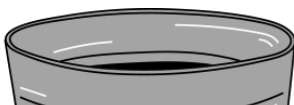
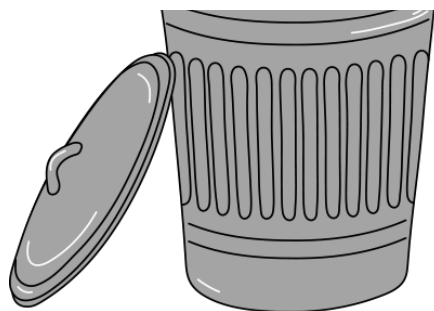
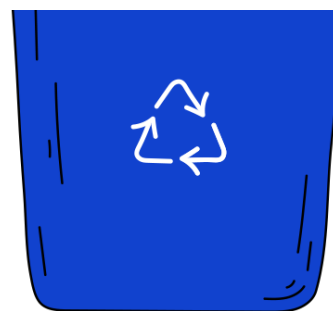


Trash or Recycling? Why Plastic Keeps Us Guessing.

Did you know the ♻️ symbol doesn't mean something is actually recyclable? Play our trashy garbage-sorting game. Then, read on about how we got here, and what can be done.

👉 Drag each item where you think it belongs



**Trash****Recycling**

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The universal symbol for recycling, known as the “chasing arrows” logo, is stamped on so many things. But that doesn’t mean they’re recyclable.

Manufacturers can print the logo on just about any product. That’s because its main purpose isn’t to say whether it’s recyclable, but to identify the type of plastic it’s made from. (For example, if there’s a “3” in the center, it’s PVC, which most curbside recycling programs don’t accept.) The logo is so widely misunderstood that last year California banned its use on things that aren’t recyclable.

There are efforts to improve the system. But first, the central question:

Why is this so hard?

The rules are confusing.

The unhelpful symbol is just one aspect of a recycling system that is far too confusing to be broadly effective. It puts the burden on individuals to decode a secret language — to figure out not only whether a thing is recyclable, but also if their local recycling program actually accepts it.

For reasons like these, only a small proportion of recyclable plastics actually get recycled.



This system largely leans on us consumers to do the right thing. But it's easy to get tripped up by the details.



Take those numbers, for example, the ones in the center of the symbol. There are seven types (here's the [full list](#)).

Items marked 1 and 2 are widely recyclable in the United States, and about 30 percent ends up being recycled, according to the Environmental Protection Agency. Type 5 is also accepted by a growing number of curbside recycling programs. But other numbers — particularly for soft plastics like shopping bags, snack bags or resealable sandwich bags, generally labeled 4 — are not accepted in curbside programs. And category 7 is a catch-all for various plastics, so it's almost never recycled.

Pete Keller, vice president of recycling and sustainability at Republic Services, one of the largest recycling companies in the United States, said a general rule of thumb was this: Rigid plastic packaging goes in the recycling. Anything that isn't rigid doesn't.

"We like to say, if it's got a cap and a neck, or if it's a tub with a lid, put it in the recycling bin," he said. "And make sure that it's empty, clean, and dry."

But you're not done yet. Even if you sort everything perfectly, but then put the sorted plastics in an opaque bag to be picked up, you may have just wasted the effort. That's because using opaque bags (which make it difficult to see what's inside) can result in entire bags being thrown out instead of recycled.

Overall, only an estimated 9 percent of all plastics ever manufactured has been recycled, according to the United Nations Environment Program. The rest? Nearly 80 percent has ended up in landfills or dumps, or in the natural environment, with the remainder being burned, releasing emissions that contribute to pollution and global warming.

"We don't recycle enough plastic, plain and simple," said Patrick Krieger, vice president of sustainability at the Plastics Industry Association. And though recycling rates were edging up globally, particularly for certain types of plastic, "there is so much more we need to do," he said. "The industry is constantly innovating to increase the recyclability of the products we make and including more recycled content at a record pace."

It's undeniable that plastics have made daily life more convenient, affordable and, in some cases, safer. Plastic has even helped in efforts to slow climate change: lightweight plastic auto parts have made vehicles more fuel-efficient, and plastic packaging can require less energy to produce and transport than alternatives like glass or metal.

