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⟫ How can we stop plastic waste from polluting the oceans?

One Pager

Plastic waste is changing our world: it can now be found even at the poles and in the deep sea, and it is endangering ecosystems. It has already affected over 800 species, including sea turtles, whales and birds. They mistake plastic for food or get caught in old nets. And (micro)plastics have found their way onto human tables through fish and other sea creatures – with consequences that are as yet unclear. What is clear, however, is that marine waste is a complex problem that will get worse over the next few years. So what can be done to combat it?

Plastic in the oceans

Over the last 70 years, plastic waste has become a global problem. Plastic production has multiplied several times over, from 2 million tonnes in 1950 to 348 million tonnes in 2017. The increase in production comes with an increase in waste. Only around 70% of the plastic produced is collected and less than 15% is recycled. Large quantities end up in the environment and in the oceans. At present, between 5 and 13 million tonnes of plastic waste leak from the land into the sea each year. The majority of this marine plastic waste consists of non-durable packaging such as film, bags, bottles and composite beverage cartons.

Breaking the Plastic Wave

The "Breaking the Plastic Wave" study published last year models multiple scenarios for marine plastic pollution between 2016 and 2040 (see graph) and evaluates their impact on the economy, the environment and society.

In the "**B**usiness-**a**s-**U**sual" scenario, the amount of plastic waste created each year worldwide would double to 420 million tonnes by 2040. This would see an average of 50kg of plastic per metre of

coastline flowing into the sea each year, and the total amount in the ocean would quadruple.

In light of increasing public awareness of the problem, industry and governments are already making isolated attempts to respond with new legislation and voluntary initiatives. However, these efforts do not go far enough and would only lead to a minimal reduction in marine waste leakage relative to the "Business-as-Usual" scenario.

The modelling clearly shows that the plastic wave cannot be broken with single-solution strategies – recycling, collection or reduction. If, for example, one focused solely on closing the collection gap, this would require connecting about 500,000 people to adequate collection and disposal services per day, every day, until 2040 – primarily in low and middle-income countries and in semi-urban and rural areas. A simply impossible task with limited efficacy: using this strategy, it would only be possible to hold plastic leakage into the oceans at roughly its current level until 2040.

A paradigm shift is needed – and fast

What is needed is a comprehensive change in the system, whereby a global and concentrated effort is made to direct

both investment and political instruments towards reducing plastic production, replacing plastic with environmentally friendly materials, expanding waste collection services and using improved product design and increased rates of recycling to create a circular plastics economy. This way, existing solutions and technologies could be used to ensure that, within 20 years, 80% less plastic finds its way into the oceans relative to the "Business-as-Usual" scenario.

This strategy would also save costs; by 2040, governments would need to spend up to USD 70 billion less on plastic waste management overall. Furthermore, in low and middle-income countries, around 700,000 additional jobs would be created and annual plastic-related greenhouse gases would decrease by 25% by 2040. However, time is of the essence; delaying implementation of systemic change by just five years would mean a further 80 million tonnes of plastic ending up in the sea.■

Land-based plastic leakage under different scenarios
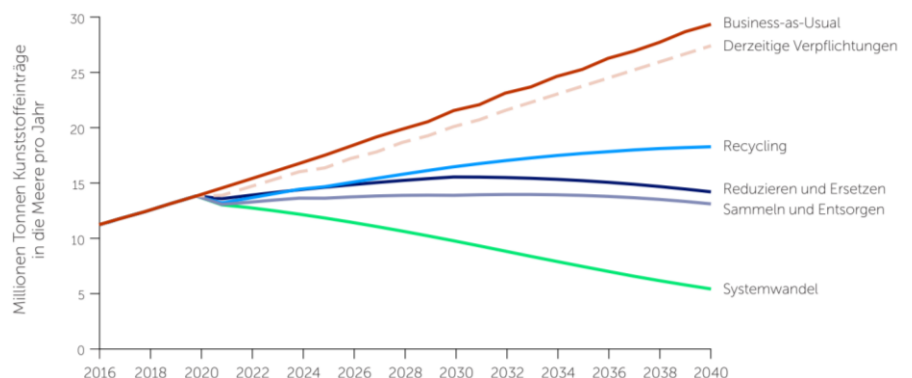
Source: 2020 The Pew Charitable Trusts. "Breaking the Plastic Wave. A comprehensive assessment of pathways towards stopping ocean plastic pollution". Page 21.

Note: This paper reflects the opinion of the authors and does not necessarily represent the position of KfW.