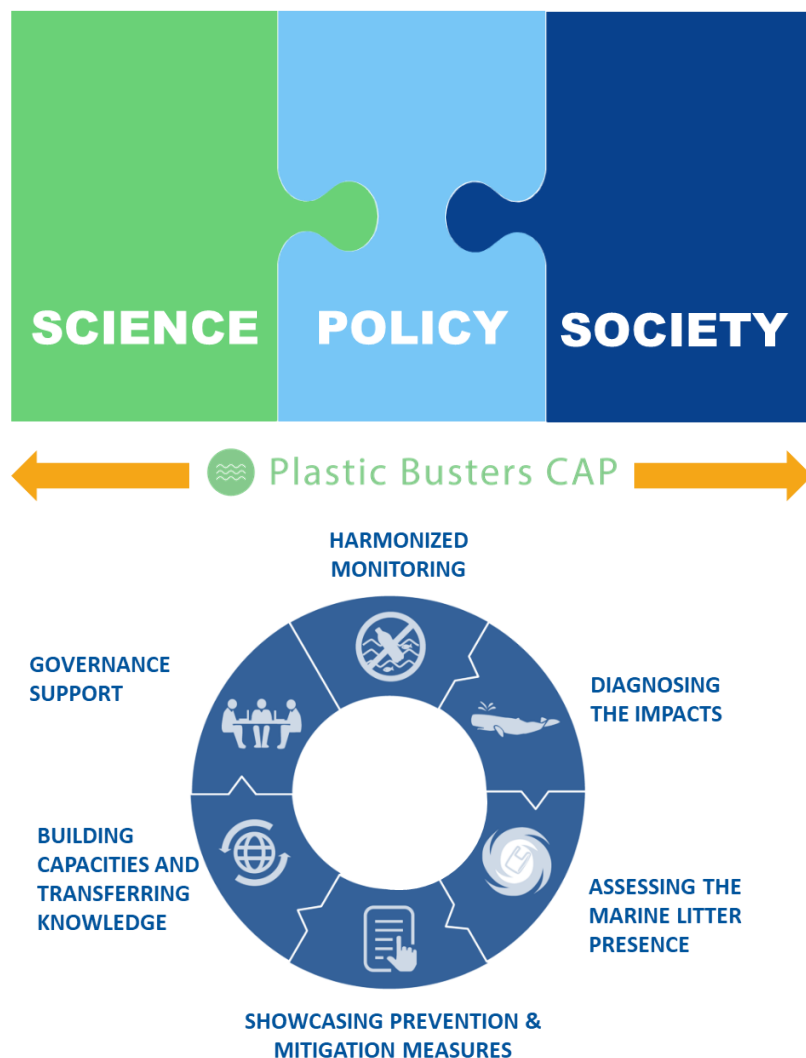


Figure 2-1. The PLASTIC BUSTERS CAP actions on the science-policy-society interface.

The Plastic Busters CAP actions played a pivotal role in bridging the realms of science and policy through a multifaceted approach. By translating scientific findings into actionable insights, it informed policy decisions with evidence-based recommendations. Additionally, the project effectively communicated policy issues that require scientific support, fostering synergy between the two domains. Through cooperative efforts, stakeholders engaged in comprehensive investigations, systematically exploring the intricacies of marine litter issues. Dedicated deliberation processes, including policy workshops, stakeholder interviews, and surveys, ensured thorough consideration of diverse perspectives, contributing to the development of well-informed policy recommendations. In essence, the Plastic Busters CAP served as a catalyst for collaboration, seamlessly integrating scientific knowledge into the policy arena to address and mitigate the challenges posed by marine litter in the southern partner countries, which served as the testing grounds for the Plastic Busters CAP project.

