German Environment Agency

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Policy Brief

Plastics Waste Management and Prevention of Marine Litter in a Circular Economy: Push and Pull Instruments to Enhance the Use of Recyclates

The European Commission plans a common strategy for plastics in its Action Plan for the Circular Economy. This strategy for plastics is going to address marine litter as one priority issue, with three-quarters of all marine litter being plastic materials. To prevent marine litter as well as to enhance plastics waste management in a circular economy, the plastics strategy needs to put forward a fine-adjusted common policy-mixture. The policy mixture needs to include concrete and binding instruments to efficiently strengthen recycling and recyclate use in Europe.

Today marine litter is one of our major global environmental problems.

Marine litter is harmful to marine wildlife, habitats and human health, and it can facilitate the transport of organic and inorganic contaminants. Around 800 species are known to be affected with ingestion of and entanglement in marine litter, which are the two major impacts. About three-quarters of all marine litter are plastic materials. These are of particular concern due to their persistence and inherent or acquired toxicity. The annual plastic production has increased sixfold since the 1980s. One third of the global production is single-use packaging that is discarded within a year.

Introduction of plastics in the ocean occurs at all stages of the plastics lifecycle. Major reasons are inadequate wastewater and solid waste collection and treatment, both at sea and on land. Sources and pathways can differ between regions. E.g. in the Northeast-Atlantic sea-based sources such as fishing and shipping dominate the input of litter, together with sea- and land-based recreational activities. In contrast, in the Baltic Sea and Mediterranean Sea land-based sources dominate the findings.

Prevention measures such as education and outreach are key to existing Regional Action Plans on Marine Litter. Removal actions for the different marine and river compartments have also been formulated. Equally, improved waste prevention and management needs to be addressed as a key issue to combat the major land and sea-based sources. Especially

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plastic recycling can make an important contribution to prevent waste in marine environment.

Currently more than 30% of Europe´s post-consumer plastic waste is still disposed of on landfills[1]. Outflows and wind can transport waste from inadequate managed landfills to the open sea. But landfilled waste can not only pose a risk for nature, it is also lost for the circle as secondary raw material, as a valuable resource.

By increasing recycling, these losses can be prevented. Despite a constant development of recycling in the EU, in 2014 no Member State reached a level of 40% recycling of post-consumer plastic waste. The majority of the plastic waste that is recycled originates from packaging waste. In fact, packaging waste still accounts for 2/3 of plastics recycling. From 7.5 million tons post-consumer plastic waste recycled in Europe in 2013, 5.6 million tons had packaging origin. There is a significant untapped potential for recycling waste from other origins, such as for commercial municipal waste, waste electrical and electronic appliances, end-of-life vehicles or household plastic products - in Germany alone the potential amounts to 1.1 million tons annually[2].

How can Europe tap the potential for better waste management and therewith prevent marine litter?

Addressing obstacles for recycling

Diverse obstacles hamper the demand for recyclates and more recycling. These are economic obstacles, like the competition with energy recovery/landfilling, lack of information, uncertainties about the quality of recycled plastics and legal/institutional reasons, such as missing recycling obligations or incentives for more recycling.

Introducing a policy-mix for more recycling

An analysis of recent European studies shows, that there is not a single key instrument to address the complexity of obstacles and to increase recyclate use. Instead, a mixture of different economic, informatory and regulatory tools facilitating each other is necessary.

[1] Post-Consumer Plastic Waste Management in European Countries 2014 - EU 28 + 2 Countries-; PlasticsEurope (2015)

[2] Entwicklung von Instrumenten und Maßnahmen zur Steigerung des Einsatzes von Sekundärrohstoffen – mit Schwerpunkt Sekundärkunststoffe (Development of Instruments and Policy Measures to Increase the Use of Secondary Resources – with a Focus on Recycled Plastics; in German with English summary;), Wuppertal Institut für Klima, Umwelt und Energie GmbH (2014 - to be published in 2016)

Ensuring separate collection of plastic waste

Plastic recycling needs having plastics diverted from mixed waste streams. Early separation is essential for an efficient recycling and the production of recyclates of sufficient quality for the market. Thus, obligations to separate collection in the EU Waste Framework Directive need to be implemented and fulfilled consequently, which is not the case yet.

Strengthening supply

Furthermore recycling can be pushed by the introduction of specific recycling targets on other kinds than packaging waste, e.g. for WEEE or end-of-life vehicles. According to a recent study commissioned by the German Environment Agency, even the recycling of 50% of plastics in large waste electric household appliances on its own would lead to a higher amount of recyclates as what is produced from all WEEE in Germany at the moment.

Increasing the demand for recyclates and improving product design

Minimum obligatory quotas for recyclate content in products are a promising approach to increase demand of the market. In so far, it could be a starting point to establish a quota for household waste containers or plastic carrier bags on European level. Some of these products contain a recyclate amount over 80% already. Hence, it should be possible to establish binding recyclate quotas and comply with this in practice.

However, increased recycling depends not on quotas and targets only. Requirements on product design should be improved to create the prerequisites. Thus, recyclability criteria should be established as part of ecodesign requirements. Encourage companies to design products with long durability for reuse, recycling and materials reduction in weight and toxicity is what is also called for in the action plans of the European Regional Seas Conventions.

Promoting best practice in waste management trough action plans on marine litter

Increased waste collection would help preventing further introduction of (plastic) litter in the oceans as well as raising recycling efficiency. But waste and marine litter policies need to force best practice in waste management and more recycling hand in hand to be efficient. In so far, the action plans adopted for the Mediterranean Sea (2013), the Northeast Atlantic (2014) and the Baltic Sea (2015) under UNEP/MAP, OSPAR and HELCOM are promising instruments for cross-regional cooperation and effective horizontal multi stakeholder involvement. The G7 followed in 2015 by agreeing on an Action Plan to Combat Marine Litter which has strong links to the regional approaches and can be understood as a first step towards a worldwide effort against marine litter.