

Where your recycling actually goes—and what you can do about it this Earth Day

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Credit: CC0 Public Domain

Just 9% of all plastic waste ever created has been recycled, researchers estimate.

—Last year, the U.S. exported 74,000 shipping containers of plastic waste to low-income countries, researcher Jan Dell said.

—For decades, China was the primary destination for global plastic waste. Now more countries in Latin America are emerging as hotspots.

That plastic takeout container you toss in a [recycling bin](#)? Odds are you're actually doing little for the environment.

The packaging could end up in a landfill in the U.S. or be shipped abroad and burned. The tiny plastic particles may ultimately show up in your blood, the rain and air.

The truth is, most products put in U.S. [recycling](#) bins don't go where Americans think they do.

"Some of it is shipped to recycling. Some of it is burned. Some of it ends up in landfills and, depending on the state of the landfill, a lot of it seeps into our groundwater," said Kathleen Rogers, president of Earth Day Network.

Environmental advocates have long encouraged citizens to "reduce, reuse, recycle." But on Earth Day, many say it's important to be realistic about the global recycling industry.

"What is Earth Day all about? It's about telling people to get out there and do stuff," Rogers said. But, she added, "that only goes so far."

Here's where your recycling really goes, and what you can do about it.

'Every town will have different policies'

There's no federal recycling program in the U.S. Where your household recycling goes depends on the material, where you live and how well you practice recycling hygiene, experts said.

"Every town will have different policies," said Nilda Mesa, director of the Urban Sustainability and Equity Planning Program with Columbia University's Center for Sustainable Urban Development. "Some take nearly all types of plastics, paper, cardboard, textiles, glass, and even food for composting, while others only are able to take a few of the above categories and the rest goes to landfill."

Curbside recycling is typically collected by a private company or municipality and taken to a sorting plant—or a materials recovery facility—where marketable materials are salvaged. "In some cases, a city may make money off recycling categories such as cardboard and lose money on glass. It depends on the market," Mesa said.

Many items end up in the recycling stream that aren't recyclable, causing contamination.

"Often, householders put products into the recycling container that they 'wish' could be recycled," said Joe Pickard, chief economist for the Institute of Scrap Recycling Industries, a U.S.-based trade association.

Contamination includes products that can't be recycled, aren't accepted in a specific area or are contaminated by organic materials, such as food residue, he said.

"This contamination most often goes to the landfill," he added. It is common for facilities to have contamination rates in the 15-20% range, Pickard said

The plastics problem

Among recyclables, cardboard, paper and metal are recycled at high rates, said Jan Dell, an engineer and founder of The Last Beach Cleanup, an environmental organization.

It's plastic, which is largely made from petroleum, that wreaks havoc, she said. Just 9% of all plastic waste ever created has been recycled, researchers estimate. And the toxic material proliferated during the COVID-19 pandemic.

The U.S. generated about 292 million tons of municipal solid waste in 2018, according to the Environmental Protection Agency. About 50% was landfilled, 24% recycled, 12% incinerated and 9% composted. For plastic, less than 9% was recycled.

Plastic packaging is typically labeled with a resin identification code—that chasing arrows symbol with a number 1 through 7. Plastic items made from #1 (think soda and [water bottles](#)) and #2 (for laundry detergent and milk containers) are the most widely recyclable, experts said. Other types of plastic aren't profitable to recycle in the United States.

"Most all of plastic waste isn't safely recyclable, and it is wrecking the recycling system," Dell said.

US waste 'ping-ponging across the globe'

The U.S. produces more plastic waste than any other country and sends some abroad. These plastic exports are largely waste from consumers, as opposed to plastic scrap from making products, Dell said.

"Waste that is being generated in the United States is ping-ponging across the globe," said Claire Arkin, global communications lead for the Global Alliance for Incinerator Alternatives. "Nobody wants our plastic crap."

About half of plastic waste collected for recycling worldwide was traded internationally in 2016, a study in the journal *Science Advances* found.

