

Saving the ocean from plastic waste

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An estimated eight million metric tons of plastic waste leaks into the ocean every year. Action in just five countries could stem that tide.

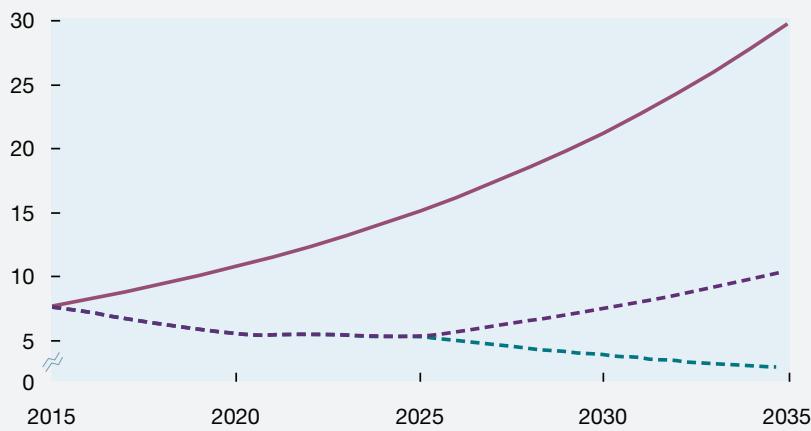
The amount of unmanaged plastic waste entering the ocean has reached crisis levels. On current trends, the global quantity of plastic in the ocean could nearly double to 250 million metric tons by 2025¹—or one ton of plastic for every three tons of fish. Yet a collective response by ocean states, especially by the handful of Asian countries with particularly high volumes of unmanaged plastic waste, could almost halve this total, mitigating the mounting environmental and economic damage (exhibit).

Exhibit

Without sustained action, the amount of plastic leaking into the ocean will increase dramatically.

Annual plastic-waste leakage into the ocean,
millions of tons

- Business as usual
- - Unsustained intervention
- - - Sustained intervention



¹ Jenna R. Jambeck, Roland Geyer, Chris Wilcox, Theodore R. Siegler, Miriam Perryman, Anthony Andrade, Ramani Narayan, and Kara Lavender Law, "Plastic waste inputs from land into the ocean," *Science*, February 13, 2015, Volume 347, Number 6223, pp. 768–71, sciencemag.org.

This is the critical finding of a joint report by the Ocean Conservancy and the McKinsey Center for Business and Environment, *Stemming the tide: Land-based strategies for a plastic-free ocean*. Our comprehensive investigation found that more than 80 percent of ocean plastic comes from land-based sources rather than ocean-based sources such as fisheries and fishing vessels. Of that 80 percent, three-quarters comes from uncollected waste, and the remainder from leaks from within the waste-management system itself.

Critically, our research found that more than half of the plastic leaking into the ocean comes from just five countries: China, Indonesia, the Philippines, Thailand, and Vietnam. As an immediate priority, we believe there is an opportunity to reduce plastic-waste leakage by 65 percent in these five countries—resulting in a 45 percent reduction globally—through measures including closing leakage points within the collection system, increasing waste-collection rates, using a variety of technologies to treat waste, and manually sorting high-value plastic waste.

Our report identified six cornerstones of a concerted program to stem global plastic-waste leakage:

1. obtaining real and meaningful commitments from national governments, governors, and mayors to set and achieve ambitious waste-management targets
2. providing local “proofs of concept” for integrated waste-management approaches in a number of carefully selected pilot cities
3. building a best-practice transfer mechanism of global expertise to high-priority cities
4. ensuring required project-investment conditions are in place
5. facilitating technology implementation by equipping technology providers with detailed data
6. bringing leadership and a strategic focus on solutions as part of the global policy agenda on the ocean

The total cost of implementing measures to reduce plastic-waste leakage is estimated at \$5 billion a year and would, to a significant degree, be covered by existing commitments to build waste-management systems. Additional funding requirements could be met through typical project-financing mechanisms involving the public, private, and multilateral sectors.



Plastic-waste leakage is an enormous (and unintended) consequence of our attempt to provide a better material existence to millions of people through a constant series of innovations. But no one feels untouched by the sight of ocean litter, its impact on fauna, and the facts emerging research has brought to light. We believe there is a path forward that can generate significant benefits to communities, preserve the bioproductivity of the ocean, and de-risk industry. The time to act is now. □

Download the full report on which this article is based, *Stemming the tide: Land-based strategies for a plastic-free ocean*, on [mckinsey.com](#). This work was led by the Ocean Conservancy and the McKinsey Center for Business and Environment, with the report being a signature initiative of the Trash Free Seas Alliance.