Still, the world also has a huge plastic waste problem. And the problem is bigger than you.

Every town is different.

Even if people do everything right — decipher the numbers in the chasing arrows symbols, then sort their garbage — there's not always a nearby facility to take it. That's because recycling is handled at the local level, and every town might have different policies or procedures. And some places might not recycle at all. In recent years, amid Covid and growing difficulties finding buyers for plastic waste, some local governments have halted recycling programs.

Even when there is a facility that technically accepts certain items, that doesn't mean everything will get recycled.



For instance, the plant might not be able to find buyers, so plastics pile up in bales with nowhere to go.



And of course, the process of sorting can result in all kinds of problems.

Facilities use various technologies to quickly sort through mountains of recycling, including optical scanners that can detect different types of plastic. But these tools aren't perfect. Scanners can have difficulty detecting flat items or reading darker colors, such as those black to-go containers.

Plastic that can be recycled is shredded, melted and turned into pellets. The pellets typically get used to manufacture products of a lower quality or value, like polyester for carpets — a practice known as “downcycling.”

The rest may end up being sent to landfills, or burned in incinerators or shipped abroad, ostensibly to be recycled there. But in reality, often it is simply dumped.

That happens for many reasons: It can be difficult to recycle plastics other than types 1 and 2. Even if something can technically be recycled, there's often no market for the material. It's sometimes cheaper to just make new plastic. And there's currently not much incentive for companies to use recycled content.

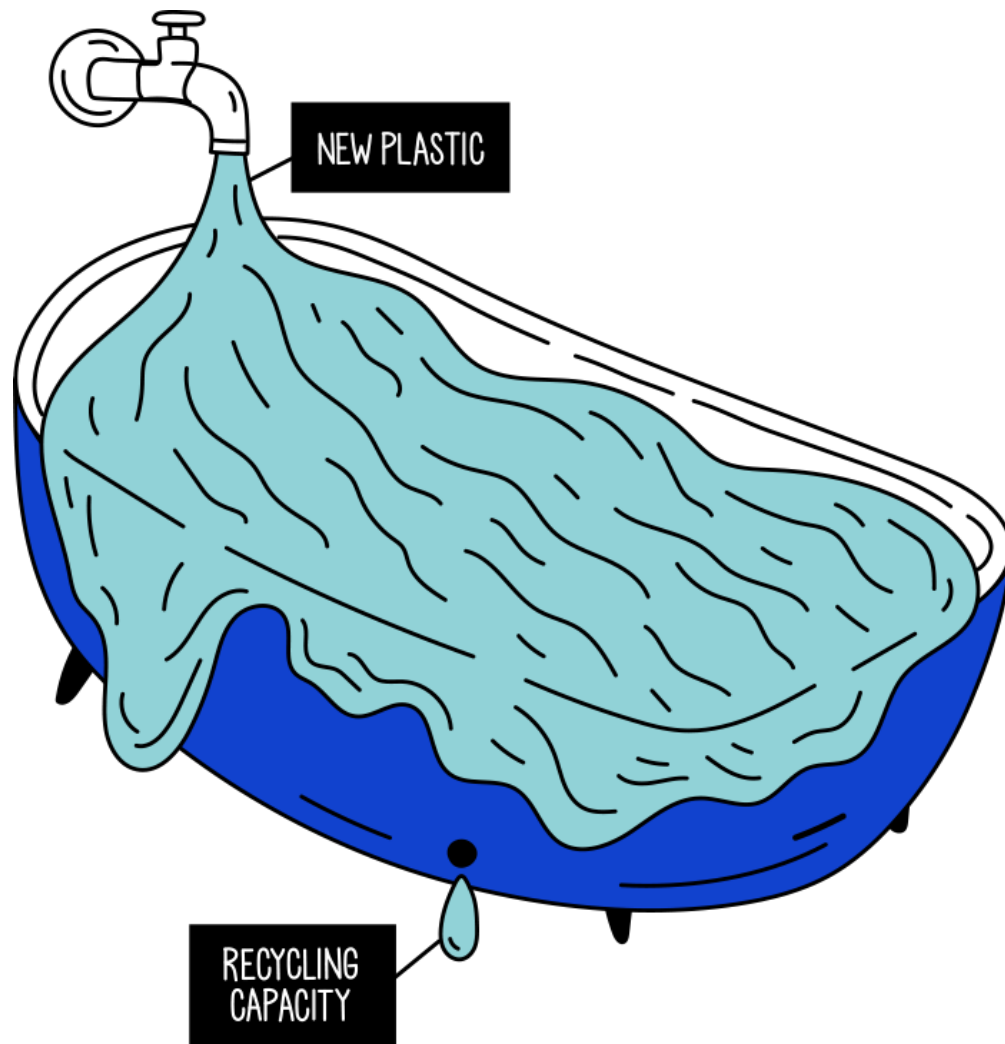
To make things worse, people often “wish-cycle,” a type of aspirational recycling where people optimistically throw things into the bin that don’t belong there. Things like chip bags, bubble wrap and, yes, dirty diapers. The immense effort of weeding out the unrecyclables makes the whole process more inefficient.