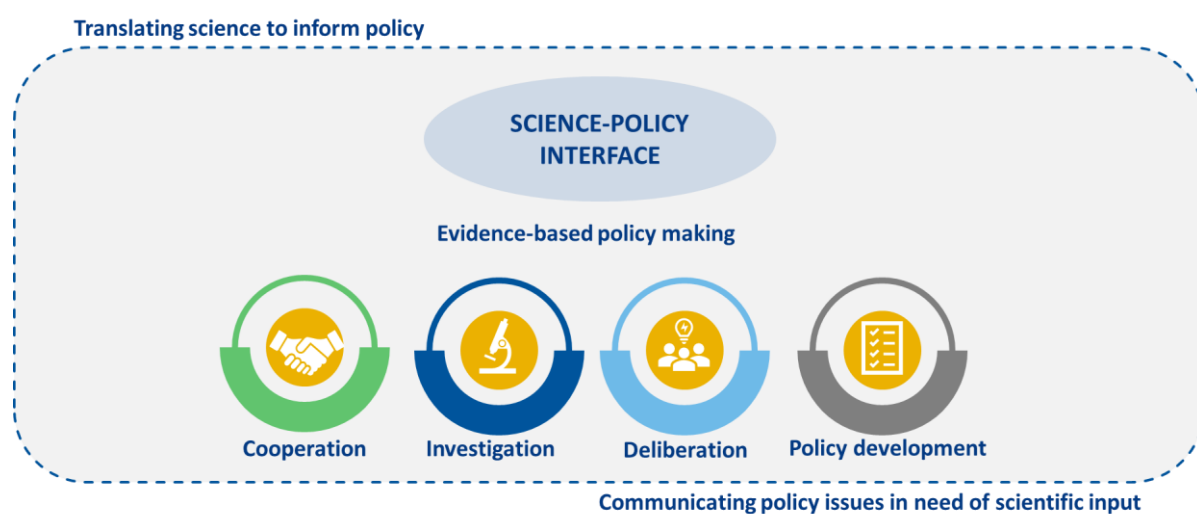


Figure 2-2. Bridging science and policy.

The Plastic Busters CAP roadmap is driven by a set of clear and ambitious objectives aimed at addressing the pervasive issue of marine litter in the coastal and marine environment of the Mediterranean. These objectives are:

- **Eliminate and Reduce Marine Litter Entry:**

The primary goal of the Plastic Busters CAP roadmap is to eliminate and reduce the influx of marine litter into the coastal and marine environment of the Mediterranean. This objective emphasizes proactive measures and preventive strategies to curb the entry of marine litter, thereby safeguarding the integrity of these vital ecosystems.

- **Remove Marine Litter from Hotspot and Accumulation Areas:**

A key focus of the Plastic Busters CAP is the targeted removal of marine litter from hotspot and accumulation areas within Mediterranean coastal and marine regions. The objective is not only to clean these areas but also to restore them to a state of good environmental status. The Plastic Busters CAP stresses the need to employ sound methods that pose no threats to habitats and species, ensuring a sustainable and effective approach to cleanup and restoration efforts.

- **Enhance Knowledge on Marine Litter Threat:**

The Plastic Busters CAP recognizes the importance of in-depth understanding and knowledge as a foundation for effective intervention. To this end, the roadmap aims to enhance and deepen our understanding of the marine litter threat in the Mediterranean. Special emphasis is placed on comprehensive assessments of the effects on habitats and species, providing critical insights for informed decision-making and targeted interventions.

These objectives collectively represent the core pillars of the Plastic Busters CAP roadmap, embodying a holistic and proactive approach to combatting marine litter. By striving to prevent, remove, and understand the impacts of marine litter, the roadmap sets a comprehensive framework for sustained efforts toward a cleaner and healthier Mediterranean marine environment.

2.2. The methodological approach

Plastics have undeniably become an integral facet of our societies and are poised to endure into the foreseeable future owing to the myriad benefits they provide. The imperative task at hand is the adept management of plastic usage, a critical endeavor in addressing the escalating issue of plastic pollution. Achieving this demands a 'wise' and all-encompassing approach, operationalizing various models and principles concurrently, such as the circular economy, the life cycle approach, the waste hierarchy, resource efficiency, the polluter-pays-principle, to name a few.

During the elaboration process of the Plastic Busters CAP roadmap we have placed special emphasis on the following management approaches:

- **Integrated Coastal Zone Management (ICZM):** a dynamic process for the sustainable management and use of coastal zones, considering at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts.
- **Ecosystem Based Management (EbM):** an integrated management approach that recognizes the full array of interactions within an ecosystem, including humans, rather than considering single issues, species, or ecosystem services in isolation; allows for consideration of resource tradeoffs that help protect and sustain diverse and productive ecosystems and the services they provide.
- **Source-to-Sea Approach:** a comprehensive approach that takes a holistic view of the sources of and solutions to the problem of pollution. This approach is essential in addressing the intricate web of interconnected ecosystems comprising oceans, land, and freshwater resources. Recognizing the inherent interlinkages and dependencies among these ecosystems, an upstream strategy is adopted to confront marine pollution at its source. This approach involves the holistic management of land, freshwater, coastal, and marine resources, aiming to overcome institutional and policy fragmentation.

