



*Pearl Pai holds a bag of sorted recyclables that she was unable to deposit at her local recycling center. Photograph: Hardy Wilson/The Guardian*

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United States of Plastic

## Americans' plastic recycling is dumped in landfills, investigation shows

*Consumers' efforts to be eco-friendly go to waste as many communities find themselves with nowhere to send their refuse*

by [Erin McCormick](#) and [Charlotte Simmonds](#) in San Francisco, [Jessica Glenza](#) in New York, and [Katharine Gammon](#) in Los Angeles

A sign on an upside-down dumpster spelled the end of Pearl Pai's long romance with plastics recycling.

For years, Pai and her family generated almost no trash. She carefully washed, sorted and bagged

hard-to-recycle items and drove them two towns over from her home in Berkeley, California, to the area's best recycling center.

But on a gray morning in late May, when she pulled up with a bag of flimsy plastic clamshell-

style containers, yogurt tubs and meat trays, the sign informed her that, “due to poor market conditions”, these items would no longer be accepted for recycling.

This is a reality that millions more Americans will have to adjust to.

A Guardian investigation reveals that cities around the country are no longer recycling many types of plastic dropped into recycling bins. Instead, they are being landfilled, [burned](#) or stockpiled. From Los Angeles to Florida to the Arizona desert, officials say, vast quantities of plastic are now no better than garbage.

The “market conditions” on the sign Pai saw referred to the situation caused by China. Once the largest buyer of US plastic waste, the country shut its doors to all but highest-quality plastics in 2017. The move sent shockwaves through the American industry as recyclers scrambled, and often failed, to find new buyers. Now the turmoil besetting a global trade network, which is normally hidden from view, is hitting home.

“All these years I have been feeling like I’m doing something responsible,” said Pai, clearly dumbstruck as she walked away with a full bag. “The truth hurts.”

In total, only about half (56%) of the plastic waste that America once exported is still being accepted by foreign markets in the wake of China’s ban. This week, [the Guardian revealed](#) that what still goes overseas is inundating countries including Vietnam, Turkey, Malaysia and Senegal. But much of what remains has nowhere to go.

Analysis of US export records shows that the equivalent of 19,000 shipping containers of plastic recycling per month, once exported abroad, is now stranded at home. This is enough plastic to fill 250 Olympic swimming pools each month.



*Pai recently learned that her recycling center would no longer accept much of what she used to bring. Photograph: Hardy Wilson/The Guardian*

As municipalities are forced to deal with their own trash instead of exporting it, they are discovering a dismaying fact: much of this plastic is completely unrecyclable.

The issue is with a popular class of plastics that people have traditionally been told to put into their recycling bins – a hodgepodge of items such as clamshell-style food packaging, black plastic trays, take-out containers and cold drink cups, which the industry dubs “mixed plastic”. It has become clear that there are virtually no domestic manufacturers that want to buy this waste in order to turn it into something else.

Take Los Angeles county, the most populous in America. The Guardian has learned that

recycling facilities are separating “mixed plastics” from those plastics which still retain value – such as water bottles, laundry detergent bottles and milk jugs – and, contrary to what customers expect, sending them directly to a landfill or incinerator.

Los Angeles county public works estimates that in 2018, the county sent more than half a million tons of plastic to four different landfills, and nearly 20,000 tons of plastic to its waste-to-energy incinerator. And it appears that many other recyclers are doing exactly the same thing.

“Mixed plastics is a broad category that could consist of everything from car bumpers to five-gallon buckets or yogurt containers,” said Habib Kharrat, a supervising engineer for the sanitation districts of Los Angeles county, which serve some cities and unincorporated areas. The recycling business depends on someone being willing to buy the materials that recyclers are selling. Right now, Kharrat said, “it does not appear that there are any local or foreign markets” for mixed plastics, and that what is collected in residential recycling bins and processed at his organization’s facilities is sent for disposal.

Q&A

### What is mixed plastic?

Coby Skye, the assistant deputy director of environmental programs at LA county public works, confirmed this, blaming China’s decision to no longer accept the lowest-value plastics. “In the past, recycling facilities would focus on separating plastics with the most value, but most other plastic items would go into a mixed plastic bale. Then China put a stop to those mixed plastic bales. Essentially, they labeled those bales garbage that they were no longer going to purchase at any price.”

Skye and Kharrat emphasized that the situation was not unique to Los Angeles. “From what we’re hearing from our colleagues, what’s

happening in Los Angeles county is representative of what is happening all over the US and all over the state as a result of these international policies,” said Skye.

