

Briefing produced by IEEP for the MAVA Foundation, as part of ACES (Alliance for Circular Economy Solution), with Green Alliance, Aldersgate Group, De Groene Zaak, Ecologic Institute, and Unternehmens Grün

KEY CONTACTS

Patrick ten Brink
ptbrink@ieep.eu

Jean-Pierre Schweitzer
jpschweitzer@ieep.eu

Susanna Gionfra
sgionfra@ieep.eu

Emma Watkins
ewatkins@ieep.eu



Image credit: Shutterstock

SINGLE USE PLASTICS

Europe is a global driver of marine litter as a major producer, consumer and exporter of plastics and plastic waste¹. Single use plastics are a major source of marine litter. Items such as bags, bottles and straws present a physical danger for marine life. In landfill or in our oceans, these everyday objects result in a vast loss of energetic and material value to the economy. The transition to a circular economy offers opportunities to close the loop and prevent marine litter and its ecological, social and economic impacts.

Europe produced 23% or 52mt of the world's plastics in 2015, of which 39.5% or 20.5mt were used to produce packaging.²

What are single use plastics?

- Single use plastics can include any disposable plastic item which is designed to be used only once. Single use items are often used in packaging, consumer products, cosmetics and healthcare. Examples include: light-weight plastic bags, disposable utensils, beverage containers, coffee capsules, wet wipes, and razor blades.
- International beach clean-up data from the Ocean Conservancy shows that plastic drinks bottles, food wrappers, plastic bottle caps, straws and stirrers, plastic bags and plastic lids are amongst the top ten most common items collected.³

Globally, 4.8 to 12.7mt of plastic enter the ocean annually just from mismanaged waste at coastlines.⁹

Why is it a problem?

- **Environmental impacts:** Meso to macro sized (5mm > <1m) marine plastics impact on marine species such as birds, marine mammals and turtles; ingestion or entanglement can cause injury and even death. Marine ecosystem externalities from packaging waste amount to an estimated EUR 12 billion annually.⁴
- **Socio-economic and material loss:** Although the perceived value of single use items is low, EUR 72-108 billion of material value from plastic packaging alone is lost to the economy each year.⁶ Sectors such as tourism, fishing and shipping are commonly impacted by marine litter, and there is an economic burden on local authorities through clean-up costs.⁷
- **Microplastics:** Plastic items can fragment in the marine environment and become microplastics (i.e. they are secondary sources of microplastics). The impacts of microplastics are complex but becoming better understood.⁸

~90% of sea gulls' stomachs contain plastics.⁵

Institute for European
Environmental Policy (IEEP)

Brussels Office
4 Rue de la Science,
1000 Brussels
Belgium
Tel: +32 (0) 2 737 74 82
www.ieep.eu

In 2015, 1,024,470 plastic bottles were collected in beach clean-ups across the globe.³ Compared to single use products, refillable bottles have a 50-60% smaller ecological footprint.¹⁰

What solutions are there to the problem?

Action on single use plastics – Key Examples!

- 1990-present: In Germany, the *Verpackungsverordnung* established EPR on packaging, it prioritises refillable bottles, and introduced one way deposit for PET bottles (EUR 0.25); today 98.5% of refillable bottles are returned.¹¹
- 2002: Ireland introduces plastic bag levy of EUR 0.15, increasing to EUR 0.22 in 2007. Per capita usage falls from 328 to 21 bags per year.¹²
- 2015: EU introduces Directive (2015/720) on the consumption of lightweight plastic carrier bags.
- 2016: The City of Hamburg introduces Green Public Procurement (GPP) rules banning municipal use of coffee capsules, single use bottles and utensils.¹³
- 2016: France announces bans on single use plastic bags (from 2017) and single use plastic cups, cutlery and plates (from 2020).¹⁴

How does this link to the circular economy package?

The EU Action Plan for the Circular Economy (COM/2015/614) offers the potential to help reduce the scale and impacts of marine litter, including single use plastics, while increasing the value of materials in the EU economy. Plastic based single use items should be considered in the Commission's forthcoming strategy on plastics in the circular economy, in line with its commitments to address marine litter. Additionally, the Commission is committed to creating incentives for better product design through provisions on extended producer responsibility. Waste legislation which encourages reuse, coupled with objectives to reduce landfilling, as well as foot-printing and whole life costing, will force us to reconsider our current everyday behaviour, presenting both a socio-economic and environmental opportunity.

