

DRAFT SUMMARY REPORT

BLUEMED Pilot: For a Plastic-free, Healthy Mediterranean Sea

Tuesday 12 March 2019

9:00 – 17:00

Room: CDMA -1/44

Rue du Champ de Mars 21

Brussels, Belgium

1. INTRODUCTION

The health of our Mediterranean Sea is crucial for the future, our wellbeing and prosperity. Plastic pollution has increased dramatically in the last 50 years and it has become a major threat to the health of the Mediterranean Sea that must be tackled urgently. Members of the BLUEMED Initiative Senior Officials Working Group have therefore agreed to launch a pilot “For a Plastic-free, Healthy Mediterranean Sea”, following a proposal from Italy and France.

The pilot will help to mobilise key actors to tackle plastic pollution in the Mediterranean Sea, thereby contributing to the implementation of the Updated Bioeconomy Strategy¹ (Action 1.6) and the European Strategy for Plastics in a Circular Economy².

In a first exploratory workshop on 12 March 2019, experts from Mediterranean countries from public administrations, science, industry and civil society met to define a common direction of travel. Following presentations on the state of plastic pollution in the Mediterranean and the current regulatory framework addressing marine litter, examples of ongoing initiatives by researchers, companies and civil society were given which provided a snapshot of the complexity of the problem at hand and the breadth of efforts that will be required to tackle it.

These presentations complemented the preliminary mapping (Annex III), carried out by BLUEMED GSO members, of a broad range of initiatives and projects addressing marine litter in Mediterranean countries. This gathering of information will be a continuous process that will need to take account of the many other initiatives going on ‘on land’ [tackling the problem at the source] to complete the picture of the of the Mediterranean landscape, identify potential synergies and sharpen the focus of action of the BLUEMED Pilot.

Based on the presentations and mapping, workshop participants set out to define and start to operationalise a common vision for the BLUEMED Pilot by discussing three sets of questions:

1. What would constitute a successful pilot?
2. What portfolio of actions and concrete measures would need to be taken to achieve the targets of the pilot?
3. What would a partnership look like that could successfully implement the required portfolio of actions?

¹ European Commission. 2018. *Updated Bioeconomy Strategy – A sustainable bioeconomy for Europe: strengthening the connection between economy, society and the environment.*

² European Commission. 2018. *A European Strategy for Plastics in a Circular Economy.*

2. RATIONALE

In his presentation of the state of plastic pollution in the Mediterranean, François Galgani (Ifremer) outlined the severity of the challenge. Every year more than 8 million tons of plastic enter the ocean, with more than 5 trillion particles of plastic floating on the world ocean. Through entanglement, ingestion and the transport of species and substances, more than 800 different marine species and ecosystems have been affected by this litter.

The Mediterranean Sea is one of the most affected water bodies in the world. 320 million inhabitants live along its coastal areas in addition to millions of tourists visiting the region every year. As a major shipping route linking Europe, Africa and Asia, approximately 25-30 % of world maritime traffic passes through the Med. Moreover, several large rivers flow into the basin such as the Nile, Rhône and Po. As a consequence, an estimated 211,425 tons of plastic enter the Mediterranean annually from the bordering countries. As a closed basin with very limited outflow through the Strait of Gibraltar, plastic is accumulating in the Mediterranean: Approximately 250 billion plastic items are floating at its surface with concentrations of up to 64 million items/km² and up to 1,000,000 items/km² on the seafloor. These concentrations are higher than those observed in the five great oceanic gyres. This pollution has a large environmental impact on the ecosystem as marine animals ingest or get entangled in plastic, or raft on plastic particles leading to the transport of alien (invasive) species to new ecosystems. The resulting socio-economic impact of plastic is therefore estimated at 263 million EUR, including on sectors such as tourism and fisheries and aquaculture. This comes against a backdrop of rising plastic production which is forecast to double by 2036 and almost quadruple by 2050.

3. THE REGULATORY FRAMEWORK

A number of regulations and strategies target marine litter at regional and global level, providing a framework for action, as outlined by Matjaž Malgaj (DG Environment) during the workshop.

The EU Marine Strategy Framework Directive

The main aim of the **Marine Strategy Framework Directive** (MSFD) is to achieve “Good Environmental Status (GES) through 11 descriptors of the EU's marine waters by 2020, and to protect the marine resource base upon which economic and social activities depend”. Descriptor D10 Marine Litter targets that properties and quantities of marine litter do not cause harm to the coastal and marine environment. However, methodologies for monitoring and assessment of marine litter are not readily available and need to be developed, harmonized and implemented. The Technical Sub-Group on Marine Litter has therefore developed options and recommendations for assessing marine litter in the marine environment to support the Member States implementing the MSFD.

New Waste Legislation

Halting marine litter is one of the objectives under the new waste legislation from 2018. The legislation requires Member States to identify sources of littering and take measures accordingly. In particular, Member States will develop 6 year National Plans to fight littering with measures

coherent with MSFD programmes. The legislation also seeks to make producers contribute financially to reduce littering.

A European Strategy for Plastics in a Circular Economy

The 2018 Plastics Strategy centres around a set of goals proposed to halt the production of plastics waste, from better waste management, recycling capabilities, novel materials, to awareness raising and industrial responsibility.

As part of this Strategy, the European Commission has proposed a **Directive on the reduction of the impact of certain plastic products on the environment**. This proposal focuses in particular on single-use plastics as well as gear from fisheries and aquaculture which together represent around 70 % of all marine litter (Plastics represent 84% of all marine litter and single-use plastics (SUP) represent half of all marine litter. The top ten single-use plastic items represent 86% of all single-use plastics and thus 43% of all marine litter. Fishing gear represents around 27% of marine litter. Top ten single-use plastics and fishing gear together thus represent 70% of all marine litter). A provisional agreement has been struck between the European institutions which still needs to be adopted by Council and European Parliament.

A number of actions are proposed:

- The following products will be banned in the EU: Plastic cutlery (forks, knives, spoons and chopsticks), plastic plates and plastic straws; cups, food and beverage containers made of expanded polystyrene; products made from oxo-degradable plastic; cotton bud sticks made of plastic.
- Member States will take the necessary measures to achieve a measurable quantitative reduction in the consumption of the following products: Food containers made of plastic, plastic cups for beverages, including their covers and lids.
- Recycling content: There will be a binding target of at least 25% of recycled plastic for PET beverage bottles from 2025 onwards, calculated as an average for the Member State. In 2030 all plastic bottles will have to respect a target of at least 30% of recycled content.
- Marking: Wet wipes, i.e. pre-wetted personal care and domestic wipes, and cigarettes and other tobacco products which have filters that contain plastic, will need to bear a marking on their packaging which informs consumers of the presence of plastic and of the harm done to the environment if it is thrown away elsewhere than in the bin.
- Extended Producer Responsibility (2023): Producers of tobacco filters which contain plastic will be subject to an extended producer responsibility scheme. This means that producers will have to cover the costs for public collection systems for cigarette stubs. Producers of wet wipes, balloons and tobacco products will also be subject to an extended producer responsibility scheme covering costs of awareness raising measures, clean-up and data gathering (but not collection costs). Fishing gears will also be covered by such schemes which will include the costs of separate collection of the gears. MS will need to set a national level a collection rate, and monitor fishing gear, with a view to the establishment of an EU-wide collection target as a second step. Harmonized standards for the circular design of fishing gear will be launched.

Microplastics

Special measures are being taken towards microplastics. Under the REACH regulation, a general ban of microplastics in cosmetics, detergents and paints has been proposed. For microplastics in tyres and textiles labelling, harmonisation and minimum requirements have been proposed. For plastic pellets chain certification and permitting are under consideration.

Further Measures

In addition, further measures targeting plastics are included in Port reception Facilities, Urban waste water Directive and specific measures for aquaculture.

Global and International Frameworks

The **UN Agenda 2030 for Sustainable Development** includes Sustainable Development Goal 14 “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”. SDG 14 includes target 14.1: By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. The **G7** and **G20** groups have both agreed on Action Plans to Combat Marine Litter. And at sea basin level, the Mediterranean States have agreed on a Regional Plan on Marine Litter Management in the Mediterranean to prevent and eliminate pollution under the **UN Environment Mediterranean Action Plan** (Barcelona Convention).

4. THE WAY FORWARD

Marine litter is a complex problem with very diverse, multiple sources. Tackling marine litter to create a plastic-free and therefore healthy Mediterranean Sea, requires multiple solutions at local, national and regional level and must involve a range of different sectors, disciplines and actors.

Fabio Fava (University of Bologna, Senior Official for Italy) therefore called for the design of a portfolio of integrated, multi-stakeholder, multi-level actions to be implemented under the BLUEMED umbrella.

Examples of some ongoing initiatives were provided during the workshop as input to the discussion. Cristina Fossi (University of Siena) presented the PlasticBusters project which addresses the whole management cycle of marine litter, from monitoring and assessment to prevention and mitigation, as well as actions to strengthen networking between and among pelagic and coastal MPAs. Johannes Weber (Nestlé) outlined the commitment of Nestlé by 2025 to make all its packaging recyclable and reusable, to collect 95% of all PET bottles and caps, and to have 35% recycled content in all PET bottles. Justine Maillot (Surfrider Foundation Europe) outline the concerns of the Rethink Plastic Alliance regarding the potential role of bio-based plastics and a potential marine biodegradability standard and Davide Sabaddin (Legambiente) showcased the work of Legambiente on marine litter which includes surveys, citizen science campaigns, and working with fishermen to collect marine litter.

Based on these inputs, the workshop participants were divided into break-out groups in order to identify potential actions as well as a partnership that could tackle marine litter in the

Mediterranean. The break-out group discussions were structured by a set of guiding questions (Annex II).

The following is a collection of ideas that were gathered in this process. These ideas will need to be further analysed to build a roadmap for the operationalisation of the BLUEMED Pilot, including mechanisms for connecting and building on existing initiatives.

4.1 Overarching actions

- Common approaches for prevention, reduction and mitigation actions
- Identification of hotspot areas by modelling activities to find solutions
- Studies on sources of marine litter
- Facilitate training and the exchange of best practices by creating:
 - A platform to showcase successful initiatives and measures
 - Guide for policy-makers with measures that can be taken
 - Guidelines for how to organise environmentally-friendly events
- Harmonisation of marine-litter related legislation at basin level: repository of national and international regulations applicable in Mediterranean
- Harmonisation of scientific and technological methods and approaches for plastic monitoring
- Mapping and monitoring ongoing actions on the Mediterranean: to avoid overlaps, seek complementarities and identify gaps
- Develop monitoring programmes to measure impact and success to provide feedback on actions
- Carry out outreach and education actions, including to create common terminology and definitions (e.g. on biodegradability, bio-based plastics)
- Ensure consistent governance between MSFD and Barcelona Convention action plan

4.2 Actions to reduce the generation of plastic waste

- Implement and improve enforcement of the Circular Economy package and the Waste directive
- Eliminate the land-based open and open-air landfills,
- Remove (via filtration) plastics and tire fragments from highway and urban runoff, and wastewater treatment effluents
- Develop alternative materials (plastic substitutes), limit the number of polymers and additives possible for packaging to ease the recycling and restrict use of mono-use products, non-essential plastic products and micro-granules in products; Make plastic packaging fully recyclable and reusable and/or gradually adopt biodegradable (bio)plastics (although approach toward marine biodegradability not yet commonly agreed)
- Life cycle assessment of materials and items
- Improve recycling rates. Develop new and improved tools to selectively collect and recycle sustainably waste plastics by reducing use landfills; agreeing on a list of polymers that plastic producers are encouraged or obliged to use.