The China ban revealed an uncomfortable truth about plastic recycling, Skye said: much of this plastic was never possible to recycle at all.

“[China] would just pull out the items that were actually recyclable and burn or throw away the rest,” he said. “China has subsidized the recycling industry for many years in a way that distorted our views.”



*While plastic bottles still retain value, many other types of plastic have virtually no domestic market. Photograph: Brendan Smialowski/AFP/Getty Images*

### An unfolding crisis

With virtually no domestic recycling options for a sizable portion of the plastic the public tries to recycle, those watching closely speak of an industry in crisis.

“Most people have no idea that most plastic doesn’t get recycled,” said John Hoyer, the Oceans Campaign Director for Greenpeace USA, referencing a study which found that [just 9% of all plastic ever produced](#) has been recycled. “Even though they are buying something that they only use for a few seconds before putting it in the recycling bin, they think it’s OK because they believe it is being recycled.”

Commenting on the situation in Los Angeles and elsewhere, he said: “There’s no question that the No 3,4, 6 and 7 plastics are going into landfills and incinerators. We have a huge problem.”

It’s not just big cities that are struggling to cope. In some rural communities, where city budgets are tight and transportation costs high, the shift in market forces has been too much to bear. Once, they could make money selling recycling. Now they have to pay people to take it off their hands.

In Cochise county, home to 130,000 in Arizona’s south-east desert, the cost of recycling plastic “went through the roof” in recent years, said Peggy Judd, the council chair. As a result, the county is now landfilling all of its plastic waste, even opening a new section in its landfill to handle more.

“It’s a lot less expensive for us to put our plastics in our landfill,” said Judd. “We can’t afford to sort them, truck them, and pay for someone to take them.”

Nearby Nogales, Arizona, is not having much luck either. “We’re right now landfilling it,” said Kurt Wahl, the general manager of Tucson [Recycling](#) & Waste, a private company that handles Nogales’ waste. He said he had tried to find another local contractor to take the recycling but had received an exorbitant quote. “Then they’re landfilling it afterwards, so it’s going to the landfill anyway.”



*Bales of recycling in Maine. Photograph: Portland Press Herald/Press Herald via Getty Images*

From coast to coast, a similar crisis is unfolding:

- Monterey County and the city of El Cerrito, both in California, have stopped accepting mixed plastics, local officials said.
- In Boulder, Colorado, the local not-for-profit recycling organization is stockpiling the roughly 16 tons of mixed plastics it receives each month, in hopes that some kind of domestic market will return. “Honestly, one of the options on the table is to stop taking these things,” said Kate Bailey, program director for the recycler, Eco-Cycle.
- The recycler for Minneapolis and Saint Paul, Minnesota, Eureka Recycling, has never taken most mixed plastics, because it saw no market. Even so, it has seen a major revenue drop and had to lay off workers because of the China crisis.
- Residents of Bullhead City, Arizona, will soon have to “opt-in” to curbside recycling and pay for the service, an official said.
- The town of Sierra Vista, Arizona, is ending curbside recycling altogether. “I’m hearing a lot of disappointment ... People loved the blue bin program,” said Sharon Flissar, the city’s director of public works. “Some people had heard about the China situation. For them it was very distant, until it hit home.”

- County officials in Honolulu are pushing to burn recyclables in a local incinerator, arguing it is too expensive to pay to ship them somewhere. So far, local environmentalists have resisted the idea. “The idea we bring all this stuff in and then burn up more fossil fuels to send it halfway across the world is problematic by itself,” said Rafael Bergstrom, the executive director of Sustainable Coastlines Hawaii, but he said the idea of incineration was even worse.

A waste executive from Republic Services, one of the country’s largest garbage haulers, which serves more than 2,800 communities and has 91 recycling centers, said that one-third of everything collected by recycling trucks went to disposal because it was either contaminated, too small to be sorted or not actually recyclable.

“The industry is now underwater in the recycling business because those markets are so disrupted, and China is not going to come back,” said Richard Coupland, vice-president of municipal sales. “It’s going to be this way for a sustained period of time.”

Despite the challenges, a handful of wealthy cities with sophisticated technology said they had been able to find foreign markets for mixed plastic. In San Francisco and Seattle, recyclers can extract items from the waste stream that meet China’s new cleanliness standards, and thus can still be exported.



