



Where does plastic go?

Background reading for teachers

This reading gives you the background for each slide, with sources you can check.

How much plastic

The OECD's Global Plastics Outlook estimates that 460 million tonnes of plastic were produced in 2019, and 353 million tonnes of plastic waste were generated. Only 9% was recycled. About 1.7 million tonnes flowed into the ocean that year.¹ The last number is small compared with production, but plastic builds up in the sea year after year.

Rivers

A 2021 model of river plastic emissions estimated that more than 1,000 rivers account for about 80% of the plastic rivers carry into the ocean, and that small rivers flowing through coastal cities matter far more than was thought. The Pasig River was the top-ranked single river outfall, and seven of the top ten rivers were in the Philippines.² These are model estimates, so treat the ranking as a strong indication rather than an exact count.

Sachets

A 2019 waste audit by the Global Alliance for Incinerator Alternatives (GAIA), carried out by Mother Earth Foundation in 21 cities and towns, estimated that Filipinos use more than 163 million plastic sachets, 48 million shopping bags and 45 million thin film bags every day. The average Filipino was estimated to use 591 sachets a year.³

Plastic lifetimes

The charts showing a plastic bottle lasting 450 years or fishing line 600 years are everywhere, but researchers who reviewed 57 such infographics found no credible scientific source for the values, and all 37 that mentioned fishing line gave the same 600 years.⁴ Plastic does persist for a long time, but how long depends on the type of plastic and where it ends up.

Sources

1. OECD (2022). Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options. oecd.org
2. Meijer, L.J.J. and others (2021). More than 1000 rivers account for 80% of global riverine plastic emissions into the ocean. *Science Advances* 7: eaaz5803.
3. GAIA (2019). Plastics Exposed: how waste assessments and brand audits are helping Philippine cities fight plastic pollution. no-burn.org
4. Ward, C.P. and Reddy, C.M. (2020). We need better data about the environmental persistence of plastic goods. *PNAS* 117(26): 14618-14621.

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