- Consider the impact on marine litter as a criterion in public procurement schemes (e.g. Green Deals, Innovation Deals)
- Sustainable aquaculture. Develop and test the use of alternatives to conventional plastic polymers (polyethylene, polypropylene, nylon) in shellfish and fish farming
- Promote the mainstreaming of rental and repair initiatives
- Smart technologies (e.g. apps) to support social innovation. Develop a label for consumer products
- Awareness raising and citizen engagement

4.3 Actions to prevent littering and leakage of plastics into environment

- Focus on major sources in the Med: tourism and shipping
- Develop strategies for valorising waste such as:
 - Deposit refund systems for beverage packaging
 - Dry and burn waste, to produce energy;
 - fractionation and use of plastic fractions for the production of art products or objects;
 - specific, innovative chemical and/or biological valorisation processes for the production of useful chemical building blocks
 - Conversion of plastics into new materials
- Share best practices in economic activities like fishing management, tourism management in coastal areas in high season (waste collection, management and recycling), including on how to better deal with fluxes such as high tourist seasons by:
 - Adapting waste collection frequencies
 - Incentivising geographical and temporal spread to reduce fluxes
- Bring in companies willing to help develop waste management infrastructure especially in southern Mediterranean countries for collection, sorting and recycling.
- Required knowledge creation:
 - Better understand pathways for the transport of marine litter (atmospheric inputs, trans-boundary sources, etc.)
 - Marine litter composition, amounts, fate and actual impacts on the local ecosystems for some of the Mediterranean areas
 - Sources of litter: marine sampling network with scientists/citizens of the area

4.4 Actions to collect and use plastic already in the environment

- Implement site specific strategies for removing/lowering the marine litter already existing in the basin. Needs:
 - removal of microplastics from surface, water column, seafloor and shore via the cooperation of pelagic and benthic trawlers;
 - regular removal of beached debris from the beaches, plastics from rivers, watercourses and continental runoff waters, via fishermen and citizens;
- Map hot spots and routes of marine litter (Beaches, deep-sea, data base for accumulation areas, etc.) and most sensitive areas in terms of impact on biodiversity for risk assessment in the different marine compartment (surface, water column, seafloor)
- Evaluate the distribution/quantify of micro plastics (sediments / deep sea fish)

- Create a Mediterranean marine litter data base
- Promoting emerging technologies, such as chemical recycling

5. BUILDING A PARTNERSHIP TO IMPLEMENT THE PILOT

The pilot needs to, with active participation of the BLUEMED GSO, connect scientists with water managers, beach managers, policy makers, port and marine authorities, investors, regional sea conventions, entrepreneurs and business creators, and society at large. In order to build such a partnership, the pilot could:

- Develop local hubs that function as a community of ecosystems to foster innovations and the development of a plethora of initiatives at local level which will be crucial for the success of the pilot.
- Develop a platform or umbrella to connect the different local hubs, which includes the use of social media to connect local actors, NGOs, scientific operators and companies
- Develop and promote robust partnerships between academia, industry, public institutions, regulatory bodies and the society, and long-term coordination of European/non-EU countries in the area.
- Create or use an existing pledge system in order to create a community of actors that sign up to common objectives, including
- Link with ongoing activities of the Barcelona Convention as well as with existing networks such as the WestMED Initiative, UniMed, EUSAIR, Adriatic Union, TGM, UfM, MEDPOL, GSCM (fisheries association).

6. NEXT STEPS

On 4 April 2019 the BLUEMED GSO Working Group will meet in Brussels to discuss the workshop output with a view of developing a roadmap for the BLUEMED Pilot for a plastic-free, healthy Mediterranean Sea. In particular, the Working Group will discuss how to further operationalise the Pilot, amongst others, by connecting existing initiatives and complementing them with further actions where needed. Furthermore, the mapping of existing initiatives will be continued.

ANNEX I: LIST OF PARTICIPANTS

Angel, Dror, University of Haifa, Israel
Brenne, Roman, DG Research and Innovation, European Commission
Cappelletto, Margherita, National Research Council of Italy, Italy
Caron, Alexandra, DG Maritime Affairs and Fisheries, European Commission
Conesa-Alcolea, Ivan, DG Research and Innovation, European Commission
Fava, Fabio, University of Bologna, Italy
Flore, Letitia, Waste-free Oceans, Belgium
Fossi, Cristina, University of Siena, Italy (videoconference)
Francocci, Fedra, National Research Council of Italy, Italy
Galgani, François, Research Institute for the Exploitation of the Sea (Ifremer), France
Giuliano, Laura, Mediterranean Science Commission (CIESM)
Gruber, Sigi, DG Research and Innovation, European Commission
Hanus, John, DG Research and Innovation, European Commission
Hetel, Laura, DG Research and Innovation, European Commission
Iglesias, Marta, DG Research and Innovation, European Commission
Javidpour, Jamileh, University of Southern Denmark, Denmark
Klein, Emmanuelle, Ministry of Higher Education, Research and Innovation, France
Liberali, Raffaele, Startup Europe Mediterranean (SEMED)
Maillot, Justine, Surfrider Europe Foundation, Belgium
Malgaj, Matjaž, DG Environment, European Commission
Marangoni, Luca, DG Maritime Affairs and Fisheries, European Commission
March, Marta, Spanish Ministry of Science, Innovation and Universities, Spain
Marengo, Paolo, Association of Cities and Regions for sustainable Resource management, Belgium
Mongodin, Frédérique, Seas-At-Risk, Belgium
Osma, Angela, Spanish Association of Plastics Industry, Spain
Papathanassiou, Vangelis, Retired expert, Greece
Piraino, Stefano, University of Salento, Italy
Sabaddin, Davide, Legambiente, Italy
Sammari, Cherif, National Institute of Science and Technology for the Sea, Tunisia
San Roman, Sonsoles, University of Malaga, Spain
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Snoussi, Maria, Mohammed V University, Morocco
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Triantafyllou, George, Hellenic Centre for Marine Research, Greece
Vangueluwe, Patricia, PlasticsEurope, Belgium
Weber, Johannes, Nestlé Europe, Belgium
Weydert, Marco, DG Research and Innovation, European Commission

ANNEX II: WORKSHOP PROGRAMME

AGENDA

BLUEMED Pilot: For a Plastic-free, Healthy Mediterranean Sea

Tuesday 12 March 2019

09:00 – 17:00

Room: CDMA -1/44

Rue du Champ de Mars, 21

1050 - Bruxelles

The health of our Mediterranean sea is crucial for the future, our wellbeing and prosperity. The plastics pollution has increased dramatically in the last 50 years and it has become a major threat to the health of the Mediterranean Sea that must be tackled urgently. This is why the BLUEMED Initiative (Senior Officials) has agreed to launch a pilot on a plastic-free Mediterranean sea.

The actions proposed by the recently adopted Bioeconomy Strategy will channel the potential of the bioeconomy to contribute to tackling plastic pollution in European seas and oceans, and in inland waters, and to restore water quality and ecosystems (Action 1.6 of the Bioeconomy Strategy). The action is expected to, for example, mobilise the key actors in the plastics value chain to support the development of substitutes to fossil resources, in particular bio-based, recyclable and possibly marine biodegradable substitutes for plastic. The pilot will contribute to the implementation of this Action 1.6.

This workshop is a first attempt to identify a portfolio of actions intended to achieve a plastic-free Mediterranean Sea and deliver on the targets of the Bioeconomy Strategy, with measurable goals within a set timeframe.

The following set of questions should help to structure the workshop discussions in order to elicit (i) what would constitute a successful pilot plastic-free ocean in the Mediterranean, (ii) the required portfolio of actions and concrete measures to make the pilot a success as well as (iii) outline how a partnership that could successfully implement these actions and measures would look like.

1. Defining success for the pilot plastic-free Mediterranean

- What would constitute a success for a pilot plastic-free Mediterranean by 2025? What benefits would it bring to the Mediterranean citizens by 2025?

2. Developing a portfolio of actions and concrete measures to make the pilot a success

- Which areas would need to be part of a portfolio of actions that together would make the pilot a success (e.g. prevention of plastic waste, prevention of leakage, mitigation, knowledge creation)?
- What concrete measures could and should be taken in each of the action areas?

- How can the generation of plastic waste be reduced, which is currently increasing in the EU? Does the development of alternative materials (e.g. novel bio-based solutions) need to be strengthened and how can their use be encouraged? How can design choices reduce plastics? What other ways to reduce plastic waste generation?
- How to prevent the discarding of plastic products by encouraging their re-use, re-cycle and/or their repair?
- How to increase the recycling rate of plastic packaging in BLUEMED countries?
- What measures can be taken to prevent leakage of plastics into the Mediterranean? How to reduce the main macroplastic items found on the coast and ocean (single-use plastics, fishing gear, etc.) and microplastics (car tyre abrasion, microfibers, pellets, etc.)? How can the principal pathways (rivers, coasts, wastewater, atmosphere) be tackled?
- What are the most effective measures to collect plastics from the ocean? What role for hotspots such as rivers, beaches, harbours?
- How to mitigate the negative impacts of plastic on the marine environment?
- What research is needed to make the pilot a success? What new knowledge needs to be created to enable the transition to a circular plastics economy? What's the role of science and research in this process? What role for scientists and researchers?
- Which promising technologies and innovations are on the horizon? What role for social innovation?

3. Building a partnership to successfully implement the portfolio of actions

- What would a partnership look like that could successfully implement the required actions? Which actors need to be mobilised that together could make the pilot a success? What role for municipalities, public authorities, regional seas conventions? How to engage industry, civil society, citizens, and schools?
- Which existing networks could be mobilised? What existing initiatives, programmes, projects, etc. could be scaled up to be more effective?
- How to develop buy-in and common sense of direction and ownership across multiple (bottom-up) initiatives?