No doubt about it: We are bad at recycling, and the recycling ecosystem isn’t great, either. But the worst part of the plastics problem is the scale of it.

New plastic keeps coming.

The world is producing plastic at an explosive rate.

Since 1960, plastics production has surged almost 100-fold. By one measure, the weight of all plastic ever produced is now greater than all land and marine animals combined. On top of that, more than half of plastic products are designed to be used only once, according to the United Nations. Think hotel shampoo mini-bottles, single-use tooth-flossing picks, all those at-home Covid tests.



And once discarded, plastic hangs around for centuries, breaking into ever smaller particles that spread far and wide and can carry toxic substances. These microplastics have been found in drinking water, in table salt, in rainfall, and, recently, in human blood.

Underpinning the surge has been the abundant global supply of oil and gas, the raw materials for plastics. As the world tries to combat climate change by burning fewer fossil fuels, plastic is set to become an increasingly important business for oil and gas companies.

Producing the plastic itself creates planet-warming greenhouse gases and other pollutants. In 2015, plastics created 4.5 percent of global greenhouse gas emissions, one recent study estimated, or more than all the world's airplanes combined.

Plastic makers have promoted recycling as a way to justify continued production, said Carroll Muffett, who heads the Center for International Environmental Law. "But in reality, only a tiny fraction of those plastics

are economically recyclable,” he said. “You can’t recycle your way out of this problem.”

How did we get here?

The earliest plastics weren’t meant to be disposable. In fact, in the early 1900s, they were hailed as a more sustainable replacement for scarce natural resources, like tortoise shells, ivory, and animal horns, widely used back then to make things like eyeglasses and combs.

Strong, lightweight and flexible, plastic (a word that originally meant “easily shaped or molded”) went on to transform modern life, making many inventions possible: transistor radios, polyester clothing, cell phones, medical advances. In a matter of decades, plastic made all manner of household goods and appliances widely and cheaply available, helping to create the consumer economy.

But by midcentury, the industry began seizing on a strategy that put plastic production into even higher gear: single-use plastics. Manufacturers saw it as a way to boost sales almost infinitely as people threw things away and then bought more.

The future of plastics lies “in the trash can,” Lloyd Stouffer, the editor of Modern Packaging magazine, said at an industry conference in 1956.

That caused a new problem: Too much trash.

Some politicians began proposing things like bans on single-use products. But many of the bills failed under industry pressure.



Instead, plastics makers lobbied governments to take a different approach: Curbside recycling, funded by taxpayers.



Changes like these, in the latter half of the 20th century, benefited corporations in several ways. Consider soft-drink makers. Before plastic, they used glass bottles, which were valuable enough for companies to pay

to collect, clean and re-use. A switch to a cheaper plastic material meant drink makers could now keep churning out new bottles instead of collecting used ones.

To cope with the mounting trash, cities and counties set up curbside recycling programs. The burden of collecting and recycling the plastic bottles came to rest with taxpayers.

It was around this time that industry-funded television ads, like the famous 1970s one in which a Native American character sheds a tear amid a littered landscape, helped drive the message home: Individuals bore responsibility for keeping America trash-free and beautiful. In the 1980s, the plastics industry adopted the “chasing arrows” to promote recycling.

