

EARTHER



GARBAGE

Recycling Is Broken



Maddie Stone
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Photo: Rob Sinclair (Flickr)



Garbage

This week, we are writing about waste and trash, examining the junk that dominates our lives, and digging through garbage for treasure.

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In Philadelphia, people like to recycle. Together, all 1.6 million of us generate about 400 tons of recyclable material each day. But since last fall, roughly half of the bottles and cans my neighbors and I have placed dutifully curbside in our blue bins every week haven't made their way to a sorting facility. They've gone to one of two waste-to-energy incinerators, where they're being burned alongside garbage.

The situation, which everyone from local residents to the company operating the trash-burning power plants seems unhappy about, is a microcosm of a crisis that's been rippling across the country ever since China, once the single-largest buyer for U.S. recyclables, banned the import of two dozen types of "foreign waste" and imposed strict quality standards on the recyclables it'll accept. Nationwide, municipalities are facing higher costs and being forced to find stopgap solutions, from incinerators to landfills, for recyclables that have nowhere else to go.

Meanwhile, the recycling industry—which operates with next to no federal guidance despite processing a quarter of America's waste—is in an existential struggle to chart a new path forward for itself.

"We're approaching a point of reckoning that we have had not to debate in the US for a long time, in terms of how we deal with our municipal solid waste and consumer recyclables," Kristina Costa, a senior fellow focused on climate change and energy policy at the Center for American Progress, told me. "If as a public policy goal we want to continue encouraging recycling, the time is basically now to have a really serious conversation about what policy changes... need to be put in place."

Most of us think of recycling as a service our city provides, but in reality it's a business. There are no national laws governing the industry, which is frequently financed by municipalities. Many cities, like Philly, work with private contractors to collect recyclables and get them sorted and cleaned at material recovery facilities. From there, the paper, cardboard, plastic, glass, and aluminum are sold as commodities to various manufacturers.

All told, U.S. recyclers process about 61 million metric tons of material a year, according to the Environmental Protection Agency. Until recently, China was a huge buyer, taking in about 16 million tons of American scrap commodities in 2016, including 60 percent of U.S. waste-paper exports. That all changed last year, when the country started rolling out strict import bans as part of a national campaign to combat pollution. In January 2018, China banned importing 24 foreign materials including mixed paper and post-consumer plastic. Two months later, it tightened its contamination thresholds for recyclable paper products not covered by the ban, including corrugated cardboard, to 0.5 percent.

The effect on the U.S. recycling business was, as one industry expert put it, like an “earthquake.” Mixed paper and plastic exports to China plunged more than 90 percent between January 2017 and January 2018, according to data compiled by the U.S. Census Bureau and the U.S. International Trade Commission. As the industry scrambled to find new buyers, prices went through the floor. Anne Germain, Vice President of Technical and Regulatory Affairs at the National Waste and Recycling Association, an industry trade group, told me that mixed paper went from selling for about \$100 a ton to a high of about \$3 a ton.

For products that weren’t outright banned, China’s new 0.5 percent contamination standard posed a daunting challenge. Today, the average U.S. recyclable load is about 25 percent contaminated. To make their commodities saleable, material recovery facilities started hiring more “pickers” and buying more equipment to remove items that shouldn’t be in the recycling, in addition to slowing down their processing lines.

“If you slow down the line, your entire throughput is gonna go down,” Germain said. “So you’re gonna process fewer tons of material. You’re getting less money [and] your costs are going up.”

Because they enjoy lower shipping costs, coastal regions were more dependent on China for their recycling, and that’s where the impacts of the new policies were felt first. But as New Yorkers and Californians scrambled to find new buyers for bales of plastic scrap and cardboard, including the domestic recyclers favored by middle America, “it became a bidding war” to get manufacturers to take inventory, Germain said. “Eventually, the whole country was impacted.”

Ultimately, the effects have rippled back to the cities which, faced with soaring costs to keep recycling afloat, have been forced to make hard choices, whether that's sending recyclables to a landfill or paring down the list of items they'll accept. Philly's situation is at-once unique and quintessential of the problems the entire country faces.



Workers sorting recyclables at a material recovery facility frequently struggle with plastic bag contamination. In this photo, bags can be seen tangling a star-wheel sorting system, preventing the proper separation of various materials.