BLUEMED Pilot: For a Plastic-free, Healthy Mediterranean Sea Tuesday 12 March 2019, 09:00 – 17:00	
I. WELCOME AND INTRODUCTION	
09:00 – 09:30	Registration and Welcome Coffee
09:30 – 09:40	Introductory remarks: <i>Sigi Gruber, DG Research and Innovation, European Commission</i>
09:40 – 09:50	A European Plastics Strategy for a Circular Economy: <i>Matjaž Malgaj, DG Environment, European Commission</i>
II. DEFINING SUCCESS FOR THE PILOT PLASTIC-FREE MED	
09:50 – 10:00	Proposal for Pilot Plastic-free Med: <i>Fabio Fava, University of Bologna</i>
10:00– 10:30	Plastic Pollution in the Med – A State of Play: <i>François Galgani, Ifremer</i>
10:30 – 11:00	Break-Out Groups: Defining success for a Pilot plastic-free Med
11:00 – 11:15	Feedback from Break-out Groups
11:15 – 11:30	Coffee Break
III. DEVELOPING A PORTFOLIO OF ACTIONS & BUILDING A PARTNERSHIP	
11:30 – 11:40	Plastic Busters project: <i>Cristina Fossi, University of Siena</i> (video conference)
11:40 – 11:50	The contribution of companies: <i>Johannes Weber, Nestlé</i>
11:50 – 12:00	Civil Society perspective: <i>Justine Maillot, Surfrider Europe/Rethink Plastic Alliance</i>
12:00 – 12:10	Civil Society perspective: <i>Davide Sabbadin, Legambiente</i>
12:10 – 13:00	Networking Lunch
13:00 – 15:00	Break-Out Groups: Developing a Portfolio of Actions and Measures
15:00 – 15:15	Coffee Break
15:15 – 16:15	Break-Out Groups: Building a Partnership to Implement the Pilot
16:15 – 16:45	Feedback from Break-out Groups
IV. CONCLUDING REMARKS	
16:45 – 17:00	Wrap-up: <i>Sigi Gruber, DG Research and Innovation, European Commission</i>

ANNEX III: DRAFT MAPPING OF INITIATIVES

Pilot: For a Plastic-free, healthy Mediterranean Sea

Contributions from:

1. Algeria
2. Egypt
3. France
4. Israel
5. Italy
6. Malta
7. Morocco
8. Spain
9. Tunisia
10. Turkey

1. ALGERIA

The pilot from Algeria is here summarized in the following three actions:

Title of the action	General objective	Action to be undertaken	Potential National Partners:
Proposition 1 : Mapping the macro-waste on the trawlable marine litter of the Algerian continental shelf	Researchers in marine science and the professional fishermen to establish a map of the marine litter macro-wastes.	Qualify and quantify the macro-wastes of the Algerian continental shelf marine litter (depth range from 50 to 200 m : trawlable bottom); Identify the zones of macro-waste accumulation according to its nature; Identify the main sources of macro-wastes along the coast	ENSSMAL (Public higher School (education and research)), CNRDPA (public research), Professional Fishers (trawlers)
Proposition 2 : Micro-plastics in the food web : water column and benthic zone	Focus on shrimps and small blue pelagic fishes. These two groups are the most consumed species in Algeria and the main exploited resources at sea.		ENSSMAL (Public higher School (education and research)), CNRDPA (public research)
Proposition 3 : Public outreach	A partnership with NGO (AREA-ED) and National Agency (AND) will be set up in order to prepare some large audience documentations :	Movie / booklet with fishermen on board showing the result of a fishing line; National workshop with organizations of the civil society and national agencies for the awareness on	ENSSMAL (Public higher School (education and research)), AND (Public National Agency), AREA-ED (NGO), Professional Fishers (trawlers)

		Plastic dissemination and recycling necessity.	
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2. EGYPT

The pilot from Egypt promotes running activities with clear description of stakeholders, key players and connections. Actions includes awareness and education, new technology development for materials for fishing related activities, governance and citizen science on plastic monitoring and impacts, waste valorization into energy, Maritime sector (anti-biofouling), new material designation that will protect environment from pollution. Are involved, Universities, Research Departments, the Ministry of Education, Ministry of Tourism and local authorities. Connection with industrial stakeholders and consortia has to be clearly indicated. Here follows a detailed description of actions.

n°	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Expected results
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n°	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Expected results
1	Development of behaviors compatible with environmental sustainability and waste reduction, efficiency of the waste collection chain, safely collection and handling of marine plastics, the separated collection and the recycling	Ministry of Higher Education and Scientific Research MHESR, Ministry of Education, Egyptian Environmental Authority Affair (EEAA), Universities of Alexandria and Suez Canal, National Institute of Oceanography and Fisheries NIOF, bibliotheca Alexandria	Awareness and education.	Whole country	People will actively participated in saving marine environment on a safely and knowledge bases. Raising awareness flag that one will affect other and create media plan that will engage people to non-human world.
2	Using Jelly fish medusa as raw material to produce micro-plastics filter for commercial and	Marine science department, Suez Canal University.	New technology.	Coastal area	Significant reduction of plastic at sea level from conversion into new products.

n°	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Expected results
	public use as a solution to plastic pollution.				
3	Collection, sorting and valorisation of plastics at recycling factories.	(EEAA), (NIOF), Governorate.	Governance	Coastal beach cleansing campaigns.	Protect the fragile ecosystem of the Mediterranean Sea Following a citizen science approach to the problem. Monitoring of natural species and macro-plastics as environmental indicators.
4	Plastic mapping at coastal regions.	NIOF, Faculty of Science Alexandria University.	Making an interactive map that people put plastics they spotted on coast.	Coast of Mediterranean and Suez Canal coast.	Spotting places on maps to measure and count the impacts and measure the resilience of species after a while.
5	Using organic crustacean shells to reduce the propylene usage.	Marine science department Suez Canal University.	Citizen Science/ new technology	Potentially all Mediterranean Coastal area	Starting a new era of citizen science where all people will care about environmental issues and start using things that didn't negatively impact environment.

n°	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Expected results
6	Biodegradation of Micro and macro Plastics using isolated marine Bacteria	(NIOF), Faculty of Science Alexandria University.	Citizen Science/ new technology	Potentially all Mediterranean Coastal area	Starting a new research for plastic degradation using different marine bacteria strains
7	Conversion of plastic into fuel	Petroleum research Institute, NIOF	new technology	Potentially all Mediterranean Coastal area	Increase the economic value of the waste management
8	Identification cards to post online about the 12 dirty dozens of plastics.	Ministry of Higher Education and Scientific Research, Ministry of Environment, NGO's environmentalist.	awareness raising/ Education.	Online media campaign.	Involve environmentalists to craft messages to public to engage in conservation process and talk with their own language.
9	Non-human bonding experience about plastic (simulation photobooth about animals tangled in plastics).	ESMC and environmentalists.	Citizen Science / Awareness rising	Offline campaign that works on awareness booths for public and school kids.	Creating an experience that emotionally attach people to the harms of plastics to animals.

n°	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Expected results
10	Ship with paintings with anti-biofouling materials.	NIOF, Suez Canal university.	New technologies / new materials	Marinas and ships industries centres.	New systems design that will protect the ships from fouling and eliminate the limits of exotic species.
11	Using biodegradable materials at fishing gears industries.	Suez Canal university.	New technologies / new materials	Fishing gears centres and fishermen who craft the gears.	New material designation that will protect environment from pollution.
12	Sustainable ecotourism.	MHESR, Ministry of Tourism, EEAA.	Awareness campaigns.	Dealing with hotel owners to create systems that reduce plastic daily dosage at hotels.	Citizen science that will make community deal with the idea of pollution.
13	Spread the word of government about reducing taxes if your packaging system is non-plastic component.	MHESR, EEAA, NGO Environmentalist	Awareness and education offline campaigns.	Talking with market owners to reduce the idea of packaging.	Improve market transparency (with continuous traceability), reduce the fragmentation of standards and knowledge
14	Make artistic exhibitions about trash	MHESR, EEAA, Bibliotheca	Awareness campaigns.	Urban area	Merging art and science trying to make a bonding relationship about increasing

n°	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Expected results
	art.	Alexandria, NGO Environmentalist			awareness.
15	Beach cleaning campaigns along the coast.	MHESR, EEAA, NGO, governorate, Environmentalist	Participatory action at community level.	Public Coastal areas	It would have an immediate impact as it will beautify the area from plastics and pollutants along the coast.
16	Define the Component of Ecosystem-Based Management Approach to ICZM	Coastal Research Institute, NIOF	management	Coastal cities	Management modeling

3. FRANCE

France Pilot is based on a number of past and open calls for proposal with respective project that would be implemented within this shared action. The initiatives not only focus on sea-plastics and coastal regions, but are mostly related to the broader thematic of circular economy, as it is of the outmost importance to consider the source of the problem on land and to think about alternative solutions to traditional plastics.

The calls are mainly at National/Regional level and includes

- the development developing technological and/or organizational innovations
- focus on the development of alternative materials and the improvement of end-of-life products management
- monitoring of plastic into marine environment
- circular economy
- Development of innovative sectors to promote the value of economic activities' litters (Regional Call - Provence-Alpes-Côte d'Azur)
- It aims at preserving natural ecosystems and touristic places (Regional Call – Occitanie)
- Decontamination, Innovative operations to clean the coast and basin

Key reference:

ADEME – French Agency for the Environment and Energy Management

FUI – Single Inter-Ministry Fund

IP – Incentive Pricing

PIA – Investments for the Future Programme

Extended list of calls:

Name of the call	Type of call	Application opening date	Application closing date	Description/expected outcomes	More information
ONGOING					
ECOCIRC 2018-2020 - Circular Economy and Waste Valorization	PIA	09/02/2018	17/06/2019	Increase the French economic growth potential through the ecological transition. The call aims at developing technological and/or organizational innovations + industrial solutions to improve the creation of products and services that respect resources and have limited impacts on the environment. The call encompasses a component that promotes projects related to plastic wastes management and recycling.	https://appelsaprojets.ademe.fr/aap/ECOCIRC2018-20#resultats

Name of the call	Type of call	Application opening date	Application closing date	Description/expected outcomes	More information
ADEME AAC Theses 2019	ADEME National Call	-	01/04/2019	The ADEME Theses Program aims at encouraging researches that support ecological transition. 50 theses will be selected. This program supports, among other themes, theses related to circular economy and pollution. The 2019 edition is expecting works on plastics, micro plastics and theses which focus on the development of alternative materials and the improvement of end-of-life products management.	https://appelsaprojets.ademe.fr/aap/AAC%20Th%C3%A8ses2019-17#resultats
Implementation of Incentive Pricing in Region Occitanie	ADEME Regional Call - Occitanie	-	29/03/2019	Incentive-based pricing ("polluter pays" base/financial incentive) to encourage eco-friendly behaviors. ADEME provides local authorities with funding to implement Incentive Pricing and help citizens to reduce, collect and manage their waste. This call targets territorial collectivities in Region Occitanie and aims at supporting feasibility studies, the effective implementation of the IP, and the improvement of already existing IP.	https://occitanie.ademe.fr/sites/default/files/aap-tarification-incitative-occitanie.pdf
Sources, distribution and impact of micro plastics in the marine environment	JPI Oceans International Call	26/11/2018	28/02/2019	Increase knowledge about the relevant sources of micro plastics, analytical methods for identifying smaller micro- and (nano)-plastics, monitoring their distribution and abundance in marine systems and their effects thereon as well as concepts to reduce inputs of plastic into the marine environment.	http://www.agence-nationale-recherche.fr/financer-votre-projet/appels-ouverts/appel-detail0/appel-a-projets-internationaux-de-la-jpi-oceans-sources-distribution-et-impact-des-microplastiques-dans-lenvironnement-marin-2018/

Name of the call	Type of call	Application opening date	Application closing date	Description/expected outcomes	More information
ERAMIN - Raw materials for sustainable development and circular economy	ERA-MIN Joint Call 2018	31/10/2018	31/01/2019	Needs-driven research on non-energy, non-agricultural raw materials addressing one or several areas of the circular economy. Proposals should deliver convincing arguments on the potential impact of their innovation and research on the efficient supply, processing and use of raw materials.	https://www.era-min.eu/sites/default/files/docs/call_text_2018_revised_17dec_0.pdf

RECENTLY CLOSED					
Plastics and micro plastics in aquatic environments	CNRS call	-	11/01/2019	Crosscutting approach to study the life cycle of plastics, micro- and nano-plastics, from their creation, transport in aquatic environments, and their biotic and abiotic impact on ecosystems' functioning. The call also aims at focusing on plastics' ecotoxicology on living organism functions and on societal challenges linked to plastic pollution that raise complex policy questions at both local and international scale.	http://www.cnrs.fr/mi/spip.php?article1446
IDFECD2018 - Circular economy and litters	ADEME Regional Call - Ile-de-France	30/11/2018	18/12/2018	Circular economy: preserve resources and limit their impact on environment through recycling. Focus on litters. Aims at accelerating the identification and realization of projects while enabling organizational synergies between different regional stakeholders.	https://appelsaprojets.ademe.fr/aap/IDFECD20182018-105-1#resultats