Policy recommendations

- Prioritise action on single use plastics in the EU Plastics Strategy through **extended producer responsibility** and **improved product design to reduce risks from single use plastic packaging**.
- Encourage wider use of instruments that have been proven to work – e.g. **bottle deposit refund schemes** in Germany and **plastic bag taxes** in Ireland.
- Legislate to avoid the use of single use products in all sectors, particularly where they are avoidable, including coffee capsules, wet wipes, and razor blades.
- Fast-track the full **implementation of existing legislation such as the Waste Framework Directive, Water Framework Directive, and Directive on lightweight carrier bags** Promote the use of **monetary based instruments for other common marine litter products**. For example encourage the use of **deposit refund schemes for beverage containers, plastic bag taxes, and the use of GPP**, learning lessons from best practice across the EU.
- **Invest in waste management at critical locations** including ports, beaches and cities, and ensure regular collection services for both recyclable and residual waste.
- Raise **consumer awareness** of the impacts of marine litter and options for substitute products, to help change consumption and littering habits that risk burdening the marine environment.
- Develop **clear guidance** on the use of biodegradable or oxo-fragmenting plastics, both of which can entail important impacts as marine litter (entanglement and ingestion).¹⁵

1. Velis C.A. (2014). Global recycling markets - plastic waste: A story for one player – China. Report prepared by FUELogy and formatted by D-waste on behalf of ISWA, Vienna. https://www.iswa.org/fileadmin/galleries/Task_Forces/TFGWM_Report_GRM_Plastic_China_LR.pdf
2. Plastics Europe (2015) Plastics – the facts 2015. Available online (accessed 21st September 2016): http://www.plasticseurope.org/documents/document/20151216062602-plastics_the_facts_2015_final_30pages_14122015.pdf
3. Ocean Conservancy (2016) 30th Anniversary International Coastal Clean Up – Annual Report. <http://www.oceanconservancy.org/our-work/marine-debris/2016-data-release/2016-data-release-1.pdf>
4. UNEP (2014) Valuing Plastics: The Business Case for Measuring, Managing and Disclosing Plastic Use in the Consumer Goods Industry.
5. Wilcox, C; Sebille, EV; Hardesty, BD (2015) Threat of plastic pollution to seabirds is global pervasive, and increasing. PNAS 112(38).
6. World Economic Forum (2016) The New Plastics Economy: Rethinking the future of plastics. http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf
7. Watkins, E. et al., 2016 (forthcoming). Marine Litter: Socio-Economic study, Brussels: A report by IEEP for UNEP
8. UNEP (2016) Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change. UNEP, Nairobi.
9. Jambeck, J., et al. 2015. Plastic waste inputs from land into the ocean. Science 437(6223): 768-771.
10. Detzel, A; Giegrich, J; Kruger, M; Mohler, S; Ostermayer, A. (2004) Ökobilanz für PET-Einwegsysteme unter Berücksichtigung der Sekundärprodukte. Endbericht. IFEU Heidelberg. [https://www.ifeu.de/oeobilanzen/pdf/LCA%20 fuer%20PET%20Einwegsysteme%20erstellt%20 fuer%20PETCORE%20\(Sept%202004\).pdf](https://www.ifeu.de/oeobilanzen/pdf/LCA%20 fuer%20PET%20Einwegsysteme%20erstellt%20 fuer%20PETCORE%20(Sept%202004).pdf)
11. Zero Waste Europe (2010) Beverage Packaging and Zero Waste.: <https://www.zerowasteurope.eu/2010/09/beverage-packaging-and-zero-waste/>
12. Dept. of Housing, Planning, Community and Local Government. (2014) Plastic Bag Levy. Dublin. <http://www.housing.gov.ie/environment/waste/plastic-bags/plastic-bag-levy>
13. Hamburg (2016) Leitfaden für umweltverträgliche Beschaffung der Freien und Hansestadt Hamburg (Umweltleitfaden). Hamburg. <http://www.hamburg.de/contentblob/4672386/data/umweltleitfaden.pdf>
14. LOI n° 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte (1) NOR: DEVX1413992L. <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000031044385&categorieLien=id>
15. UNEP 2015 Biodegradable Plastics and Marine Litter. Misconceptions, concerns and impactson marine environments. United Nations Environment Programme (UNEP), Nairobi. <http://www.unep.org/ppa/documents/publications/BiodegradablePlastics.pdf>

USEFUL LINKS

UNEP Valuing Plastics Report:
www.unep.org/pdf/ValuingPlastic/

WEF New Plastics Economy Report:
http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf

Eunomia Plastics in the Marine Environment:
<http://www.eunomia.co.uk/reports-tools/plastics-in-the-marine-environment/>

Ocean Conservancy – Ocean Trash Index:
<http://www.oceanconservancy.org/our-work/international-coastal-cleanup/2016-ocean-trash-index.html>

Economics of Marine Litter – Springer Open:
http://link.springer.com/chapter/10.1007%2F978-3-319-16510-3_14#page-1

Institute for European
Environmental Policy (IEEP)

London Office
11 Belgrave Road,
IEEP Offices, Floor 3
London, SW1V 1RB
Tel: +44 (0) 20 7799 2244
Fax: +44 (0) 20 7799 2600
www.ieep.eu



IEEP



@IEEP_eu