

HEADWAY

Can Plastic Recycling Ever Really Work?

Many plastics that carry the “chasing arrows” symbol, like soda cups and yogurt tubs, are rarely recycled. A new California law is raising the bar.

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Many plastics, including films, bags and yogurt containers, are not widely recycled. Molly Matalon for The New York Times

By Susan Shain
Susan Shain traveled to California and spoke to more than a dozen recyclers, industry representatives, environmental activists and plastics experts for this story.

Sept. 1, 2023

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Jan Dell is a collector. But instead of art or action figures, she collects what she calls “bad plastic containers.” She is a connoisseur and a completist: Her specimens include lids from oatmeal canisters, cups from fast-food joints, cleaners wrapped in shrink sleeves, and many, many Amazon mailers. Each carries the familiar “chasing arrows” recycling symbol; none, she believes, will ever be recycled.

Since 2018, when she gave up her career as a chemical engineer, Ms. Dell has run a one-woman nonprofit, [the Last Beach Cleanup](#), from her home in the hills of Orange County. Her obsessive efforts to end what she calls “the recycling myth” have led to a legal

to find what she calls “the recycling myth” and led to a legal settlement forcing Coca-Cola, Clorox and other companies to modify some of their recycling labels.

Ms. Dell also headed an advisory committee that pushed for a landmark truth-in-labeling law in California. Starting in the fall of 2025, that law will [prohibit companies from placing recycling symbols](#) on products that are not widely recycled in the state. Yogurt tubs could be among them. So could baby food pouches. And takeout containers. And coffee cup lids.



As founder of the Last Beach Cleanup, Jan Dell has pressed for more accurate recycling labels on plastic containers. Molly Matalon for The New York Times

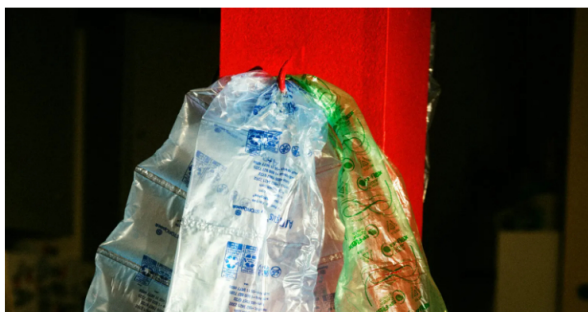
In many parts of the country, only plastic bottles and jugs stamped with a 1 or 2 — like those used for soda, milk and detergent — are reliably recycled. Much of the rest ends up in landfills or polluting the world’s waters and shores. The United Nations estimates that humans produce [400 million tons of plastic waste](#) every year.

While accurate labeling may seem a paltry response to this onslaught, Ms. Dell argues that it is one of the most effective ways to curtail waste. [More than a third](#) of the world’s plastic is used for packaging. And [many of the largest makers of consumer goods](#) have promised their packaging will be 100 percent recyclable, reusable or compostable by 2025. Ms. Dell’s hope is that if companies have to acknowledge that they aren’t meeting those criteria, they will switch to more sustainable materials. “When they fully admit, oh, we’re selling plastic trash,” she said, “then that will motivate them to make changes.”

Many manufacturers, reluctant to give up the cheap, long-lasting and versatile material, see it differently. They argue that the focus should not be on what currently isn’t recycled, but instead on what *could* be recycled, if only enough money were devoted to educating consumers and expanding infrastructure.

So California’s labeling law is also shining a light on a bigger question: When it comes to sustainable packaging, what does progress look like — investing in making more plastic recyclable? Or investing in alternatives to plastic?

The great label debate



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Ms. Dell collects plastic products and their labels, including this bubble wrap. Molly Matalon for The New York Times



How2Recycle labels offer guidance — like “check locally” — on whether packaging is recyclable. Molly Matalon for The New York Times

The now-familiar chasing arrows symbol proliferated in the late 1980s and early '90s, when the plastics industry successfully lobbied nearly 40 states to require it on most plastic products. According to [an investigation by NPR and “Frontline,”](#) the industry knew most plastic would not be recycled. The industry says the numbers were solely meant to help recyclers sort different types of plastics, but the chasing arrows surrounding them became a de facto, if fallible, marker of recyclability to consumers.

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In recent years, industry-funded initiatives have developed new kinds of labeling. [How2Recycle](#), which is funded by membership fees from manufacturing giants like Walmart, Procter & Gamble, Target and Amazon, generates labels used by more than a third of the consumer packaged-goods industry. Those labels offer guidance on whether packaging is recyclable — and if it is, instructions on how to prepare it, like “rinse and replace lid.”

How2Recycle claims it is helping consumers recycle more effectively. But Ms. Dell [and others](#) suggest that some of the organization's labels encourage people to believe certain plastics can be reprocessed when they can't.



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No material sets off this argument more than polypropylene, the plastic marked with a 5 and commonly used for yogurt tubs and margarine containers. Three years ago, How2Recycle [downgraded its polypropylene label](#), telling consumers it wasn't recycled in all communities. Then, last summer, it changed the label back to “widely recyclable.”

The decision to revert the designation came after the Recycling Partnership, another industry-funded group, gave [\\$6.7 million](#) to recycling facilities to expand their acceptance and sorting of polypropylene. The group now estimates that more than half of recycling facilities in the United States accept and sort the material.

Paul Nowak, the executive director of How2Recycle's parent organization, sees this as a success story. “It shows the progress in

organization, sees this as a success story. “It shows the program is working because we downgraded it and then the industry got busy and started doing grants and building back up their system,” he said.