Name of the call	Type of call	Application opening date	Application closing date	Description/expected outcomes	More information
Sustainable Development School Trophies	Regional Call - Collectivité de Corse	12/11/2018	14/12/2018	Encourage Corsica pupils (pre-school, primary school, college) to lead projects related to the 17 Sustainable Development Goals. Objective: allow schools to raise awareness on sustainable development while achieving pedagogical projects. To realize their project, supported by experts, participants will have the opportunity to take part in different activities related to sustainable development. Some of these activities will focus on plastic litters and aquatic ecosystems' preservation.	https://www.isula.corsica/assamblee/docs/201802331-annexe-2-Appel-a-projets-Trophees-du-developpement-durable-2018-2019-appel-a-projets.pdf
FILIDECHET 2019 - Prevention and Development of innovative sectors to promote the value of economic activities' litters	Regional Call - Provence-Alpes-Côte d'Azur	10/09/2018	03/12/2018	Circular economy, give a second life to litters and use them as resources. The call aims at protecting environment while creating new jobs. It targets companies, associations, collectivities and all structures operating in economic sector of PACA. The call belongs to a broader context: PACA regional plan on 'Zero Plastic waste in the Med by 2030'.	https://www.maregionsud.fr/uploads/media/AAP_FILIDECHET_2019_VF.pdf
Regional strategy development to raise awareness on coastal wastes in Occitanie	Regional Call - Occitanie	20/07/2018	15/10/2018	The call aims at developing a regional strategy for raising awareness and communication to mitigate coastal wastes' impacts. It aims at preserving natural ecosystems and touristic places. The call targets collectivities and/or associations. The priority is given to multiple partnerships. Selected projects will be known beginning 2019.	https://www.laregion.fr/Appel-a-projets-Developpement-d-une-strategie-regionale-de
Targeted project on plastic pollution	Interreg – France (Channel) England Program	-	09/09/2018	Going beyond recycling. Focus on the recovery, the removal and reduction of plastics at all levels of society and regulating plastics more comprehensively from production to disposal. Inscription is closed for organizations interested in the project. Partnership has been confirmed and stakeholders are now drafting the application form with Interreg FCE Program's help. Submission of application form is planned for April 2019, and the decision on project approval will be known in	https://www.channelmanche.com/assets/Uploads/Targeted-Projects-Plastic-Pollution.pdf

Name of the call	Type of call	Application opening date	Application closing date	Description/expected outcomes	More information
				July 2019.	
Protection of the Mediterranean from plastic litters	Regional Call - Provence-Alpes-Côte d'Azur	-	15/05/2018	<p>Decontamination fund. The call supports 4 types of initiatives:</p> <ul style="list-style-type: none"> - Reduction of plastic pollution produced by mobile catering; - Innovative operations to clean the coast (new tools, new process); - integrated approaches to protect watershed basins and coastlines from wastes spreading and wild garbage dump; - Operations that establish responsive protocols of depollution and manage rivers' wastes after storms or bad weather, in order to avoid their spread in marine environment. <p>Targets: PACA stakeholders involved in the management of natural, terrestrial or aquatic environments. Excluded: operations aiming at diminishing pollution produced by maritime economic activities (ports, fisheries, and aquaculture).</p>	https://www.maregionsud.fr/uploads/media/AAP_FONDS_DEPOLLUTION_PDF_MARS_2018.pdf

4. ISRAEL

In Israel, initiatives for the reduction of plastic waste have been growing since the early 21st Century. This is evident in novel legislation for recycling and treatment of plastics, public awareness campaigns in the media, as well as a growing number of NGO's dealing with plastic waste. Israel values its coastal resources, mainly from a touristic perspective and there are several institutionalized routine beach cleaning activities (daily during the bathing season) with governmental support and incentives for municipalities that are taking care

to keep their beaches clean. Moreover, the Ministry of Environmental Protection supports the national Clean Coast Index program, which runs a weekly survey of plastic and other debris along the beaches.

Nevertheless, Israel is second in the world in the per-capita use of single-use utensils and widespread public awareness regarding plastic pollution related to these single use items is lacking. Each citizen produces ~1.8 kg waste per day, of which 18% is plastic. In terms of volume, plastic waste constitutes 41% of the total waste volume. Of all types of waste, 80% goes to landfills, and 20% to recycling (the amount of plastics entering the sea is yet unknown). The Israeli public uses 5 billion plastic bags per year, yet a recent surcharge on supermarket plastic bags has reduced their use by as much as 75%.

Efficient plastic waste management, including waste separation and recycling is a growing governmental concern and endeavor in Israel. Sustainable management of plastic use and production is one of the Ministry of Environmental Protection's main goals for the forthcoming years.

➤ ***List of Governmental action plans and initiatives***

Year	Governmental action plans and initiatives
1984	Initiation of the law for 'protection and cleaning the Environment'.
1993	Initiation of the law for 'waste collection and disposal'. Municipalities are obliged to manage their waste.
1999	Initiation of 'plastic bottles deposit' law. Includes plastic and glass beverage bottles and cans, excludes 1.5L plastic bottles.
2002	Launching plastic bottles deposit units.
2004	Initiation of the Coastal Environment Protection law.
2005	Initiation of the 'Clean Coast' program that awards municipalities that keeps their beaches clean.

Year	Governmental action plans and initiatives
2007	Initiation of Tires Recycling law.
2009 - present	Annual call by the Ministry of Environment for school's teachers to participate in a sustainability program that includes waste management, recycling, ocean and beach protection, etc.
2011	Launching a childrens' tutorial for the protection of the oceans.
2011	Initiation of the Packaging Management law
2017	Launching the surcharge on plastic bags in supermarkets
2017	Monitoring plastic debris in the oceans by the Israeli Oceanographic and Limnological Research institute (IOLR)
2019	Call by the Ministry of Environment for proposals to determine the sources of plastic debris entering the Israeli (Med & Red Sea) shores

➤ ***Nongovernmental organizations (NGO's) with plastic reduction agenda***

Name	NGO's action plans and current initiatives
Ecoocean	Running campaigns, community engagement and educational programs on plastic litter. Blue flag (since 2012) and FEE cooperators. Supporting plastic debris researchers with access to a Research Vessel and an ROV.
Zalul	Initiating the 'Plastic-free city' program in 2018 with city of Herzlya. Promoting efforts to clean Israeli rivers and coasts.

Name	NGO's action plans and current initiatives
Society for the Protection of Nature in Israel	Initiating educational programs and writing class tutorials. Public awareness and beach cleaning campaigns.
Israel Nature and Parks Authority	Taking part in educational programs related to waste management. Financing and managing the national turtle sanctuary, treating injured turtles, including those that have ingested plastics. Published reports on waste management, plastic, etc. Promoting efforts to clean Israeli rivers and coasts.
Israel Union for Environmental Defense	Promotes and assists with legislation on initiation of clean coasts, and waste and pollution management.
Green Course	Launched in 2019; an initiative that aims to ban single-use plastic utensils and packaging.
The Mediterranean People	Promoting beach and other nature cleanups via the network of Beach Communities.
The Israeli Diving Association	Clean up operations of plastic and marine debris by SCUBA diving.
Kayak for all	Promoting the clean seas and initiating sea cleaning activities.
Straw-less Israel	Promoting the ban of plastic single-use straws and stirrers.

➤ ***Educational programs***

Name	Institute	Program
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Name	Institute	Program
Ocean Day	National	Elementary schools participate in educational programs, promote beach cleanup events and provide guidance on plastic use and waste.
Clean up Day	National	Elementary schools participate in public programs to reduce consumption and waste, and promote cleanup events.
Blue Green Ocean	Ashdod municipality and the Regional Environmental Association	Educating high school students for protection of the coastal and oceanic habitats

➤ ***Researchers engaged in plastic debris research at sea***

Name	Institute	Research subject
Dr. Yael Segal	IOLR	Plastic and microplastic monitoring
Dr. Peleg Astrahan	IOLR	Chemicals adsorption onto microplastics
Dr. Dror Angel	Haifa University	Ocean plastic debris
Dr. Dor Edelist	Haifa University	Microplastics and jellyfish
Galia Pasternak	Haifa University	Plastic macro debris on the beaches and sea
Noam van der Hal	Haifa University	Ecological aspects of microplastics

Name	Institute	Research subject
Dina Shukis	Haifa University	Ingestion of plastic debris and chemicals by sea turtles
Debora Ramon	Haifa University	Microplastics in fish species
Dr. Noa Shenkar	Tel Aviv University	Microplastics in ascidians
Gal Vered	Tel Aviv University	Microplastics in ascidians
Prof. Eric Fredj	The Jerusalem College of Technology	Modeling microplastics distribution at sea

5. ITALY

The Italian proposed pilot aims at giving a substantial and concrete contribution to plastic pollution at sea by running complementary activities targeted at addressing the overall problem by multiple approaches. With this aim, a number of actions have been identified based on: the innovativeness of the proposed technology/action with respect to the present scenario; the field of application; target area of reference; potential of transferability; feasibility within the duration of the pilot; synergies among other action /initiatives. The proposed pilot case is tailored to address the overall problem of plastics at urban, coastal and marine environments and aims to tackle those human activities that mainly impact at multiple levels. Particular attention is dedicated at Recycling systems, Waste Management and Waste valorisation routes, Coastal and Maritime tourism, Plastic Monitoring and Collecting Systems, Business Models, Social Innovation, Eco-design and Policy Evolution. To be effective, actions should require the commitment and collaboration of all, including governments,

businesses and civil society. Here we propose the engagement of individuals, associations, local Authorities, Regions up to National policy makers to face, together with Industries and Research bodies, the big challenge.

In particular the pilot includes a selection of eighteen case studies grouped in Recycling / governance Systems (partner: COREPLA, ARPA, REGIONS); Waste management (Novamont, Research bodies), Citizen science (UniBO, Legambiente), Assessment/Monitoring (CNR, UniSI, ISPRA), Sustainable Tourism (Novamont, UniSI), innovation in materials and products (Novamont, CNR), social innovation/digital technologies (UniBO, Mercato Circolare), dissemination (Federchimica/plasticsEurope, Legambiente, CNR, UniBO, UniSI), business creation (Federchimica/PlasticsEurope). Specific descriptions are indicated in the attached table.

The selected actions will run in parallel and will be monitored by the BLUEMED community.

Notably, the Pilot relies on Key National stakeholders from Industry, Associations, Research, Policy (also with a strong International impact) and on national and European/MED project (H2020 CLAIM, Interreg MED Plastic Buster, Climate KIC e-Circular and so on) with a commitment in environment protection and sustainable development.

