Proposal for the Pilot "Plastic-free Mediterranean sea"

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On behalf of EU MED GSO BLUEMED WG

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BLUEMED

Research and Innovation initiative for Blue jobs and growth in the Mediterranean

The BLUEMED initiative: aim and actions

The **BLUEMED Initiative fosters integration of knowledge and efforts of Countries of the MED to jointly create new 'blue' jobs and sustainable growth in the area.**

It was **a priority of the Programme of the IT Presidency of the Council of the European Union; IT implemented it in close cooperation** with **CY, HU, FR, GR, MT SI, ES, PT and BE, and the EU commission (**DG RTD, DG MARE).

April 2014 >> Priority of the Programme of the Italian Presidency of the EU Council

Oct 2015 >> Venice Declaration endorsed by 10 EU Member States and launch of the BLUEMED Strategic R&I Agenda

Nov 2015 >> UfM Ministerial Declaration on BlueEconomy

Oct 2016 BLUEMED CSA and other projects started

April-May 2017 >> BLUEMED-UfM Conference & Valletta Declaration endorsed by UfM, 28 EU MS and Commissioners Moedas & Vella

Nov 2017>> BLUEMED WG EuroMed GSO launched

Oct 2018>> Pilot launch

Strategic R&I Agenda co-owned at Med level: 14 Key Challenges

Knowledge Pillar	Economy Pillar	Technology Pillar
A. Mediterranean Sea ecosystems: characterize present dynamics, services, resources, vulnerability and resilience to natural and anthropogenic pressures B. Mediterranean Sea: forecast changes of the basin under climate and anthropogenic pressures and develop services in the field of sustainable adaptation to climate change and plans for mitigation C. Hazards and protection of coastal areas and Medite D.	A. Innovative businesses based on marine bio-resources in the Mediterranean B. Ecosystem-based management of Mediterranean aquaculture and fisheries C. Sustainable tourism and cultural heritage in the Mediterranean D. Maritime clusters in the Mediterranean E. Govern	A. Smart, greener and safer maritime transport and facilities in the Mediterranean B. Observing systems and operational oceanogra capacities in M C. Inn scovering, g and valuing
Cr		
A. C ss-cutting enablers for Blue Jobs and Blue Growth		

Marine litter & Plastics, the across pillar added value

Knowledge Pillar	Economy Pillar	Technology Pillar
Challenge A. Mediterranean Sea ecosystems: characterize present dynamics, services, resources, vulnerability and resilience to natural and anthropogenic pressures *Goal A2*. Understanding Pollution Impacts, Mitigation, and Remediation in the Mediterranean Sea *Goal A1*. Understanding the functioning of the Mediterranean Sea ecosystem	**Challenge A.** Innovative businesses based on marine bio-resources in the Mediterranean *Goal A2.* Generating new products and services	**Challenge A.** Smart, greener and safer maritime transport and facilities in the Mediterranean **Challenge B.** Observing systems and operational oceanography

Cross-cutting Pillar

Challenge A. Cross-cutting enable
Goal A5. Promoting and implemer
Goal A2. International Cooperation and Coordinated Transboundary Networks
Goal A4. Building capacity, blue skills and blue professionals

The Pilot: Towards a Healthy plastic-free Mediterranean Sea

Contributions from:

Algeria, Egypt, France, Israel, Italy, Malta, Morocco, Spain, Tunisia, Turkey

Actions, Keywords

- Governance;
- Assessment/Monitoring;
- Recycling Systems;
- Waste management;
- Innovation in materials and products;
- Decontamination;
- Social innovation/digital technologies;
- Citizen science;
- Sustainable Tourism;
- Dissemination;
- Business creation;
- Education.

Plastic marine litter: actions required (a)

The majority of traditional plastics are not significantly biodegraded, ether in the terrestrial waste disposal facilities and in marine habitats. Thus, the management of marine litter requires an integrated approach.

1) Better define and assess the problem. There are knowledge gaps on the litter composition, amounts, fate and actual impacts on the local ecosystems for some of the MED areas. Needs:

a) build a denser marine sampling network with scientists/citizens of the area;
b) better identify the local land-based sources of litter;
c) build a Mediterranean marine litter data base.

The full engagement of scientists and citizens coming from all countries across both the Southern and Northern Mediterranean are required.

2) Implement site specific strategies for removing/lowering the marine litter already existing in the basin. Needs:

a) removal of microplastics from surface, water column, seafloor and shore via the cooperation of pelagic and benthic trawlers;
b) regular removal of beached debris from the beaches, plastics from rivers, watercourses and continental runoff waters, via fishermen and citizens;
c) stimulate *in situ* biodegradation of marine litter components (?).

Plastic marine litter: actions required (b)

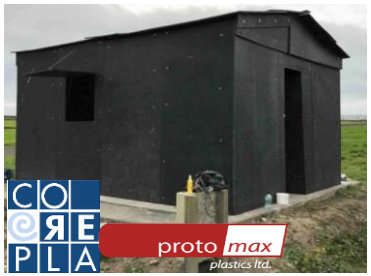
d) development of treatments/strategies for valorizing the collected materials to produce energy, new products or chemical building blocks.

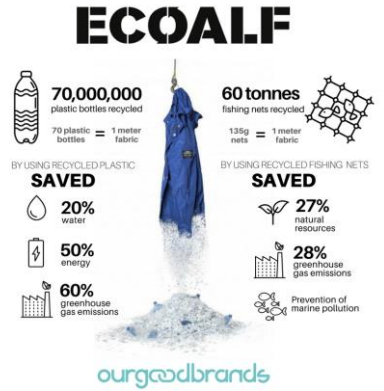
These may include:

- ❑ dry and burn, to produce energy;
- ❑ fractionation and use of plastic fractions for the production of art products or objects;
- ❑ specific, innovative chemical and/or biological valorization processes for the production of useful chemical building blocks

Examples:

- ✓ Regenerated nylon and high-quality yarn fishing nets, then turned into brand new sustainable textiles.
- ✓ Conversion of plastic bottles (PET) and fishing nets into textiles, clothes and shoes
- ✓ Recycling of plastic litter and production of construction panels





Plastic marine litter: actions required (c)

3) prevention of marine litter. Needs:

a) selectively collect and recycle sustainably waste plastics by reducing use landfills;

b) eliminate the land-based open and open-air dumps,

c) remove (via filtration) plastics and tire fragments from highway and urban runoff, and wastewater treatment effluents;

d) restrict use of mono-use products, non-essential plastic products and micro-granules in products;

e) gradually adopt biodegradable (bio)plastics, by starting from those used in marine habitats (for fishing gears, tubular net for marine aquaculture, additives for painting and maintenance of ships and leisure boats…).

4) Develop and promote: a) effective and robust regulations/legislation, b) tailored incentives (for recovering plastics from the sea, for recycling plastics, etc), c) R&I actions, d) education and communication plans, e) robust partnerships between academia, industry, public institutions, regulatory bodies and the society, and f) long-term coordination of European/non-EU countries of the area, providing added value to regional, national and EU investments and efforts.

Working together for a Healthy plastic-free Mediterranean Sea

Main tasks:

- Finalisation of mapping of the main ongoing actions and initiatives with clear technological, business, policy, educational and social impacts;

- Identification main strength, weakness and synergies of relevant ongoing actions and initiatives;

- Design a portfolio of integrated multistakeholders and multilevel actions, to be implemented under the BLUEMED umbrella, for making our pilot a success...