Central to the Plastic Busters CAP roadmap is the full operationalization of the European waste hierarchy within the context of a circular economy. Within this context the prioritization of measures to tackle plastic pollution puts first the phasing out or elimination of certain plastics, followed by the promotion of plastic items reuse, the reduction of certain plastic items or the minimization of overall plastic material usage to enhance resource efficiency. Additionally, considerations involve exploring sustainable alternatives or more environmentally friendly substitutes and enhancing recycling systems.

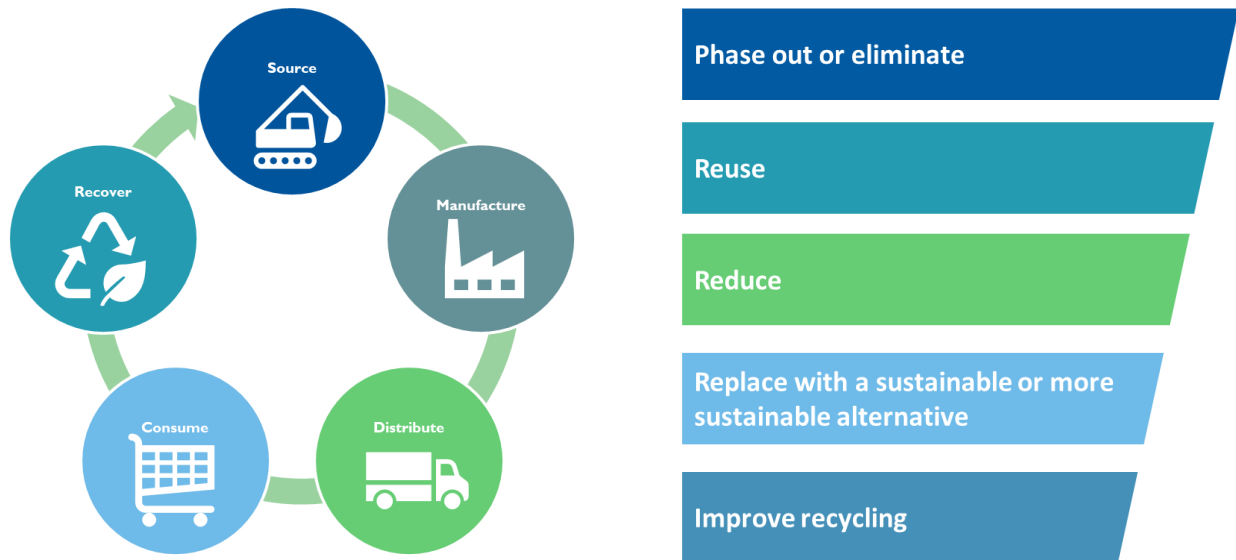


Figure 2-3. Schematic representation of the European waste hierarchy within the context of a circular economy.

To elaborate the Plastic Busters CAP roadmap, we have adhered to the methodological approach outlined in Figure 2-4. The identification of marine litter priorities is grounded in the Plastic Busters CAP marine litter research data, supplemented by additional data where available. The marine litter evidence, in conjunction with organizational and human capacities, as well as established management priorities, serves as the foundation for evaluating the extensive list of marine litter measures incorporated in the Barcelona Convention Regional Plan on Marine Litter Management in the Mediterranean. The selection of measures included in the Plastic CAP roadmap also takes into account insights and lessons derived from the implementation of measures within the Plastic Busters CAP project and the broader Plastic Busters Initiative.

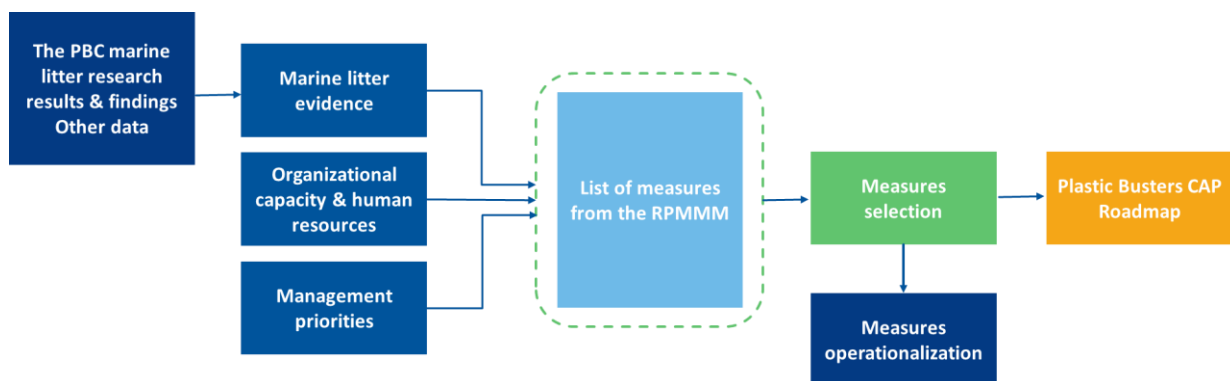


Figure 2-4. Methodological approach for elaborating the Plastic Busters CAP roadmap.