Here follows the detailed list of actions proposed:

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
1	Collection, sorting and valorisation of plastic residues	COREPLA	Recycling / governance	Rivers/Coastal area	http://www.corepla.it/news/scatta-sul-po-l-operazione-	Significant reduction of plastic at sea level from rivers and conversion into new products	WestMED Lab 7 - Collecting and Recycling Technologies for Land Sea based Litter taking

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
	at coastal and river level. Plastic conversion into Modular containers.				prevenzione Actions are replicated among Regions		into consideration creation of employment "focused on small scale technologies for Artisanal Solutions" (Italy is taking the leadership of the follow-up for a possible ENI-CBC MED project, next call foreseen in June 2019)
2	Good practice application at whole river catchment scale. Integrated approach for management, FOCUS on TIBER	Min Ambiente, Contratti di Fiume/ CNR	Governance	Lazio Region, Tiber river	National strategy under the Ministry of Environment, Regional/Interregional governance	Increasing awareness about plastic pollutions at urban/ rural area and coastal area	

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
3	Agreements between Regions (Toscana, Puglia, Lazio) for collections, sorting and conversion of plastic waste	COREPLA/AR PA	Governance	Tuscany, Lazio and Apulia Regions	Actions to be replicated in (and adapted to) other regions	Pilot on assessment of feasibility of value chain from fishing boat	
4	"SEA Sentinels", monitoring program based on the observations of recreational divers	UNIBO	Citizen Science/ awareness raising	Potentially all Mediterranean Coastal area	http://dueproject.org/en/	Protect the fragile ecosystem of the Mediterranean sea Following a citizen science approach to the problem. Monitoring of natural species and macro-plastics as environmental indicators	Possible connection with WESTMED – Lab 7 'Data collection analysis and representation for decision making processes and action planning' to be explored

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
5	Fishing for Litter	LEGAMBIENTE	Dissemination / awareness raising	Coastal area, regional level		Involve fishermen in ocean cleaning initiatives; set up rules of conduct when plastic garbage is encountered and “fished” at sea	WestMED Lab 7 - Collecting and Recycling Technologies for Land Sea based Litter taking into consideration creation of employment “focused on small scale technologies for Artisanal Solutions” (Italy is taking the leadership of the follow-up for a possible ENI-CBC MED project, next call foreseen in June 2019)
6	REMARE, SEAFLOOR and deep sea ecosystem IMPACTS	RITMARE	Citizen Science / Awareness rising	Deep sea environments and ecosystem	Exploit the results of research lines in RITMARE (MIUR Flagship project) on seafloor garbage/litter	Provide a “census” of varieties of materials encountered in deep sea settings in relation to their inferred provenance;	

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
					distribution and its relation to anthropogenic impacts onshore (dirty rivers, coastal industrial plants). Effects on the deep sea ecosystem and trophic web	Attempt a first reconstruction of how deep sea garbage interacts with the growth and health of benthic ecosystems Investigate transfer mechanisms of micro-nano-litter in the micro- and meio-fauna in the deep sea environment and the effects on the organisms	
7	Waste Management	NOVAMONT	New technologies for detection / new management systems	Urban area		Increasing knowledge to implement technology/ Prevention of long term impacts	Waste Management
8	Sustainable	NOVAMONT	New products	Porto Torres,		Increasing	Sustainable tourism

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
	tourism		(biolubricants) / new good practices (partnership with touristic boats, sustainable waste management system onboard)	Potentially all MED area		awareness/technology transfer	
9 (less priority)	New biobased and biodegradable products: fishing gears, Mussels nets.	NOVAMONT	New technologies / new materials			Increasing awareness and sustainable use. Prevention of long term impacts	WestMED Lab 7 - Collecting and Recycling Technologies for Land Sea based Litter taking into consideration creation of employment "focused on small scale technologies for Artisanal Solutions" (Italy is taking the leadership of the follow-up for a possible ENI-CBC MED project, next call foreseen in June

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
							2019)
10	Conversion of plastic waste into energy (pyrolysis)	CNR-IRSA, INM, and Plastica Alpha (SME)	New technologies / new materials	Potentially this activity interest waste from: rivers, coastal area, offshore, sediments	Design of small scale/portable systems to convert waste into energy (pyrolysis)	System design and building of pilot	Link with action N13
11	Plastic (Micro) mapping across Mediterranean area From CLAIM project and other research activities at national level	CNR	Environmental assessment and impact evaluation		http://www.claim-h2020project.eu/	Monitoring and design of solution; Maps of distribution of macro and micro litter	WESTMED – Lab 7 “Innovative Ideas for Cleaning Litter (CLAIM to expand to the South)”, (could we ask Greece to take the leadership?)
12	Digital technologies to accelerate innovation	eCircular	Innovation, digital technologies	Circular economy, smart manufacturing	eCircular (a Loop program promoted by Climate-KIC)	Promote plastic waste prevention by social innovation, material technologies and new	Possible connection with WESTMED – Lab 7 ‘Data collection analysis and representation for

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
	towards a carbon-neutral society by reducing the use of materials and reducing plastic waste					business models (products as a service). Improve market transparency (with continuous traceability), reduce the fragmentation of standards and knowledge.	decision making processes and action planning' to be explored (Austria is taking the leadership for the follow-up)
13	Bioplastics from waste;	Cnr IRSA-UNI Sapienza (Majone)-Eggplant (startup) project	New technologies, Waste management systems	Urban area	CNR, UNI Sapienza and Eggplant are not collaborating but they are leading three different high level approaches in parallel on the same theme.	new managing systems, prevention of contamination/ production of new materials	
14	MERCATO CIRCOLARE (Web App)	MERCATO CIRCOLARE SRL	smart technology, engagement	Italy (potentially Europe); entrepreneur/consu	Blue revolutions/ Mercato circolare (https://www.mer	To accelerate the transition to a circular economy; Creating	

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
				mers/public administration	catocircolare.it/)	consumers awareness.	
15	MarGnet	CNR, SINTOL	Recycling, new technology	Bilateral (Italia-Croatia), potentially Mediterranean (provided it is cross border)	https://ec.europa.eu/easme/en/mar-gnet-mapping-and-recycling-marine-litter-and-ghost-nets-sea-floor	To develop a fast methodology for wide scale mapping and monitoring of diffusion of marine litter on the sea floor, a prototype that exploits low temperature pyrolysis method to transform the marine litter in an energy source with reasonable costs, and a tool to orient policy makers	WestMED Lab 7 - Collecting and Recycling Technologies for Land Sea based Litter taking into consideration creation of employment "focused on small scale technologies for Artisanal Solutions" (Italy is taking the leadership of the follow-up for a possible ENI-CBC MED project, next call foreseen in June 2019) + Link with Action N8
16	FEDERCHIMICA/ Plastics EUROPE	FEDERCHIMICA/ Plastics	Education, awareness,	Genova town but potentially at Country level	https://www.federchimica.it/associazioni/plasticseuro	School prize during the Festival of Science at the Genova Aquarium.	

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
		EUROPE and a number of Institution			pe-italia	Exposition for students on marine litter, circular economy and new technologies.	
17	Plastics Europe, actions with associated partners as Tunisia, Spain.	Plastics Europe, Federchimica	Awareness, B2B, business	MED	https://www.federchimica.it/webmagazine/dettaglio-news/2018/04/27/polytalk-marine-litter	Plastic industry will exchange visions and compete for innovation at MED scale	
18	Plastic Buster	UniSI, ISPRA	Awareness, governance, monitoring systems	Coastal, MED	http://plasticbusters.unisi.it/	i) diagnose of Marine Litter impacts on biodiversity including the identification of "ML hotspots"; ii) define and test tailor-made ML surveillance, prevention and mitigation measures; iii) develop a common framework of ML	

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
						actions for Med regions towards the conservation of biodiversity.	
19		MARE Outpost Salento (Puglia - Italy); ENI CBCMED COMMON (COastal Management and MONitoring Network for tackling marine litter in Mediterranean Sea)	Dissemination, research.		funded by CIHEAM in 2015	The MARE Outpost is a coastal based biodiversity laboratory involving local communities and different stakeholders (http://www.biodiversitymaretricate.org/home) COMMON project aims at applying the Integrated Coastal Zone Management principles to the marine litter management in 5 pilot coastal areas through a local coordination and	

N	Action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results	Synergies among actions and with other initiatives
						the Mediterranean networking among different stakeholders.	

Here a brief selection of the more representative European Projects on plastic pollution and circular economy that see Italy as partner or leader is reported as example:

programme	Name and description
FP7	POLYFIRE
	Processing and Upscaling of Fire-Resistant Nano-Filled Thermosetting Polyester Resin
	01/09/2009, 2.3 million
FP7	BIOCLEAN
	New BIOTEchnologiCaL approaches for biodegrading and promoting the environmental

	biotrAnsformation of syNthetic polymeric materials
	01/09/2012 3.0 million
FP7	CACHE: Calcium in a CHanging Environment
	01/11/2013 3.7 million
FP7	COMMON SENSE
	COST-EFFECTIVE SENSORS, INTEROPERABLE WITH INTERNATIONAL EXISTING OCEAN OBSERVING SYSTEMS, TO MEET EU POLICIES REQUIREMENTS - COMMON SENSE REQUIREMENTS
	01/11/2013 4.7 million
H2020	GENIALG
	GENetic diversity exploitation for Innovative macro-ALGal biorefinery
	01/01/2017 10.9 million
	TOPIOS
H2020	Tracking Of Plastic In Our Seas
	01/04/2017 1.5 million
H2020	ODYSSEA
	OBSERVATORY SYSTEMS IN THE Mediterranean SEA
	01/06/2017 8.4 million
H2020	CLAIM
	Cleaning Litter by developing and Applying Innovative Methods in european seas
	01/11/2017 5.7 million
H2020	SUN-PILOT
	Subwavelength Nanostructure Pilot (Sun-Pilot)
	01/01/2018 7.1 million
H2020	BIOVOICES (IT coordination)
	Mobilization of a plurality of voices and mutual learning to accelerate the Bio-based sector

€ 2 996 427,50

JPI Oceans	BASEMAN Defining the baselines and standards for microplastics analyses in European waters (BASEMAN)
JPI Oceans	PLASTOX Direct and indirect ecotoxicological impacts of microplastics on marine organisms
JPI Oceans	EPHEMARE Ecotoxicological effects of microplastics in marine ecosystems
BBIJU	<i>Type of action: Innovation Action – Flagship</i> FIRST2RUN Flagship demonstration of an integrated biorefinery for dry crops sustainable exploitation towards biobased materials production Web site http://www.first2run.eu/ Coordinator: Novamont (IT) BBIJU contribution € 16.995.882 <i>Type of action: Innovation Action – DEMO</i>
BBIJU	EFFECTIVE Advanced Eco-designed Fibres and Films for large consumer products from biobased polyamides and polyesters in a circular Economy perspective
BBIJU	EMBRACED Establishing a Multi-purpose Biorefinery for the Recycling of the organic content of AHP waste in a Circular Economy Domain
BBIJU	NEWPACK Development of new Competitive and Sustainable Bio-Based Plastics
BBIJU	AgriMax

Agri and food waste valorisation co-ops based on flexible multi-feedstocks biorefinery processing technologies for new high added value applications

Type of action: Research and Innovation

BBI JU [SHERPACK](#)

Innovative structured polysaccharides-based materials for recyclable and biodegradable flexible packaging

Type of action: Coordination and Support

BBI JU [BIOWAYS](#)

Increase public awareness of bio-based products and applications supporting the growth of the European bioeconomy

BBI JU [BiOPEN \(coordinated by CiaoTech, It\)](#)

Accelerating and supporting business development of bio-based industries and downstream sectors

5. MALTA

Two thirds of the marine debris found along our coastlines is plastic. The fact that this plastic is mostly from local sources is distressing, but it also gives us an incentive to empower the Mediterranean communities to work locally to solve the global problem.

Plastic litter in the environment is an eyesore, a pollutant, a threat to wildlife and, according to recent reports, a potential threat to human health. With timely intervention from BlueMed Pilot Plastic Free Med Malta can now summarise the countries' litter campaigns, as well as identify how to develop better partnerships with the community, government and industry to further tackle the litter issue.

The table below presents the latest development and current situation in Malta, including the political/legislative trends as well as initiatives from the government, business and civil society regarding the topic of plastic pollution.