*Santa Monica prides itself on being a green city.*

*Its only recycling center recently shut down. Photograph: stellalevi/Getty Images*

## Losing access to recycling

Santa Monica bills itself as a green city, with over 100 miles of bikeways and a plan to become carbon neutral by 2050. Yet even here, environmentalism is hitting a wall.

The Santa Monica community recycling center, the only one on the west side of Los Angeles, was in many ways a recycling success story. Residents could come here to redeem their plastic bottles – which still have a stable market – for cash, along with aluminum cans and glass bottles. Anti-waste advocates say this helped keep recycling rates high, diverted waste from landfills and the nearby ocean, and provided a vital source of income for homeless and low-income residents.

But on 15 June, [the center closed down](#) after the city failed to renew its contract, in large part because of financial difficulties and market volatility in the wake of China’s move. While curbside recycling will remain, the decision to shut down an outlet that helped incentivize recycling has been met with bitter disappointment, and it marks a troubling trend of communities losing access to their recycling options.

“The City of Santa Monica has spent millions of dollars over the years to keep Santa Monica Bay clean and free of plastics,” said Susan Collins, executive director of the Container Recycling Institute, at a press conference about the facility’s closure. “The closure of this facility will likely lead to an increase in beverage container litter on Santa Monica’s streets and beaches, and ultimately into the Santa Monica Bay.”

Just days before the closure, a group of demonstrators wielding colorful signs gathered outside City Hall to voice their anger. Chants of “Keep it open! Keep it open!” rang through the late afternoon air.



*Recycling activists protest outside Santa Monica City Hall this month. Photograph: Dan Tuffs/The Guardian*

Diego Alzaga, a retired veteran, said he topped up his monthly pension of \$492 by cashing in bottles and cans, sometimes getting as much as \$33 per trip. Hauling his items to the next closest recycling center, seven miles away, was out of the question, he said, because of the difficulty of taking large amounts of recycling on the bus.

At a city council meeting that night, protesters waited until almost midnight for a chance to express their dismay. “I have been passionate about recycling since the 60s, when you didn’t get money and it was just the right thing to do,” said Dorothea Orgo, a longtime resident. “When I came to Santa Monica 40 years ago, I was so thrilled that this was a green city.” Now, she said, she was deeply disheartened.

## Holding manufacturers responsible

Americans continue to throw away millions of tons of plastic each year, even as they run out of ways to dispose of it. Anti-waste advocates say it is time to put responsibility on the corporations who make plastic.

Mark Murray is the president of the anti-pollution advocacy group Californians Against [Waste](#). His *bête noire* is mixed plastics; California alone puts more than 60,000 tons of

them in bins every year, according to Murray’s analysis of California waste studies and EPA data. He said that tonnage has jumped more than 1,000% since 1990, as manufacturers pump out plastic to wrap everything from aspirin bottle tops to asparagus.

“We created the notion that this stuff was being recycled, so the public kept buying it,” he said. “But most mixed plastics are simply not being recycled.”

His organization believes manufacturers should pay towards the costs of recycling such materials, and that it would cost just a penny per item.

The idea of manufacturers contributing is hardly unprecedented. In Canada, a program already requires manufacturers to pay for the recycling of their products and packaging, and also incentivizes them not to use hard to recycle packaging in the first place.



*Workers sort paper and plastic waste at in Hillsboro, Oregon, in 2017 – the year China changed its recycling policies. Photograph: Natalie Behring/Getty Images*

In the US, regulation may be needed to force industry’s hand. California lawmakers are considering a set of bills that would dramatically cut the amount of single-use plastic [the state sends to landfill](#) and set ambitious targets for manufacturers to make their products recyclable or compostable by 2030.

“We have to ask the manufacturers, who are putting out this low-grade stuff, to pay to have it recycled,” said Heidi Sanborn of the California Product Stewardship Council, which works to have manufacturers take responsibility for end disposal of their products. Her organization recently helped establish a carpet recycling program in California to require the carpet industry to pay for the collection and recycling of plastic carpet fiber. She would like to see similar programs for all plastic packaging.

For now, though, it seems that consumers, rather than big business, will have to bear the cost.

For Pearl Pai’s family in Berkeley, that wake-up call has meant re-thinking dozens of everyday decisions.

“I’m being a lot more thoughtful about what I buy and what I eat,” said Pai, who now carries an extra food container and bags for produce in her purse. “I’m trying not to order too much at restaurants. I’m trying to buy more bulk foods and getting my meat from the butcher instead of getting those plastic trays. I want to do something better for the environment.”

*Do you have feedback or insight on this story?*

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