

# New research confirms plastic production is directly linked to plastic pollution

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Volunteers with Greenpeace Indonesia record data on branded plastic waste during a brand audit in Jakarta, Indonesia on January 20, 2024. Credit: Ezra Acayan, Break Free From Plastic, 2024

A research paper [published](#) in *Science Advances* reveals a direct correlation between plastic production and plastic pollution, such that every 1% increase in plastic production is associated with a 1% increase in plastic pollution in the environment.

The study finds that fast-moving consumer goods companies disproportionately contribute to the problem more than household and retail companies. The study marks the first robust quantification of the global relationship between plastic production and pollution.

The research, led by scientists from a dozen different universities in the United States of America, Australia, the Philippines, New Zealand, Estonia, Chile, Sweden, Canada, and the United Kingdom, found that 56 global companies are responsible for more than half of all branded [plastic pollution](#).

The Coca-Cola Company was responsible for 11% of branded waste, followed by PepsiCo (5%), Nestlé (3%), Danone (3%), and Altria/Philip Morris International (2%). The top companies identified produce food, beverage, or tobacco products.

The five-year analysis used [#BreakFreeFromPlastic brand audit](#) data from 1,576 audit events across 84 countries. Brand audits are citizen science initiatives in which volunteers conduct waste clean-ups and document the brands found on the pollution collected. Over five years, more than 200,000 volunteers submitted data through Break Free From Plastic or 5 Gyres' TrashBlitz app.

The strong relationship between plastic production and pollution, across geographies and widely varying waste management systems, suggests that reducing plastic production in the fast-moving consumer goods

sector is a viable solution to curb global plastic pollution. As world leaders negotiate a Global Plastics Treaty at INC-4 this month in Ottawa, Canada, this research serves as a tool to support a high-ambition legally binding treaty that includes provisions on corporate accountability, prioritizing plastic production reduction measures, and promoting reuse and refill systems.

"When I first saw the relationship between production and pollution, I was shocked. I wanted to throw up, it was the reality of my worst nightmare. It means that producers big and small are toeing the line, despite all the things big brands say they are doing, we see no positive impact from their efforts. But on the other hand, it gives me hope that fast-moving consumer goods companies reducing their plastic production and shifting towards more durable and reusable products would have a strong positive impact on the environment," said Win Cowger, Research Director, The Moore Institute for Plastic Pollution Research.

"Our study underscores the critical role of corporate accountability in tackling plastic pollution. We, as individuals, are not responsible for the plastics crisis; the onus lies on these 56 global companies to take decisive action. I urge world leaders at INC-4 to listen to the science, and to consider the clear link between plastic production and pollution during negotiations for a Global Plastics Treaty," said Dr. Lisa Erdle, Director of Science & Innovation, The 5 Gyres Institute.

"This scientific study affirms what activists and communities impacted by plastic pollution have been saying for years: the more plastic is produced, the more plastic is found in the environment. It's that simple. Yet again, plastic polluters like The Coca-Cola Company, PepsiCo, and Nestlé continue to fail on their voluntary commitment to reduce their plastic footprint. We need a legally binding Global Plastics Treaty that mandates significant cuts in plastic production and stops corporations

from flooding the planet with [single-use plastic](#)," added Sybil Bullock, Associate Campaign Manager, Break Free From Plastic.

"The research identifies the top 56 multinational companies contributing to global branded plastic litter. Past studies have ranked countries like the Philippines, Indonesia, Sri Lanka, Bangladesh, Nigeria, etc. among the top sources of plastic waste into the ocean. This has led to a narrative in social media that blames poor countries for global plastic pollution, ignoring the fact that around the 1960s global companies flooded developing countries with cheap, single-use plastics displacing traditional biodegradable materials and sustainable reuse-refill systems which, in the case of the Philippines, dated back to the 16th century. The current study focuses instead on the role of corporations and global plastic production," said Dr. Jorge Emmanuel, Adjunct Professor and Research Faculty Fellow, Institute of Environmental & Marine Sciences, and College of Engineering & Design, Silliman University.

"This research provides the first quantification of global producer contribution to branded plastic pollution. The findings suggest that single-use packaging significantly contributes to branded plastic pollution. This data can help inform ways to address plastic production and reduce plastic waste ending up in the environment," concluded Dr. Kathy Willis, Postdoctoral Fellow from CSIRO, Australia's national science. agency

**More information:** Win Cowger et al, Global Producer Responsibility for Plastic Pollution, *Science Advances* (2024). [DOI: 10.1126/sciadv.adj8275](https://doi.org/10.1126/sciadv.adj8275). [www.science.org/doi/10.1126/sciadv.adj8275](https://www.science.org/doi/10.1126/sciadv.adj8275)

Provided by Break Free From Plastic

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