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
1	Marine Plastic Pollution project	Malta College for Arts, Science & Technology	Educational / Awareness rising campaign on waste management	Whole country	EU Circular Economy; Package and the Plastics Strategy	Strategic Map of Marine Plastic Pollution with the idea to convert the waste streams in to the source of raw materials contributing to the circular economy.
2	“Don’t Waste Waste” campaign	Ministry for the Environment, Sustainable Development & Climate Change, Wasteserv Environment and Resources Authority.	Educational / Awareness rising campaign on waste management	Whole country	Waste Management Plan for the Maltese Islands 2014 – 2020	The Don’t Waste Waste Campaign is a nationwide educational and awareness raising campaign on Waste Management which was first launched in April of 2016. It aims to trigger a shift in people’s mentality whereby waste starts to be considered as a valuable resource in line with the Waste Hierarchy as a guiding principle. Primarily, the campaign aims to promote waste prevention, followed by reuse, recycling and recovery, where it seeks to leave landfilling as the option of last resort.

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
						Tag line is “Don’t Waste Waste – Do Your Bit”
3	First full investigation of microplastics on Maltese sandy beaches	University of Malta	Environmental assessment and impact evaluation	Coastal area	Marine Strategy Framework Directive	This investigation is a contribution to our knowledge of how levels of MP in sandy beaches may be affected by sand properties and dynamics, beach profiles and other factors.
4	SeaBin catchment initiative	Strand Marina Ltd and eNGO Žibel	New technologies	Coastal areas	ONE OCEAN ONE LOVE initiative	Helping combating marine pollution by collecting the floating plastic
5	Waste Management Plan for the Maltese Islands 2014 – 2020	Ministry for the Environment, Sustainable Development and Climate Change; Wasteserv; Environment and Resources Authority	Governance	Whole Country	Requirement for Malta stemming from the Waste Framework Directive (2008/98/EC).	The WMP 2014-2020 sets the strategy to address waste management on the Maltese Islands, where it sets the government’s holistic strategic direction in which the sector is envisaged to be taken forward. The plan uses the Waste Hierarchy as its guiding principle while it incorporates also the waste prevention plan for the Maltese Islands within it. The plan is expected to contribute to

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
						better waste separation. In terms of plastics, it proposes measures which include the promotion of smart shopping habits, like purchasing products with less packaging to minimise waste generation. The main aim is to divert waste treatment away from landfill towards better treatment options in the Waste Hierarchy.
6	Beverage Container Refund Scheme (BCRS)	Ministry for the Environment, Sustainable Development and Climate Change, Wasteserv Environment & Resources Authority	Governance	Whole Country	The initiative is based on the new Maltese Waste Management Plan for the Maltese Islands 2014-2020; European Union Single-Use Plastics Directive	The BCRS system will consist of a system of Reverse Vending Machines placed in commercial establishments. It will cater for plastic, metal and glass beverage containers, aiming to increase the separate collection of high-quality material for recycling. The deposit value for the consumer for each container will be €0.10 for each returned container, which will have to be scanned through a barcode scanner. The BCRS system will

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
					(pending)	have a collection target of 70% of beverage containers put on the market during the first year of operation. This target will increase to 80% in the second year and 90% in the third year. The Resource, Recovery and Recycling Agency will be overseeing the overall functioning of the system, as well as work on new Circular Economy related projects and initiatives.
7	Coastal area cleaning NGO initiatives	eNGO Žibel	Awareness raising	Coastal area	European Union Strategy for Plastics in a Circular Economy.	Bringing communities together to take action over the growing waste problem; Awareness raising about the importance of reducing waste.

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
8	Marine litter monitoring	University of Malta	Innovative monitoring techniques	Coastal areas	Marine Framework Strategy Directive	Improving the technology that helps to parameterise and categorise microplastics will contribute towards the war on plastic pollution.
9	Single-Use Plastics Strategy	Ministry for the Environment, Sustainable Development and Climate Change; ERA	Governance	Whole country	Article 51 of the Environment Protection Act; European Union Strategy for Plastics in a Circular Economy;	Single-Use Plastic Products Strategy for Malta, 2019-2025 is being developed by ERA with assistance from MESDC The Strategy will provide measures to reduce consumption of single-use plastic products, and increase the quality and quantities of single-use plastic waste collected for recycling.
10	Optimising beached litter monitoring protocols through aerial imagery	University of Malta	Innovative monitoring techniques	Coastal areas	Marine Strategy Framework Directive	A monitoring programme will be created for characterising marine litter. Novel application of the aerial drone technology was developed for monitoring of difficult-to-access coastal

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
						stretches and prioritising coastal areas for future clean-up activities.
11	Actions for Marine Protected Areas (AMAre): Stakeholder Involvement in Marine Spatial Planning	University of Malta	Environmental assessment and impact evaluation	Whole country	Maltese Legal Notice 851, "Marine Area in the Limits of Dwejra (Gozo) a "Special Area of Conservation of International Importance; Maltese Flora, Fauna and Natural Habitats Protection Regulations; EU Habitats	Assessment of stakeholder views and involvement in a marine protected area (MPA) in Malta in regard to their interest, conflicting activities and environmental concerns to propose potential management measures for this MPA. Methodologies & geospatial tools will be developed for multiple stressors assessment; Coordinated environmental monitoring, multi criteria analyses and stakeholders' engagements; The guidelines will be translated into concrete pilot actions and coordinated to solve hot spots of conflicts affecting marine biodiversity and

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
					Directive; Marine Strategy Framework Directive (MSFD)	the services it provides.
12	PolyTalk 2018 conference "Zero Plastics to the Oceans".	PlasticsEurope AISBL	Awareness raising	Whole country	Marine Strategy Framework Directive; Regional Sea Conventions; Strategic Research Innovation Agenda for Plastics	The conference was aimed at identifying the path towards a clean marine environment with a special focus on the Mediterranean Sea. It should equip our industry to meet new challenges and opportunities
13	Preliminary assessment of microplastic pollution	PERSEUS project; University of Malta International Ocean <i>Institute</i> - Malta Operational Centre (IOI-MOC)	Environmental assessment and impact evaluation	Coastal areas	United Nations Economic and Social Council (UN ECOSOC)	Monitoring and design of solutions for combating plastic pollution

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
14	EcoMarine Malta Boat Tours	Softwhale Co Ltd	Educational / Awareness rising	Coastal areas	European Marine Science Educators Association	Taking up the challenge to merge public awareness with research
15	Digital technologies to accelerate innovation towards a carbon-neutral society	PARAGON Europe, representing Climate-KIC in Malta	Awareness rising	Whole country	eCircular (a Loop program promoted by Climate-KIC)	Improve market transparency (with continuous traceability), reduce the fragmentation of standards and knowledge; reducing the use of materials and reducing plastic waste
16	LIFE Arcipelagu Garnija - Securing the Maltese islands for the Yelkouan Shearwater Puffinus yelkouan	BirdLife Malta	Awareness Raising/Conservation Issues	Coastal Areas	LIFE	More than 10% of the world's Yelkouan shearwater population breeds in Malta. The LIFE Arcipelagu Garnija project aims to reduce the direct and indirect human-caused threats. Decreased disturbance of the nesting colonies, thanks to the better attitude and behaviour of boat owners and operators, and of other users responsible for the organic littering of the target areas.

	Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Expected results
17	Project MIGRATE - Conservation Status and potential Sites of Community Interest for Tursiops truncatus and Caretta caretta in Malta	ERA (previously MEPA)	Risk Assessment	Marine Areas	LIFE	Project MIGRATE implemented both data-collecting activities and marine surveys (during the summers of 2014 and 2015) to understand the conservation status of, and to identify the best areas in Maltese waters to establish Natura 2000 network sites for, loggerhead turtle (Caretta caretta) and common bottlenose dolphin (Tursiops truncatus). Risks identified, such as underwater noise and plastic waste were also tackled through suggested management measures.
	Common marine plastic strategy for European coasts; to be published shortly	Birdlife Malta in collaborating with Birdlife Europe and other European Birdlife partners	Governance	Coastal areas	Birdlife Malta	

6. MOROCCO

Moroccan Pilot is based on a number of on-going regional projects that deal with dissemination and communication on plastic pollution impact and alternative to single bag use. National program are dedicated to **assessment and collections studies** and promotion of **plastic recycling by developing business models and by engaging Plastics Recycling Association and industries**.

Note: in Morocco passed a law (No. 77-15) that prohibits the manufacture, import, export, marketing and use of plastic bags. This law came into force on July 1, 2016. Regarding the plastic recycling, there are around fifteen companies operating in the formal sector of plastic recycling in Casablanca, Marrakech, Oujda, Agadir and Tangier. According to a recent study by the Ministry of Industry, the informal sector accounts for 90% of the entire sector, which represent a competitiveness gap of 30%.

Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Achieved /Expected results
1. Regional Projects with pilots in Morocco					
Alternatives to single-use plastic bags	UNEP-MAP SwitchMed SCP/RAC 2 Moroccan NGOs	Communication and awareness raising	Whole country	https://www.switchmed.eu/en/corners/policy-makers/pilot-projects/stories/Marine_litter_projects_in_Morocco	Reduction of the use of persistent plastics liable to end up as marine litter
Collection and recycling of beverage containers	UNEP-MAP SwitchMed SCP/RAC 2 Moroccan	Communication and awareness raising	Urban areas	https://www.switchmed.eu/en/corners/policy-makers/pilot-projects/stories/Marine_lit	Reduction of beverage containers/Plastic bottles and recycling

Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Achieved /Expected results
	NGOs			ter projects in Morocco	
Regional survey on abandoned, lost or discarded fishing gear & ghost nets (ALDFG) in the Mediterranean sea	UNEP/MAP MIO-ECSDE, 2015 2 Moroccan NGOs	Environmental assessment and Opinion-based assessment	Coasts of Tangiers and Al Hoceima on the Mediterranean and Mehdiya on the Atlantic	MedPol Marine Litter-MED	Data Collection Opinion-based assessment of current trends related to marine litter Stocktake of available information on measures and regulations that are in place concerning the management of ALDFG.
Fishing for Litter	UNEP/MAP SwitchMed	Dissemination / awareness raising	Coastal area	Marine Litter-MED SwitchMed	Involve fishermen in ocean cleaning initiatives
Adopt-a-beach	UNEP-MAP SwitchMed ONG (AESTV)	Dissemination / awareness raising	Beaches Merkala-Tangiers Amsa-Tétouan Sababia-AlHoceima Miami-Nador	Marine Litter-MED SwitchMed	Regular beaches cleanup In 2018: 45 beaches (20 in the Mediterranean) were monitored and their marine litter characterized Draft monitoring plan for beach waste
2. National/Local projects					
Business plan for the management of the plastic packaging waste stream	Ministry of Sustainable Development	Governance Waste management	National level	National Household Waste Program (PNDM)	Better plastic waste management

Name of the action	Partner responsible	Type of action	Area of application	Related Projects / Initiatives	Achieved /Expected results
Waste analysis in Moroccan beaches	Zero Zbel Heinrich Böll Foundation	Collection and characterization Awareness raising	Beaches on the Mediterranean and Atlantic coasts	www.zerobel.ma http://bit.ly/DechetsPlagesMaroc	Cleaning-up of 26 beaches in 2018
Cleaning the seabed and sea waters	Association of diving and environmental protection of Fnideq	Collection Awareness raising	Seafloor and sea waters Fnideq Bay	http://abtalfnideq.com/qui-sommes-nous/	Provide a “census” of varieties of wastes collected in sea waters in relation to their inferred provenance. Cleaning-up of the bay
Collection and plastics recycling	Plastics Recycling Association	Plastic recycling / new materials	Casablanca		
Manufacturing polyester fibers from plastic bottles	Famacolor/ Novimat	Plastic recycling / new materials	Berrechid		

