

Plastics 101: what you need to know about plastic in the environment



Increasing problem: plastic waste poses a serious threat to marine life CREDIT: GETTY

- Michael Marshall

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How much plastic do we make, how much of it do we throw out, where does it all end up and what does it mean for the environment?

Plastics are amazing. We have been mass-producing them for only about a century, and yet they have transformed almost every aspect of our lives.

Because they are so versatile, they are used to make everything from mobile phones and toys to spacesuits. Our lives would be poorer without them.

But now plastics have become a problem. Mismanagement and inappropriate disposal have resulted in millions of tonnes of plastic waste escaping into the oceans, posing a serious threat to marine life, littering beaches and threatening everything from fisheries to tourism.

Microplastics, tiny fragments of larger pieces that have broken down, have been found in fish, with the risk they could enter the human food chain. As yet, it is not clear whether that could be harmful.

Plastic scales

The global plastics industry has grown steadily for decades. In 2015, 322 million tonnes of plastics were produced. The UK is a fairly small player. According to the British Plastics Federation, in 2015 the country produced just 1.7 million tonnes – still a huge figure.

The amount of plastic produced to date is incredible. A study published in 2017 estimated that globally 8.3 billion tonnes of plastics have been made so far. Every year a huge amount of that is thrown away, much of it single-use, such as plastic bottles, or food packaging going straight into the bin.



Throwaway culture: much of the plastic produced is single-use CREDIT: GETTY

According to a World Bank report last year, in 2016 the world created 242 million tonnes of plastic waste. Compare that with the 335 million tonnes of plastic made that year, and it is clear that we are disposing of around two-thirds of the plastic we make.

Of this huge volume of waste plastic, just 9pc has been recycled, 12pc has been incinerated and the remaining 79pc is either in landfill or in the environment.

Ocean plastics

While only a small fraction of plastic waste ends up in the ocean, according to a 2015 calculation, it still measures around eight million tonnes every year. Factor in the

additional plastic that is likely to be carried to the sea by large rivers from further inland and the figure could rise to 10 million tonnes.

It has been claimed that 55pc to 60pc of all the plastic that reaches the ocean comes from just five nations: China, Indonesia, the Philippines, Thailand and Vietnam. According to a 2017 report for the Ocean Conservancy, taking action in these five countries could reduce the amount of plastic reaching the sea by 45pc by 2025.



Concerning trend: thousands of turtles die because of plastic debris CREDIT: GETTY

China has made huge strides, says waste management expert David Wilson. “In 2005, they said that 52pc of municipal solid waste went to controlled facilities,” he says. “By 2015 that figure was 94pc.” Other countries now need to follow its example: Indonesia in particular is struggling.

Chris Cheeseman, of Imperial College London, says: “The issue is that two billion people on the planet don’t have access to an appropriate waste management system but they are still being sold, and use, plastic items.”

In many countries, the waste infrastructure is seriously lacking: rubbish is not properly collected or managed appropriately. People simply throw waste plastic into rivers and other water bodies, and it is likely to end up in the oceans.

The consequences for marine wildlife are now well known. A study in 2017 found that thousands of turtles die every year after becoming entangled in plastic debris. Last November, a sperm whale was found dead off the coast of Indonesia. It is unclear why it died, but it had 6kg (more than 13lb) of plastic in its stomach, including drinking cups, bags and flip-flops.



Worrying case: a sperm whale was found to have over 13lb of plastic in its stomach CREDIT: GETTY

A problem shared

While it would be easy to point to individual nations as “main offenders” for contributing to ocean plastics, the oceans are all connected, so it’s a global problem. Furthermore, the complexities of the global supply chain mean that many other nations and multinational corporations have the potential to make widespread positive change.

In January, a group of organisations in the plastics chain launched the Alliance to End Plastic Waste (AEPW). “Everyone agrees that plastic waste does not belong in our oceans or anywhere in the environment,” says David Taylor, chairman of the board, president and chief executive of Procter & Gamble (P&G), and current chairman of the AEPW.

At the launch event, World Business Council for Sustainable Development (WBCSD) chairman Peter Bakker emphasised that no company could solve the plastics crisis alone. “We need to create an infrastructure to share solutions and transfer them across the world quickly,” he said, “partnering with cities and governments to put them into action.”



Come together: businesses are being urged to solve the plastics crisis collectively CREDIT: GETTY

P&G has already made significant progress in reducing the overall amount of plastic it uses and increasing the amount of recycled plastic in its products' packaging. Last year it made 320,000 bottles of Fairy washing-up liquid entirely from recycled plastic and ocean plastic, as well as producing its Head & Shoulders shampoo bottles from reclaimed beach plastic.

Such projects keep the value of plastic in the economy and are a step towards a circular economy for plastic, whereby reuse and recycling will be far more widespread. P&G is working towards this goal in its sustainability plan Ambition 2030, which aims to ensure all its packaging worldwide is recyclable or reusable by 2030.

In the UK the company has also signed up to the UK Plastics Pact, which aims to have all plastic packaging reused, recycled or composted by 2025.

At the World Economic Forum in Davos in January 2019, it also joined Loop, a circular e-commerce platform developed by recycling company TerraCycle.

Loop is a potentially game-changing project in which several products will be sold in reusable packaging in a range of materials: consumers will pay a deposit for the packaging, which is repaid when they return it. Such "deposit return schemes" already operate in countries such as Denmark, where they have helped cut plastic waste.

Such partnerships as Loop and AEPW point to a more positive future for plastics, which concentrates on the materials' longevity as a boon for reuse and recycling, and gives it an economic value while reducing its environmental cost.

Ocean plastic is a scourge upon sealife and shoreline communities. From bags choking turtles and whales to the microplastics within seafood, our seas demand urgent change.

Telegraph Spark and Procter & Gamble are working together to champion efforts to reduce plastic waste and help all businesses clean up their act and our oceans. To find out more, visit tgr.ph/pandg