substitute plastics causing impacts on the environment with materials with net positive impacts	use recycled plastics and disincentivize the use of plastic	phase-out chemical additives used in plastic products	phase out consumption and production of single-use plastic products
efficient plastic waste reduction	regulatory framework for compostable plastics	enhance collection and recycling schemes	Extended Producer Responsibility approach
closure of existing illegal dump sites on land	prevention or reduction of leakage of marine litter during flood seasons	charge reasonable cost for the use of port reception facilities	preventing and reducing marine litter impact in Marine Protected Areas
gear marking to indicate ownership	promote best practices to prevent plastic waste and single use plastic products in tourism	regular National Marine Litter Cleanup Campaigns	adopt-a-Beach
fishing for Litter	create incentives for fishing vessels to retrieve derelict fishing gear, collect marine litter	support schemes aiming to deliver waste in port reception facilities	safe/formal markets for recycled plastics
fiscal and economic incentives for phasing out plastic bags	innovative business practices to prevent plastic waste generation	deposit/Refund Systems	standards for product labelling
	sustainable Procurement Policies	voluntary agreements with retailers and supermarkets	

Figure 2-5. *The marine litter measures included in the Barcelona Convention Regional Plan on Marine Litter Management in the Mediterranean.*

2.3. The elaboration process

The Plastic Busters CAP roadmap emerged from a comprehensive and collaborative effort, drawing on input from various stakeholders. This inclusive approach involved multi-tier sources of input, each contributing distinct perspectives and expertise:

- **The Plastic Busters CAP Policy Workshop:**

The foundation of the Plastic Busters CAP roadmap was laid during a significant policy workshop held in Tunis in September 2023. With the participation of more than 40 influential stakeholders, including policy-makers, decision-makers, and advisors representing diverse governance levels, as well as representatives from environmental NGOs and research institutes, this event served as a catalyst for collaboration. The workshop's primary objective was to strengthen the science-policy-society interface and identify recommendations for a marine litter management approach. Central to its discussions was the integration of Ecosystem-Based Management (EbM) with Integrated Coastal Zone Management (ICZM). The key recommendations stemming from this workshop form the bedrock for the Plastic Busters CAP roadmap, with a shared vision of achieving a litter-free Mediterranean.

- **The Plastic Busters CAP Policy Toolkit:**

Another integral source of input for the roadmap was the Plastic Busters CAP policy toolkit. This toolkit incorporates recommendations aimed at promoting a comprehensive marine litter management approach that intertwines EbM and ICZM principles. These recommendations, derived from a synthesis of expert insights and best practices, further enrich the roadmap's strategic framework.

- **The Plastic Busters CAP Consultation Survey and Stakeholder Interviews:**

The roadmap development process also harnessed the insights gathered through the Plastic Busters CAP consultation survey and stakeholder interviews. These endeavors were instrumental in identifying marine litter management priorities, providing a nuanced understanding of the challenges and opportunities in the Mediterranean. The results and findings from these consultations contributed valuable empirical data, helping shape the roadmap's targeted and evidence-based approach.

In essence, the Plastic Busters CAP roadmap is a product of collective wisdom, incorporating the diverse perspectives, expertise, and recommendations of stakeholders from policy workshops, toolkits, surveys, and interviews. This multi-tiered input ensures a robust and inclusive foundation for the strategic roadmap designed to address marine litter in the Mediterranean effectively.

3. THE PLASTIC BUSTERS CAP POLICY PRIORITIES

The table below outlines priority and no-regret measures integral to realizing the aspirations and objectives outlined in the Plastic Busters CAP roadmap, ultimately striving for a litter-free Mediterranean. Some of these measures are feasible for short- and medium-term implementation, while others require a longer-term perspective, contingent upon the unique socio-economic contexts of individual Mediterranean countries. Nonetheless, the identified priorities below serve as foundational elements for formulating a comprehensive plan of action at both the national and local levels. This plan should detail how to effectively operationalize these actions by delineating timelines, milestones, involved stakeholders, performance indicators, and methods of verification.

Table 3-1. The Plastic Busters CAP roadmap policy priorities.