7. SPAIN

In 2015 the Ministry of Fisheries, Agriculture and Environment (MAPAMA) elaborated the **Programme of Measures** on marine litter for the five marine areas in Spain. An expert's workshop on marine litter was organised to discuss the scientific proposal for the programme of measures related to this descriptor, that are here summarized in 4 blocks:

- Measures for the prevention of marine litter with a marine origin
- Measures for the prevention of marine litter with a land origin
- Measures for the removal of marine litter
- Measures on dissemination and social awareness on the challenge of marine litter

Content of the **Monitoring programme** of marine litter in the Spanish Marine Strategies is:

Action	Objectives	Additional info
BM-1: Marine litter in the beaches	This programme aims at counting and characterise the litter found, compare the situation of different Spanish beaches, in order to provide systematic information for the establishment of measures towards the reduction of litter in the marine environment.	
BM-2: Floating litter		
BM-3: Litter on sea floor		
BM-4: Microparticles in water		
BM-5: Microparticles in sediment		

Action	Objectives	Additional info
BM-6: Microparticles in beaches	During 2015 and 2016, with the support of CEDEX, the methodologies for sampling, analysis and monitoring of microplastics in beaches was put in place. The study started in October 2016 with 9 beaches of the Spanish coast.	
BM-7: Citizen Science (additional data)	The Spanish Marine Strategies (EsMarEs) include this important aspect in its monitoring programmes through a harmonized protocol for the data collection on marine litter, though a “card for field work”.	The card is the result of combined work developed in the frame of the interdisciplinary forum on marine litter that MAPAMA runs through the organisation of an Annual Seminar within the Programme of Permanent Seminars of CENEAM.
MT-5: Marine litter in biota	In February 2017 the project <u>INDICIT</u> started with European Commission’s funding, with the main objective of developing the monitoring of marine litter in biota, with special interest in sea turtles as indicators	Improvement of the knowledge for the development of impact indicators at subregional level and quantitative definition of GES (Good Environmental Status). This activity gives the scientific basis and main tools (models and protocols) for the rest of actions.

**LIST OF PROJECTS FUNDED BY THE SPANISH NATIONAL PLAN IN THE PERIOD 2015-2018, MANNAGED BY the
SPANISH RESEARCH AGENCY (AEI)**

Funding source	Area	Project	Coordinator	Duration		Budget in €
AEI	Biotechnology	Emerging contaminants, nanomaterials and micro-plastics in rivers, estuaries and coastal areas: an integrated study	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC)	01-ene-15	31-dic-17	183920
AEI	Sea	Impact of regulated and emerging pollutants and microplastics in marine ecosystems and establishment of their environmental quality criteria	INSTITUTO ESPAÑOL DE OCEANOGRAFIA (IEO)	01-ene-14	30-sep-17	169400
AEI	Sea	Impact of regulated and emerging pollutants and microplastics in marine ecosystems and establishment of their environmental quality criteria	UNIVERSIDADE DA CORUÑA	01-ene-14	31-dic-16	168190
AEI	Technology	Environmental risk of micro and nanoplastics in wastewater treatment systems and receiving bodies	UNIVERSIDAD DE ALCALA	30-dic-16	29-dic-20	189970
AEI	Technology	Environmental risk of micro and nanoplastics in wastewater treatment systems and receiving bodies	UNIVERSIDAD AUTONOMA DE MADRID	30-dic-16	29-dic-20	188760
AEI	Sea	Emergent pollutants in coastal systems: distribution and biological effects. from lab to field	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC)	30-dic-16	29-dic-19	192390
AEI	Sea	Environmentally friendly alternatives for polymers and their chemical additives in aquatic environments	UNIVERSIDAD DE VIGO	30-dic-16	29-dic-19	142780
AEI	Sea	Environmentally friendly alternatives for polymers and their chemical additives in aquatic environments; subproject polymeric materials and additives and their degradation	ASOC. DE INVESTIGACION DE MATERIALES PLASTICOS	30-dic-16	29-dic-19	112530

Funding source	Area	Project	Coordinator	Duration		Budget in €
AEI	Sea	Environmentally friendly alternatives for polymers and their chemical additives in aquatic environments. subproject environmental analytical chemistry	UNIVERSIDADE DA CORUÑA	30-dic-16	29-dic-19	173030
AEI	Technology	Microplastics as vectors of emerging contaminants in the terrestrial ecosystem: exposure biomarkers and ecotoxicological impact	UNIVERSIDAD COMPLUTENSE DE MADRID	01-ene-18	31-dic-21	225060
AEI	Technology	Exposome assessment of emerging contaminants in the aquatic environment	UNIVERSIDADE DE SANTIAGO DE COMPOSTELA	01-ene-18	31-dic-20	175450
AEI	Technology	Exposomic assessment of emerging contaminants in the aquatic environment	UNIVERSIDAD DE LAS ISLAS BALEARES	01-ene-18	31-dic-20	173030
AEI	Sea	Aquaculture derived plastics: impacts and effects in marine food webs	INSTITUTO ESPAÑOL DE OCEANOGRAFIA (IEO)	01-ene-18	31-dic-20	165770
AEI	Sea	Microplastics and microcontaminants in the Mediterranean coast: toxicity and environmental and human health impacts	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC)	01-ene-18	31-dic-20	177870
AEI	Sea	Microplastics and microcontaminants on the Mediterranean coast: toxicity and impact on environment and human health	FUNDACIÓ INSTITUT CATALA DE RECERCA DE L AIGUA	01-ene-18	31-dic-20	159720
AEI	Sea	Influence of microplastics on the transfer and effects of contaminants of emerging concern in marine organisms. ecotoxicological and environmental impact in marine systems	INSTITUTO ESPAÑOL DE OCEANOGRAFIA (IEO)	01-ene-18	31-dic-20	158510
AEI	Tecnology	Defining the baselines and standards for microplastics analyses in european waters	UNIVERSIDAD DE LAS ISLAS BALEARES	01-jul-18	30-jun-20	17000
AEI	Biotechnology	Defining the baselines and standards for microplastics analyses in European waters	UNIVERSIDADE DA CORUÑA	01-dic-15	31-mar-19	125000

Funding source	Area	Project	Coordinator	Duration		Budget in €
AEI	Biotechnology	Defining the baselines and standards for microplastics analyses in European waters	INSTITUTO ESPAÑOL DE OCEANOGRAFIA (IEO)	01-dic-15	30-nov-18	125000
AEI	Sea	Ecotoxicological effects of microplastics in marine ecosystems: studies with the mussel (<i>mytilus galloprovincialis</i>)	INSTITUTO ESPAÑOL DE OCEANOGRAFIA (IEO)	01-dic-15	31-may-19	100000
AEI	Sea	Ecotoxicological effects of microplastics in marine ecosystems: studies with european sea bass (<i>dicentrarchus labrax</i>)	UNIVERSIDAD DE MURCIA	01-dic-15	30-nov-18	60000
AEI	Sea	Ecotoxicological effects of microplastics in marine ecosystems	UNIVERSIDAD DE VIGO	01-dic-15	31-mar-19	140000
AEI	Technology	Impacts of microplastics in agro-systems and stream environments	FUNDACION IMDEA AGUA	01-abr-17	31-mar-20	135000

SPANISH PARTICIPATION IN JPI OCEANS PROJECTS ON MICROPLASTICS

In 2015, a call on Microplastics was launched under the initiative JPI OCEANS. In this context, the Spanish Research Agency (AEI) funded 2 international cooperation projects in which 5 Spanish institutions received 550.000 €

Acronym	AEI contribution
BASEMAN	250.000 €
EPHEMARE	300.000 €

The AEI plans to fund 2 more projects in the JPI OCEANS call open until February 2019, with a Budget of 400.000€.

SPANISH PARTICIPATION IN PROJECTS FUNDED UNDER HORIZON 2020 ON MARINE LITTER/PLASTICS

BLUE GROWTH		
CLAIM	Cleaning Litter by developing and Aplying Innovative Methods in European Seas	
ES Partners	IKERCONSULTING EUROPEAN AND REGIONAL INNOVATION SOCIEDAD LIMITADA	€ 297 798,38
UTOFIA	Underwater Time Of Flight Image Acquisition system	
ES Partners	FUNDACION AZTI	€ 468 780
Respon-Sea-ble	Sustainable oceans : our collective responsibility, our common interest. Building on real-life knowledge knowledge systems for developing interactive and mutual learning media	
ES Partners	FUNDACION AZTI	€ 219 352,50
SME Instrument		

UPCYCLINGTHEOCEANS	High quality clothes made from marine plastic litter	
	ECOALF, S.L.	€ 50 000

CIRC - Circular Economy		
PlastiCircle	Improvement of the plastic packaging waste chain from a circular economy approach	
ES Partners	INSTITUTO TECNOLOGICO DEL EMBALAJE, TRANSPORTE Y LOGISTICA Coordinator	€ 1 010 750
	FUNDACION DE LA COMUNITAT VALENCIANA PARA LA PROMOCION ESTRATEGICA EL DESARROLLO Y LA INNOVACION URBANA	€ 328 625
	SOCIEDAD ANONIMA AGRICULTORES DE LA VEGA DE VALENCIA	€ 623 070
	INDUSTRIAS TERMOPLASTICAS VALENCIANAS, S.A.	€ 150 850
	Fundacio Knowledge Innovation Market Barcelona	€ 311 250
	ECOEMBALAJES ESPANA, S.A.	€ 294 500
	PICVISA MACHINE VISION SYSTEMS SL	€ 359 625
PolyCE	Post-Consumer High-tech Recycled Polymers for a Circular Economy	
ES Partners	TECNALIA	€ 589 625
	ONA PRODUCT SL	€ 102 427,50
LEIT Leadership in enabling and industrial technologies		
P4SB	From Plastic waste to Plastic value using Pseudomonas putida Synthetic Biology	
ES Partners	AGENCIA ESTATAL CONSEJO SUPERIOR DE	€ 561 875

INVESTIGACIONES CIENTIFICAS		
BACMINE SL		€ 684 625
BBI JU - Bio-based Industries Joint Undertaking		
AFTERLIFE	Advanced Filtration Technologies for the Recovery and Later conversion of relevant Fractions from wastEwater	
ES Partners	OPTIMIZACION ORIENTADA A LA SOSTENIBILIDAD SL	€ 250 750
	L'UREDERRA, FUNDACION PARA EL DESARROLLO TECNOLÓGICO Y SOCIAL	€ 301 250
	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	€ 216 000
	ASOCIACION EMPRESARIAL DE INVESTIGACION	€ 199 560
	CENTRO TECNOLÓGICO NACIONAL DE LA CONSERVA	
	JAKE SA	€ 93 825
	CITROMIL SL	€ 97 200

BLUEMED -TUNISIA

Tunisia is promoting activities that are included in the Implementation of a partnership program with associations and organizations of field volunteer campaigns and outreach activities related to Plastic waste management sector (ECO-LEF) and activities mainly based on 'waste fishing' and 'adopting a beach' concept in the regional framework MEDPOL. Tunisia is partner in the research projects as CLAIM, (that see the participation of other MED countries leaded by Greece) aimed at defining the status of plastic assessment at sea and implementing specific sustainable solution, or INDICIT that assess the develop a set of standardized tools for monitoring the impacts of litter on marine life (turtles, cetacean, shark, invertebrates). Several agencies and other foundations are also working to carry out large-scale awareness campaigns on the dangers generated by plastic.

