

Plastic Pollution Info Sheet, Feb 2018

Overview

- Plastics have become the ubiquitous workhorse material of the modern economy combining unrivalled functional properties with low cost. Today nearly everyone, everywhere, every day comes into contact with plastics especially plastic packaging. ([Ellen MacArthur Foundation, 2017](#))
- Plastic is a valuable resource and plastic pollution is an unnecessary and unsustainable waste of that resource. ([Plastic Oceans Foundation - The Facts, 2017](#))
- An estimated 8300 million metric tons of virgin plastics have been produced to date. As of 2015, approximately 6300 million metric tons of plastic waste had been generated, around 9% of which had been recycled, 12% was incinerated, and 79% was accumulated in landfills. ([Roland Geyer, 2017](#))
- More than 40 years after the launch of the first universal recycling symbol, only 14% of plastic packaging is collected for recycling. When additional value losses in sorting and reprocessing are factored in, only 5% of material value is retained for a subsequent use. Plastics that do get recycled are mostly recycled into lower-value applications that are not again recyclable after use. The recycling rate for plastics in general is even lower than for plastic packaging, and both are far below the global recycling rates for paper (58%) and iron and steel (70–90%). In addition, plastic packaging is almost exclusively single-use, especially in business-to-consumer applications. ([Ellen MacArthur Foundation, 2016](#))
- An overwhelming 72% of plastic packaging is not recovered at all: 40% is landfilled, and 32% leaks out of the collection system — that is, either it is not collected at all, or it is collected but then illegally dumped or mismanaged. ([Ellen MacArthur Foundation, 2016](#))
- The well-hidden accumulation of litter on the deep ocean floor could also explain why we still don't know where 99% of the marine plastic litter ends up. ([Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, 2017](#))
- Plastic packaging volumes are expected to continue their strong growth, doubling within 15 years and more than quadrupling by 2050. ([Ellen MacArthur Foundation, 2016](#))
- More than 40 years after the launch of the first universal recycling symbol, only 14% of plastic packaging is collected for recycling. When additional value losses in sorting and reprocessing are factored in, only 5% of material value is retained for a subsequent use. Plastics that do get recycled are mostly recycled into lower value applications that are not again recyclable after use. ([Ellen MacArthur Foundation, 2016](#))
- Over 90% of plastics produced are derived from virgin fossil feedstocks. This represents, for all plastics (not just packaging), about 6% of global oil consumption, which is equivalent to the oil consumption of the global aviation sector. If the current strong growth of plastics usage continues as expected, the plastics sector will account for 20% of total oil consumption and 15% of the global annual carbon budget by 2050. ([Ellen MacArthur Foundation, 2016](#))
- 40% of plastic products are discarded within a year. ([Plastic Oceans Foundation - The Facts, 2017](#))
- The UK is one of the biggest users of plastic in Europe and makes up 7.7% of the plastic demand for the 28 European countries (behind Germany 24.9%, Italy 14.3%, and France 9.6%). ([The Royal Society, 2016](#))
- Plastic litter can be found at all depths of the water column, from surface to ocean floor, at all latitudes, including within Arctic ice. ([Plastic Oceans Foundation - The Facts, 2017](#))
- In recent years, concern has grown over microplastics (particles up to 5 mm in diameter, either manufactured or created when plastic breaks down). Their ingestion has been widely reported in marine organisms, including seabirds, fish, mussels, worms and zooplankton. ([UN Environment - Biodegradable plastics are not the answer, 2016](#))
- UNEP Executive Director Achim Steiner said, “Recent estimates from UNEP have shown as much as 20 million tonnes of plastic end up in the world’s oceans each year. Once in the ocean, plastic does not go away, but breaks down into microplastic particles. This report shows there are no quick fixes, and a more

responsible approach to managing the lifecycle of plastics will be needed to reduce their impact on our oceans and ecosystems.” (UN Environment - Biodegradable plastics are not the answer, 2016)

- The largest source of plastic packaging (UK) is the grocery retail sector, accounting for almost 1 million tonnes (or 43%) of plastic packaging arising in 2014 (Table 2). Rigid plastic packaging accounts for around two-thirds of plastic packaging arising from the grocery retail sector. (WRAP, 2016)
 - Bioplastics compete for land with biofuels and food crops. About 200,000 tonnes of bioplastics were produced last year, requiring 250,000-350,000 tonnes of crops. The industry is forecast to need several million acres of farmland within four years. (The Guardian, 2008)
 - [...] some items, such as plastic shopping bags supplied for groceries, may be labelled as ‘biodegradable’. However, it is quite possible that the item will only degrade appreciably in an industrial composter (section 3.1). Such polymers will not ‘biodegrade’ in domestic compost heaps or if left to litter the environment. This lack of clarity may lead to behaviours that result in a greater degree of littering. (Kershaw, 2015)
 - Concern is mounting because the new generation of biodegradable plastics ends up on landfill sites, where they degrade without oxygen, releasing methane, a greenhouse gas 23 times more powerful than carbon dioxide. (The Guardian, 2008)
 - No local authority is collecting compostable packaging at the moment. (The Guardian, 2008)
-

Sources:

Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research. (2017). Litter levels in the depths of the Arctic are on the rise. *Science News*, <https://www.sciencedaily.com/releases/2017/02/170210130949.htm>.

Ellen MacArthur Foundation, W. E. (2016). *The New Plastics Economy, Rethinking The Future of Plastics*. Ellen MacArthur Foundation.

Ellen MacArthur Foundation, W. E. (2017). *The New Plastics Economy, Catalysing Action*. Ellen MacArthur Foundation. Retrieved from <https://newplasticseconomy.org/report-2017>

Kershaw, D. P. (2015). *Biodegradable Plastics and Marine Litter. Misconceptions, concerns and impacts*. UN Environment Programme.

Plastic Oceans Foundation - The Facts. (2017). Retrieved from Plastic Oceans Foundation: <https://www.plasticoceans.org/the-facts/>

Roland Geyer, J. R. (2017). *Production, use, and fate of all plastics ever made*. *Science Advances*.

The Guardian, V. J. (2008). 'Sustainable' bio-plastic can damage the environment. UK: The Guardian.

The Royal Society. (2016). *UK plastic waste in the ocean ends up in the Arctic*. Retrieved from Royal Society: <https://royalsociety.org/news/2016/07/uk-plastic-waste-in-the-ocean-ends-up-in-the-arctic/>

UN Environment - Biodegradable plastics are not the answer. (2016). Retrieved from <http://www.unenvironment.org/news-and-stories/story/biodegradable-plastics-are-not-answer-reducing-marine-litter-says-un>

WRAP. (2016). *Plastics Market Situation Report*. WRAP. Retrieved from Wrap.