That year, the U.S. exported 1.99 million metric tons of plastic scrap to 89 trade partners, with the vast majority exported to China. Of that, between 25-75% was inadequately managed in receiving countries, the study estimated.

U.S. plastic shipped to China was largely burned and dumped, Dell said.

But the game changed in 2018, when China enacted its "National Sword" policy, which banned the importation of dozens of types of solid waste and set contamination limits on recyclable materials.

In the following years, the U.S. started sending more of its plastic waste to Malaysia, Thailand, Indonesia and Vietnam, and in smaller amounts to Turkey, Ecuador, the Philippines, Bangladesh, Ghana, Cambodia and Senegal, according to a 2019 investigation by The Guardian. Malaysia, Thailand and Vietnam later restricted imports.

"Plastic pollution isn't just like an eyesore. It's a biodiversity, [human health](#), human rights issue when it comes down to it because it disproportionately targets the Global South, economically challenged communities and people of color," said Kaitlyn Trent of Greenpeace, an international environmental organization.

Now more countries in Latin America are emerging as destinations for global plastic waste, a July report from GAIA found. Each day between January and August 2020, the U.S. shipped about 35 containers of plastic waste to 15 Latin American countries. Most went to Mexico, followed by El Salvador.

The countries where it ends up—with few environmental regulations, limited water to clean plastic and no capacity to treat the chemicals—end up burning the waste and polluting the air or water, said Camila Aguilera, Latin America program advisor at GAIA.

Addressing the global plastics problem

A number of global initiatives in recent years have aimed to address the issue. An amendment to the treaty known as the Basel Convention, effective in 2021, stipulates international shipments of most plastic recyclables and waste are allowed only with the prior written consent of the importing country and any transit countries.

The U.S. is signed to the convention but has not ratified it. A recent notice from the Basel Action Network, a nongovernmental organization, warned waste trade violations remain "rampant." Some countries party to the Basel Convention continue to receive imports due to mislabeled waste or a lack of political will or customs enforcement, Arkin said.

Just last year, the U.S. exported 74,000 shipping containers of [plastic waste](#) to low-income countries that have poor waste management and high plastic pollution rates, according to Dell's analysis of U.S. export data.

But another glimmer of hope emerged earlier this year. At a recent United Nations meeting in Nairobi, representatives of nearly 200 countries agreed to create a legally binding global treaty by 2024 to end plastic pollution and address the full lifecycle of plastics.

"We're in the very beginning of the process, but it's really exciting because there's never been any kind of global treaty that addresses plastic pollution," Trent said.

What you can do this Earth Day

While the scale of the problem may feel overwhelming, there are a number of individual actions consumers can take to reduce [waste](#),

experts said.

► Avoid plastics at all costs

For starters, avoid plastic packaging and prioritize refillable and reusable containers and bags, Dell said. "Before you buy a disposable plastic item, think to yourself: How long will I use it? And where will this trash really go?" she said.

► Shop smarter

Buy and ask for recycled goods, Mesa said. Buy beverages in aluminum cans rather than plastic. Shop at vintage and used clothing venues, set up a clothing swap with friends or repair and repurpose clothing, she recommended.

► Recycle right

"Don't put your food and other trash in the recycling bin, and rinse out your recyclables," Mesa said. "Check with your town on what types of plastic they recycle, and make sure those are the ones that are going in your recycling bin by checking the bottom of the container first to find the number."

► Holding corporations, governments accountable

Most experts agreed responsibility should rest with plastic producers and regulators.

"We know that (corporations) have millions and millions of dollars to devote to research and development to figure out other delivery methods—systems of reuse and refill—that will totally eliminate the need for plastic that is not recyclable," Trent said.

Consumers should demand bans on problematic plastics and discourage municipalities from collecting [plastic](#) that can't be recycled, Arkin said.

Rogers, the president of Earth Day Network, added that "the reality is there are two other big partners here that have much more money than we do, much more knowledge and much more capacity—that's governments and corporations. It's up to them to get it right."

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