<ul style="list-style-type: none">▪ Enhance waste management infrastructure via a series of measures aimed at improving waste collection, sorting, and disposal systems.
<ul style="list-style-type: none">▪ Implement best practices for reducing the use of SUPs in all working environments (with special emphasis on the tourism and recreation sector), such as setting up a SUPs-free network of coastal food and beverage outlets, setting up a reusable cup system for beach bars, etc.
<ul style="list-style-type: none">▪ Support adopt-a-beach schemes and participatory science campaigns and encourage individuals or groups (i.e. schools, environmental NGOs, cultural associations, etc.) to "adopt" beaches.
<ul style="list-style-type: none">▪ Enhance public awareness and education by implementing and/or supporting targeted and science-based awareness raising campaigns that effectively reach and engage educators and students, the public, visitors, and local communities.
<ul style="list-style-type: none">▪ Deploy sustainable public procurement processes to prioritize the purchase of products and services with reduced packaging, minimal or recyclable materials, and eco-friendly characteristics.
<ul style="list-style-type: none">▪ Establish derelict fishing gear management schemes to tackle fisheries and aquaculture related litter.
<ul style="list-style-type: none">▪ Operationalise best practice solutions in the fisheries and aquaculture sectors to minimize marine litter.
<ul style="list-style-type: none">▪ Promote sustainable agricultural practices aimed at minimizing plastic usage and ensuring proper management of agricultural waste.
<ul style="list-style-type: none">▪ Advocate for the introduction of bans for certain plastic litter items including items made of biodegradable plastics (unless the latter is designed for landfilling)
<ul style="list-style-type: none">▪ Implement a novel, harmonized and holistic approach to detect the presence and effects of marine litter in the Mediterranean.

4. REFERENCES

- Addamo, A.M., Laroche, P., Hanke, G., 2017. Top Marine Beach Litter Items in Europe. EUR 29249 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-87711-7, JRC108181.
- Barra et al., 2018. Plastics and the circular economy. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC.
- Fossi et al., 2022. Report on the results and findings of the piloted harmonized marine litter monitoring approach in Mediterranean MPAs. Interreg Med Plastic Busters MPAs project.
- Galgani, F., Hanke, G., Werner, S., Oosterbaan, L., Nilsson, P., Fleet, D., Kinsey, S., Thompson, R.C., Van Franeker, J., Vlachogianni, T., Scoullou, M., Mira Veiga, J., Palatinus, A., Matiddi, M., Maes, T., Korpinen, S., Budziak, A., Leslie, H., Gago, J., Liebezeit, G., 2013. Guidance on Monitoring of Marine Litter in European Seas. Scientific and Technical Research series, Report EUR 26113, EN.
- Gall, S.C., Thompson, R.C., 2015. The impact of debris on marine life. *Mar. Pollut. Bull.* 92, 170–179. <https://doi.org/10.1016/j.marpolbul.2014.12.041>.
- Jambeck, J.R., Geyer, R., Wilcox, C., et al., 2015. Plastic waste inputs from land into the ocean. *Science* 347, 768–771.
- Li, W.C., Tse, H.F., Fok, L., 2016. Plastic waste in the marine environment: a review of sources, occurrence and effects. *Sci. Total Environ.* 566–567, 333–349. <https://doi.org/10.1016/j.scitotenv.2016.05.084>.
- UNEP/MAP, 2017. 2017 Mediterranean Quality Status Report.
- UNEP/MAP, 2021. Decision IG.25/9, Amendments to the Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol, Appendix I - List of Single Use Plastic Items.
- UNEP/MAP, 2021. Updated Baseline Values and Proposal for Threshold Values for IMAP Common Indicator 22. UNEP/MED WG.509/11.
- United Nations Environment Programme (UNEP), 2018. Marine plastic debris and microplastics: global lessons and research to inspire action and guide policy change. UNEP/AHEG/2018/1/INF/4, 35–45.
- United Nations Environment Programme/Mediterranean Action Plan (UNE/MAP), 2015. Marine Litter Assessment in the Mediterranean. ISBN No: 978-92-807- 3564-2.
- Veiga, J.M., Fleet, D., Kinsey, S., Nilsson, P., Vlachogianni, T., Werner, S., Galgani, F., Thompson, R.C., Dagevos, J., Gago, J., Sobral, P., Cronin, R. 2016. Identification of Sources of Marine Litter. MSFD GES TG Marine Litter Thematic Report. JRC Technical Report.

“for a litter FREE Mediterranean”



A project labelled by UfM



Union for the Mediterranean
Union pour la Méditerranée
الاتحاد من أجل المتوسط



Lead partner

