

Agenda item 6b

Summary of Working Document UNEP/AHEG/2019/3/4

Draft approach for technology and innovation mapping

Third meeting of the ad hoc open-ended expert group on marine litter and microplastics
18-22 November 2019 – Bangkok, Thailand

Pursuant to UNEA Resolution 4/6*

Subparagraph 7(b):

*“Identify **technical** and financial **resources** or **mechanisms** for supporting countries in addressing marine plastic litter and microplastics;”*

*(UNEP/EA.4/Res.6)

Introducing the team



vito

Flemish Institute for Technological Research



**GHENT
UNIVERSITY**



**environment
programme**



Photo credit: Shutterstock

Goal and objectives

Goal:

The goal of this project is to identify and disseminate ***technical resources and technological innovations*** relevant for the ***prevention and reduction of marine litter***, with a main focus on ***macro plastics***, and using ***land-based and water-based*** technologies, with a focus on ***low or medium costs***.

Goal and objectives

Objectives:

- Provide an **overview on existing technological innovations** for the sustainable management of plastics
- Identify **knowledge gaps and capacity gaps** in the implementation of these technological innovations
- Identify **points of interventions** to prevent marine litter

Tasks (1/2)

- i. **Collect information on existing organizations and initiatives concerned with technical innovations for marine litter prevention** and identify potential cooperation partners

- ii. **Gather data from reports, scientific literature and industry on existing technological innovations,** both land-based (waste management) and water-based (litter capturing in rivers, lakes and near-shore)

Tasks (2/2)

- iii. Collect **information on the status and potential barriers of implementation** of the identified technological innovations in various regions of the world.
- iv. Prepare **recommendations on the preferred points of intervention** based on effectiveness and efficiency considerations.

Outputs

- A **database** of technological innovations to prevent and reduce marine litter;
- A **report**, including:
 - An overview of the identified **technological innovations**;
 - An evaluation of **knowledge gaps and capacity gaps**, with attention for differences in various regions of the world;
 - **Guidelines and recommendations** for best points of intervention to prevent and reduce marine litter

Focus of the Inventory (1/2)

Three categories:

1. Land based solutions:

- a) **Prevention** of plastic litter at production site (e.g. operation clean up sweep), at consumers' (e.g. microplastic filters on residential/industrial washing machines), prevention of fishing gear and ship-based litter via port reception facilities

- b) Technologies and innovations in **landfill management** to avoid legacy plastics from dumpsites getting into waterways

- c) **Remote sensing imagery** for data collection

Focus of the Inventory (2/2)

Three categories:

2. Water based solutions:

Capturing devices in rivers, lakes & near-shore sea, remote sensing imagery for data collection

3. Processing & treatment of collected plastics:

Focus on small-scale, decentralized and ideally low-cost options

Inventory: technology assessment criteria (1/2)

- **Technical**
 - Short process description incl. all technical specifications & potential bottlenecks
 - (Annual) capacity and scalability
 - Type of plastic litter addressed
- **Environmental**
 - Energy input
 - Environmental side-effects (e.g. residues from process)

Inventory: technology assessment criteria (2/2)

- **Readiness**

- Status of implementation, “Maturity”
- Availability on the market
- Complexity of operation

- **Cost**

- Cost (initial investment cost, maintenance)
if not available, at least estimate
 (“low”, “medium”, “high”)

Stakeholders – call to participate in the survey

Who are we addressing?

- This ad hoc open-ended expert group
- UNEP (International Environment Technology Center)
- Others:
 - NGOs
 - Industry Associations
 - Governmental programs
 - Alliances
 - Any other relevant stakeholder concerned with this topic...

Survey – in practice

How to participate?

- **Inventory data** will be collected through a **web-based platform**;
- **Link** to this platform will be **distributed via e-mail** and/or shared on UNEP communication channels at the launch of the inventory phase (December 2019), with invitation to add information - Please contact us, or get involved in December;
- Information shared on the platform will be **validated by project team, and included in the report**

Survey – in practice

Example: Impression of a possible interface for the database during the inventory phase:



WasteShark™

Autonomous drone called Waste Shark removes plastic waste and contaminants from water bodies

79

2



The Blue Barriers

Collecting plastic waste in rivers before it reaches the sea

147

4



Waste Free Oceans

Collecting and Upcycling Ocean Plastic

73

1

Timeline (1/2)

- October 2019* • Kick-off / Core team assembly
- November 2019* • Identify existing organizations and initiatives concerned with (technical innovations for) marine litter prevention
 - 3rd Ad Hoc Open Ended Expert Group meeting, Bangkok (18-22 November 2019)
 - “Deep Dive Session” at the Global Sustainable Technology and Innovation Conference (GSTIC) 2019 in Brussels (20-22 November)
- December 2019 - April 2020* • Collect, synthesize and evaluate technological solutions through stakeholder consultation and collaboration with existing initiatives

Timeline (2/2)

- May 2020*
- First version of the inventory to be presented at 4th Ad Hoc Open Ended Expert Group meeting
- June 2020
- September
2020*
- Finalize database and develop report, in consultation with stakeholders
- October 2020*
- Report final outcomes to 5th Ad Hoc Open Ended Expert Group meeting

Questions for breakout groups

The AHEG may wish to comment on the methodology proposed to guide the secretariat in carrying out the mandate of subparagraph 7(b).

In particular:

- (a) What is the most cost-effective scope for the Inventory to maximize the amount of relevant information within a time- and resource-limited framework?
- (b) What are key criteria for the inclusion or exclusion of technical resources in this Inventory?
- (c) What is the most useful categorization of technical resources for policymakers?
- (d) Is the scope of the Inventory, as currently defined, appropriate?

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