I. NATIONAL AGENCY FOR WASTE MANAGEMENT (ANGED): PLASTIC WASTE MANAGEMENT SECTOR: ECO-LEF

NATIONAL STRATEGY FOR THE CONTROL OF THE PHENOMENON OF POLLUTION GENERATED BY PLASTIC WASTE

OBJECTIVES:

- Contribute to the preservation of public cleanliness in cities, urban agglomerations, public spaces, roads and beaches;
- Encourage private sector interventions and the creation of small plastic collection companies
- Promote partnership with regional and local authorities to better control the phenomenon of pollution caused by plastic waste;
- Promote and encourage the recycling of collected materials;
- Sensitize the citizen in order to rationalize the use of packaging and plastic bags.

✓ AXES OF THE NATIONAL STRATEGY:

- Establishment of a paid collection system from April 2001;
- Organization of sorting and collection of plastic waste at the source;
- Creation of teams of workers to collect plastic packaging used
- Provide financial assistance to governorates and municipalities for the organization of collection campaigns for used plastic packaging;
- Implementation of an integral multi-axis awareness program;
- Implementation of a partnership program with associations and organizations for the organization of field volunteer campaigns and outreach activities.

- ☐ Plastic waste management sector: ECO-LEF

II. ACTIVITIES IN A REGIONAL FRAMEWORK: MEDPOL

ACTIVITIES FOR IMPLEMENTATION OF THE FIRST PHASE OF IMAP (MARINE WASTE) IN THE FRAMEWORK OF MEDPOL TUNISIA

On the basis of a Memorandum of Understanding between UNEP and ANPE on 18 April 2000, UNEP undertakes to cooperate with the ANPE in the framework of the National Program for the Monitoring of Pollution. Mediterranean MED POL to be realized at the Mediterranean coast of Tunisia.

In accordance with Article 10 of the Regional Plan on Marine Litter, provides for the implementation of two pilot projects: one on 'waste fishing' and the other 'adopting a beach' concept.

- Adopt a beach:

i. Undertake periodic cleaning actions on the beaches near the mouths of the river, as the case may be;

- ii. Design and conduct awareness-raising campaigns at the local level regarding marine litter cleaning (plastic and other) in beaches and their importance, as well as the effects of marine litter on the marine and coastal environment;
- iii. Implement a marine litter monitoring plan on the selected beaches, collecting information on the types, quantities, weight and sources of recorded marine litter;
- iv. Periodically record marine litter inputs on beaches, including marine litter from rivers;
- v. Report monitoring data collected to MED POL and national authorities;

- Waste management using the guidelines adopted by CoP 19 (IG.22 / 10):
 - i. Select the pilot project area and engage fishermen to collect marine litter;
 - ii. Prepare awareness materials to promote good practices for "waste fishing";

III. RESEARCH PROGRAMS

The EU-funded CLAIM H2020 R & I project "Cleaning Marine Litter by Developing and Applying Innovative Methods in European Seas" aims at the prevention and in situ management of visible and invisible marine litter through the development of new technologies and redefined methodological approaches to innovate in the way of cleaning our seas.

The project will propel 5 innovative marine cleaning technologies, preventing waste from entering the sea from two main sources: wastewater treatment plants and river mouths. Immediately after an efficient pre-filtration system has sorted and collected waste, a photocatalytic "nanocoating" device will degrade microplastics in wastewater treatment plants. When installed on ships, a small-scale heat treatment device (pyrolizer) will be used to turn collected waste into energy, fueling ships and heating harbors. At river mouths, an innovative floating ramp will collect and monitor visible waste, while a network of FerryBox CLAIM systems will operate on vessels in the Baltic, Western and Eastern Mediterranean equipped with an automated water withdrawal device. and a passive filtering system.

From a scientific point of view, CLAIM will develop innovative modeling tools to evaluate and create information maps on visible and invisible marine plastic pollution at basin and regional levels (Gulf of Saronikos, Gulf of Lyon, Ligurian Sea, Gulf of Gabes and the Baltic Sea).

An ecosystem approach will guide the project in assessing the potential benefits of proposed waste cleanup methods for ecosystem services and human resources.

The CLAIM consortium includes 19 partners from 14 countries in the Mediterranean and the Baltic Sea. The partners represent SMEs, research institutes and universities, experts in the field of waste in prototype development, models, characterization of waste,

environmental impact assessment, socio-economic aspects, economic recovery, the revival of marketing and scientific communication. Tunisia represented by the INSTM (Institute of Marine Science and Technology) actively participates.

IV. OTHER RESEARCH PROJECTS

Even if large projects could not be identified, we have identified at least three research actions dealing with the problem of plastics. One supported by the national research system and the other developed under the ENI-CBC initiative of the European Union. The INDICIT project described below is one.

- **INDICIT 2017-2019 project** (<https://indicit-europa.eu>):

Marine debris impacts marine organisms in all the seas and oceans of the world. The INDICIT project is part of a collaborative approach of Europe and regional maritime conventions, to improve the state of marine ecosystems and restore them. Supported by the European Union, this project aims to develop a common approach for monitoring the ingestion of marine debris by marine turtles and to identify cetacean, shark and invertebrate species that may be "useful indicators" especially for entanglement and ingestion of micro-debris.

INDICIT focuses on the MSFD 10 ("Marine Litter"), which aims to maintain or recover the good environmental status (GES) of the marine environment in terms of marine litter. The main objective is to develop a set of standardized tools for monitoring the impacts of litter on marine life.

Seven countries are involved in this European project including Tunisia and ten partners including INSTM.

The project runs through 20 stranding networks and 20 sea turtle rescue and care centers.

V. AWARENESS OF THE GENERAL PUBLIC

Several agencies and other foundations are working to carry out large-scale awareness campaigns on the dangers generated by plastic. It is in this context that the Tunis Science City recently organized (21 December 2018) an open day called "STOP POLLUTION PLASTIQUE". The program of the day is attached.

Heinrich Boll Foundation: Concerned with the amount of unmanageable plastic pollution everywhere in Tunisia, the Heinrich Boll Foundation organized a Breakfast Talk with the newly elected representatives and the representatives of the national environmental protection agencies as part of the exhibition ' 'The sea final destination!' Which took place at the Palais Kheireddine during the month of October 2018

TURKEY

Please find below the existing METU, Turkey initiatives which illustrate potential for a bigger , bolder and well co-ordinated programme at local , national and regional sea basin level. A pilot project is presented below the Table.

	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results
1	"I know and protect my sea" K12 environmental awareness education program	METU, Mersin Greater Municipality	Educational marine environmental awareness training to primarily protect marine biodiversity and to decrease littering	National, several cities throughout Turkey	https://www.facebook.com/denizimitaniyori , continuing for the last 7 years	Increased awareness of littering impacts in school pupils as our future generations /knowledge transfer between participating partners
2	Identification of litter sources from beaches along the northeastern Mediterranean	METU, Mersin Greater Municipality	environmental assessment, local governance	Local for Mersin Greater Municipality	National project; continuing for the last 4 years	Prevention of litter after determining its source and characteristics
3	Impact of microplastics on zooplankton species	METU, Istanbul University	environmental assessment,	National governmental institutions and municipalities responsible for dealing with litter	Several national projects, supported by TUBITAK and Universities, continuing for the last 2 years	Investigation of the effects of microplastics on the metabolism and genetics of several zooplankton species

	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results
4	Microplastics sourced from waste water treatment facilities (WWTP) and development of preventative technology	Mersin University assisted by METU	environmental assessment and new technologies	National governmental institutions and municipalities responsible for dealing with litter	National project, continuing for the last 2 years	Assessment of the contribution of WWTPs to the microplastics pool of the marine waters of Turkey in order to promote development of technologies to decrease their microplastics load reaching to the sea
5	Modeling the microplastic loads from riverine sources to the Marmara Sea	Bogaziçi University assisted by METU	environmental assessment	Northern Marmara region	University research project, Ongoing	To understand the role of rivers with respect to microplastic load to the sea
6	Riverine and Marine floating macro litter Monitoring and Modelling of Environmental Loading (RIMMEL)	32 institutions covering rivers from 15 EU and non-EU countries in the four European Regional Seas, including METU	environmental assessment, European governance	European seas	http://mcc.jrc.ec.europa.eu/dev.py?N=simple&O=380&titre_page=RIMMEL	Quantifying floating macro litter loads through rivers to EU marine waters

	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results
7	State of recycling system and cost/benefit of alternative systems analysis	WWF-Turkey supported by several stakeholders including METU	Assessment, national governance	National	Ongoing	Improvement of current recycling systems in Turkey
8	Wood Plastic Composites Extrusion, a new kind of wood-plastics composite process	Turkish SME Galiboff supported by METU	New technology,	National, circular economy,	TUBITAK-KOSGEB Project, Turkey; www.galiboff.com	Innovative production of new materials from used plastics
9	Development of innovative methods to clean-up marine litter in Mersin harbours	Mersin Greater Municipality assisted by METU	New technology	Local, Mersin, Turkey	Submitted to Turkish Development Agency	Cleaning of marine litter from Mersin harbour to support better tourism activities
10	Assessment of microlitter present in the sea surface, sediment, beaches and fish species from the Turkish aquatic environment	METU, Ministry of Environment and Urbanisation of Turkey, TUBITAK, and several	environmental assessment / national governance	National, including the four seas in the eastern Mediterranean	Several national projects, supported by TUBITAK and Ministry of Environment and Urbanisation of Turkey, continuing for the last 4 years	To provide up-to-date knowledge and assessment from levels and sources of plastics to base governance.

	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results
		Universities in Turkey				
11	Providing expertise to the Ministry of Environment and Urbanisation for the Barcelona and Bucharest Conventions to decrease litter in the Mediterranean and Black Seas	METU, Ministry of Environment and Urbanisation	Governance, monitoring	National	Ongoing since 2018	Realisation of a plastic free Mediterranean and Black Sea; developing indicators for the Barcelona Convention
12	National meeting on microplastics in aquatic environments of Turkey	Ministry of Agriculture and Forestry supported by METU, involving all stakeholders	Governance, assessment	National	May 2019	To assess the extent of the microplastic problem and the development of effective management strategies
13	Zero litter campaign	Ministry of Environment and Urbanisation	Governance	National; http://sifiratik.gov.tr	Ongoing since 2018	For recycling entire litter in governmental offices and in certain public places (schools, shopping malls, harbours, hotels etc) in selected cities in Turkey
14	Introduction of fee for single-use plastics bag	Ministry of Environment and Urbanisation	Governance	National	Ongoing since 1st Jan 2019	For decreasing plastic bag pollution for all over Turkey

	Name of the action	Partner responsible	Type of action (list of options: e.g. dissemination / awareness raising; environmental assessment and impact evaluation; governance; new technologies / new materials; recycling; other?)	Area of application (e.g. whole country, specific watersheds or regions, waters and seafloors, specific areas)	Related Projects / Initiatives (usually the action is not new, but is part of a wider on going project / initiative)	Expected results
15	Recycling of plastics in municipal waste	Karabuk University, Ondokuz Mayıs University	Research	National		For recycling plastics in waste in Turkey
16	Recycling of recycled polyethylene and polypropylene	Pamukkale University	Research	National		For recycling plastics in Turkey
17	PET fiber production	Uludağ University	Research	National		For recycling plastics in Turkey
18	Microplastics pollution in table salts	Cukurova University	Research	National		For assessing micoplastics in Turkish salts