But Ms. Dell says that even if more facilities accept polypropylene, that doesn’t mean they are selling it for reprocessing and reuse; it is more likely going into a landfill or overseas. The Environmental Protection Agency estimates that just [2.7 percent of polypropylene containers and packaging](#) was reprocessed in 2018. The Recycling Partnership says its investment, which has now grown to [\\$10.3 million](#), could eventually increase that amount by 42 million pounds per year, but that is still only about 1 percent of the polypropylene produced for containers and packaging in the United States.

While Keefe Harrison, chief executive of the Recycling Partnership, acknowledges that little polypropylene is being turned into new material right now, she argues that more investment in sorting and reprocessing facilities would improve the chances. Polypropylene recycling is at a “tipping point,” she said, noting that Oregon is considering including polypropylene on a [forthcoming list of recyclable materials](#) that municipalities are required to collect, sort and sell.

This more expansive, “if only” definition of recyclability is a common industry refrain. “Why say, because it can’t be recycled today, we should stop claiming it to be recyclable,” said Matt Seaholm, president and chief executive of the Plastics Industry Association, “when we actually can invest and improve the infrastructure to get to where it needs to be?”

Part of the debate is what it means to recycle. In a [recent memo](#), the E.P.A. recommended that a material be marketed as recyclable only if it has a “strong end market,” meaning it’s sold at a price that’s higher than what it would cost to simply throw it away. The chasing arrows symbol, the agency said, “does not accurately represent recyclability, as many plastics (especially 3-7) do not have end markets and are not financially viable to recycle.” The agency did note, however, that a growing number of recycling facilities are accepting polypropylene.

Judith Enck, a former E.P.A. official and the founder of [Beyond Plastics](#), notes that while recycling centers can accept all kinds of plastic, sorting the myriad types and then cleaning and refashioning each into new materials is a different matter. Contrary to the plastics industry’s claims, she argues that no amount of money could meaningfully expand plastic recycling beyond No. 1 and No. 2 bottles and jugs. “Plastic recycling only exists in the minds of public relations agencies that are promoting plastics,” she said.

One reason: chemistry. Unlike paper, glass or aluminum, plastics are incredibly diverse. Each type of plastic has its own mix of resins, colors and toxic chemicals. A hard-plastic orange laundry detergent jug and a clear squeezable ketchup bottle “can never get recycled together,” Ms. Enck said, because the resulting material would be useless. Even green No. 1 bottles cannot be recycled with clear No. 1 bottles.

Jeff Donlevy, general manager of [Ming’s Recycling](#) in Hayward, Calif., compared plastic to cheese: Although most cheeses are made from milk, as most plastics are made from fossil fuels, he said, “you just can’t melt all that cheese down again and recreate a new cheese that somebody likes.”

Even when plastic can be reprocessed, it is more expensive than making it new. With new plastic, Mr. Donlevy explained, you don’t have to deal with “paper or glass shards or dirt or food waste” or other contaminants. So there’s little incentive for manufacturers to stop using cheap virgin plastic.

Ms. Dell supports recycling No. 1 and No. 2 plastics and she would welcome the industry's help to improve their recycling rates, which hover at just [30 percent](#). As she put it, the companies could say: "1s and 2s bottles and jugs, that's it, that's all that's ever been recyclable. And now we're going to work on making that better."

"But they won't," Ms. Dell said. "They maintain that it's all recyclable, because why? The plastics industry wants to sell bags. They want to sell forks. They want to sell foam cups."

'We can make such progress'



Ms. Dell hopes that under the new law, manufacturers will be forced to shift to materials that are reusable or actually recyclable. Molly Matalon for The New York Times

Under California's new [truth-in-labeling law](#), polypropylene — and all other plastics — will qualify as recyclable only if two criteria are met: 60 percent of Californians have access to a recycler that accepts and sorts the material, and 60 percent of the state's recyclers have access to a facility that reprocesses it.

The California Department of Resources Recycling and Recovery, or CalRecycle, is now studying which materials are picked up by recyclers — and where they're ending up. Once the agency releases its findings next year, companies will have 18 months to change their labels. Manufacturers of single-use packaging and single-use food service products, like cups and utensils, will also face pressure from California's [new extended producer responsibility law](#), which gives them until 2032 to make their products recyclable or compostable.

Because California is such a large part of the U.S. economy, the combined impact of these laws will probably be felt across the country, said [Heidi Sanborn](#), who was chair of the recycling commission that encouraged them. Companies are "already calling and talking to packaging manufacturers, saying, 'Oh my gosh, I don't think No. 6 is going to work anymore,'" she said. "And they're not going to do that just for California."

The plastics industry could certainly push back against CalRecycle's findings. But if the California law works as Ms. Dell hopes, she said, manufacturers will be forced to shift to materials that are reusable or actually recyclable. She's a fan of paper because its production isn't the result of fossil fuel extraction, because it can be composted or recycled, and because to her knowledge, she said, "a paper straw has never killed a sea turtle." Ms. Dell pointed out that [Healthy Choice](#) already offers some frozen meals in [paper bowls](#), and that Starbucks uses [paper to-go lids](#) in France, which [banned single-use plastic cups and plates in 2016](#).

"We can make such progress," she said, "once we get past this idea that single-use plastics could someday be recyclable."

What's Your Relationship to Recycling?

What lessons do you take away from this story?*

0 words

Tell us about your relationship with recycling.*

- I'm a consumer who regularly pursues methods to reduce waste
- I'm a consumer who occasionally pursues methods to reduce waste
- I'm a consumer who doesn't pursue methods to reduce waste
- I'm a professional and waste is part of my work

Why did you choose that answer?

0 words

What questions do you have about reducing waste?

0 words

Anything else we should know?

0 words

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If we publish your submission, we may include your name.

What is your email address?*

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Susan Shain is a reporting fellow for [Headway](#), a section of The Times that explores the world's challenges through the lens of progress. [More about Susan Shain](#)

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