Photo: Courtesy of Waste Management

As Scott McGrath, Environmental Planning Director at the City of Philadelphia Streets Department explained, the city was recently making good money selling its recyclables to processors, with the price peaking at \$67 a ton in 2012. By January 2018, Philly was paying its contractor, Republic Services, \$20 a ton to continue *taking* recycling. By the summer, that figure had jumped to \$40 a ton. When the city started trying to renegotiate its contract, which expired in September, Republic Services asked for \$170 a ton to keep recycling.

“That was just not doable from a financial standpoint,” McGrath told me.

And so, Philly made arrangements to pay Waste Management \$78 a ton to take half its recyclables, and to send the other half to waste-to-energy company Covanta, which accepts the city's trash for about \$63 a ton, according to McGrath. In October 2018, recyclables started getting mixed in with the solid waste getting trucked to two Covanta-owned incinerators, one in Chester City and another in Plymouth.

The city chose burning recyclables over landfilling because the former produces energy and allows metals to be recovered and recycled, McGrath said. James Reagan, Director of Corporate Communications at Covanta, said the plants' systems can be adjusted to accommodate different waste streams and that the change hasn't impacted its ability to keep the two facilities compliant with their air quality permits.

Still, the Reagan acknowledged that the situation is "not ideal."

"We strongly believe source separated materials should be recycled," he said, noting that the introduction of more plastic and paper to the waste stream means the facilities are processing less waste to generate the same amount energy, which is ultimately bad for business.

McGrath emphasized that incineration is a "stop gap measure while we work on a longer term contract," something he's hopeful the city will finalize this spring. "Somewhere between March and April we'll have that contract awarded and get things back to where we were," he said. "Where we have a processor handling all the recycling."

But McGrath also pointed to systemic changes that are going to have to happen—not just in Philly, but all over the country—for the industry to fully recover.

"One, communities like Philadelphia are going have to generate cleaner material that is more marketable," he said, adding that the city will be focusing more of its efforts on educating residents about what can and cannot be recycled. McGrath said if Philly can convince residents to stop tossing plastic bags in the recycling bin, that alone would be a big deal.

Germain said public education was something the recycling industry as a whole had let slide over the years. "We were more about encouraging recycling than saying stop doing this or that," she said. This, combined with the widespread adoption of single stream, has made the public increasingly enthusiastic about throwing everything in their blue bins, resulting in a lot of what Costa calls "aspirational recycling", or attempting to recycle garbage.

"Once you start saying more and more materials are acceptable, it seems that a lot of people start to think everything is acceptable," Germain said, adding that the increased complexity of packaging today compared with a few decades ago has only added to the confusion.

While a better educated public would translate to a cleaner, more profitable recycling stream, there's also a desperate need for new manufacturers to fill the China-shaped void. McGrath said that beefing up domestic paper recycling would make a "huge difference." Encouragingly, that's already starting to happen: Several U.S. and foreign companies, including a few from China, are beginning to purchase and upgrade old paper mills, according to Germain.

Still, it could take years for these facilities to come online, and even when they do it's unlikely they'll completely replace the lost markets overseas. Which is why the big lesson many sustainability advocates see in the China dilemma is a need to overhaul our throwaway culture.

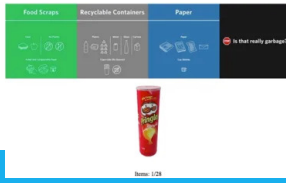
"We need to move toward zero waste," Mike Ewall, the founder and director of the Energy Justice Network, told me. Ewall called out pay-as-you throw schemes, where residents get charged based on how much waste they generate, and curbside composting programs, as important tools for making that happen.

For Philadelphia, waste reduction is "going to be a much bigger part of the picture" going forward, according to McGrath. Like many other U.S. cities, Philly is now working toward a zero waste future, with a goal of diverting 90 percent of its trash and eliminating litter by 2035. McGrath said that so far, a lot of the city's efforts have been focused on the litter reduction part of the equation, but he expects to see waste elimination efforts ramp up soon.

Recycling won't go away. But cities are facing a very real possibility that it may not be a profitable venture again for a long time. McGrath said he couldn't see Philly making money recycling "anytime in the near future" although he's hopeful that some of the most volatile prices, like that of paper, stabilize in the next year or two.

In the meantime, finding creative ways to reuse those old jars and boxes might be as good for your city's bank account as it is for the planet.

Correction: This article has been corrected to note that Philadelphia started paying Waste Management and Covanta to accept its recyclables last fall, not selling its recyclables to them.



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Maddie is the Managing Editor at Earther, yo.

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