Eventually more of this waste ended up being exported to countries like China. But in 2017, China said it would no longer accept the world’s plastic trash. Since then, more plastic has been sent to countries like Malaysia, Thailand and Vietnam. Or else it has simply been landfilled or burned. The world’s rivers and oceans, too, are littered with plastic waste.

What can be done?

If recycling alone can’t fix things, what can be done? Many solutions are being tested.

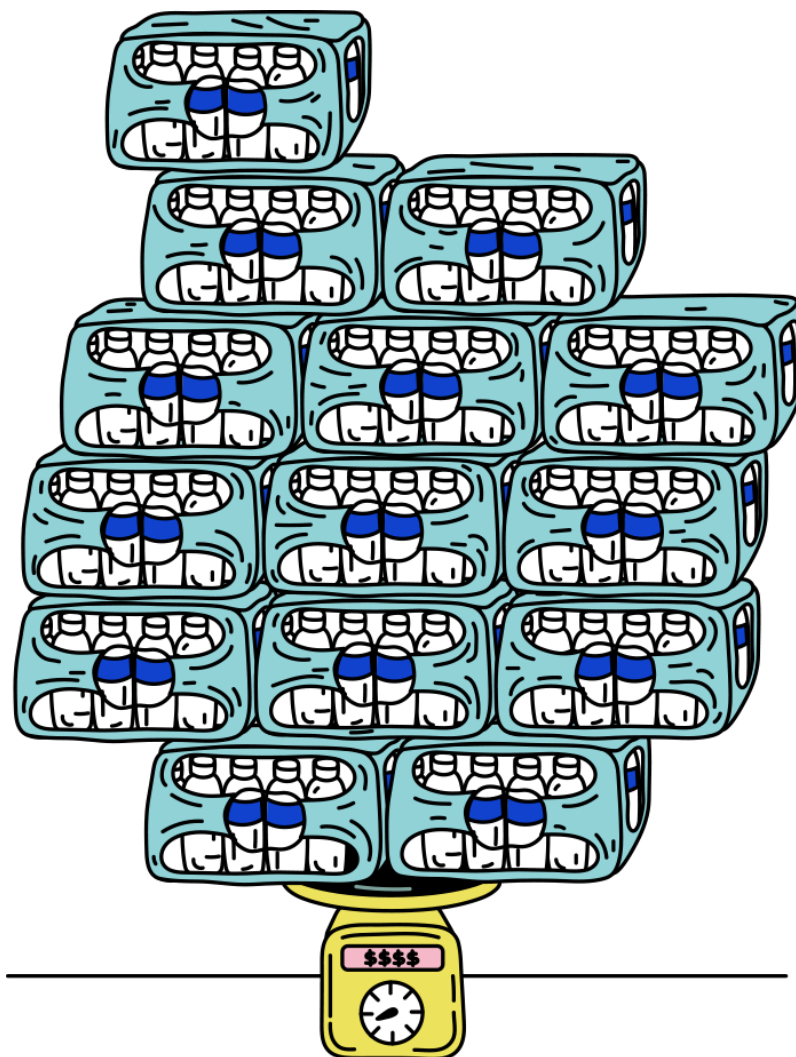
Shift responsibility to companies.

One idea that has been gaining ground in the United States is a type of law known as “extended producer responsibility.”

These laws would mean that, rather than taxpayers footing the recycling bill, producers would be charged a fee, which would pay for recycling programs.



Fees would be based on things like the weight of the packaging, the ease of recycling or whether it contains toxic substances like PFAS.



Regulations like these might also give companies an incentive to redesign their products to be more recyclable. Last year, Maine and Oregon passed producer responsibility laws, two of nearly a dozen states that introduced bills.

These laws are important because “there’s only so much that you can do, as an individual, in an American grocery store” to make choices that would reduce plastic waste, since many products aren’t recyclable, said Judith Enck, a former E.P.A. regional administrator and founder of Beyond Plastics, which advocates for better plastic policies.

Rethink the ‘chasing arrows’ symbol.

California’s decision to restrict the symbol’s use is widely seen as a milestone. It could be a model for other states or the federal government to crack down on misleading recycling claims, supporters say.

Tougher rules could also give companies an incentive to make their products more recyclable. And better awareness on what is, and isn't, truly recyclable could lead to better choices on the part of consumers.

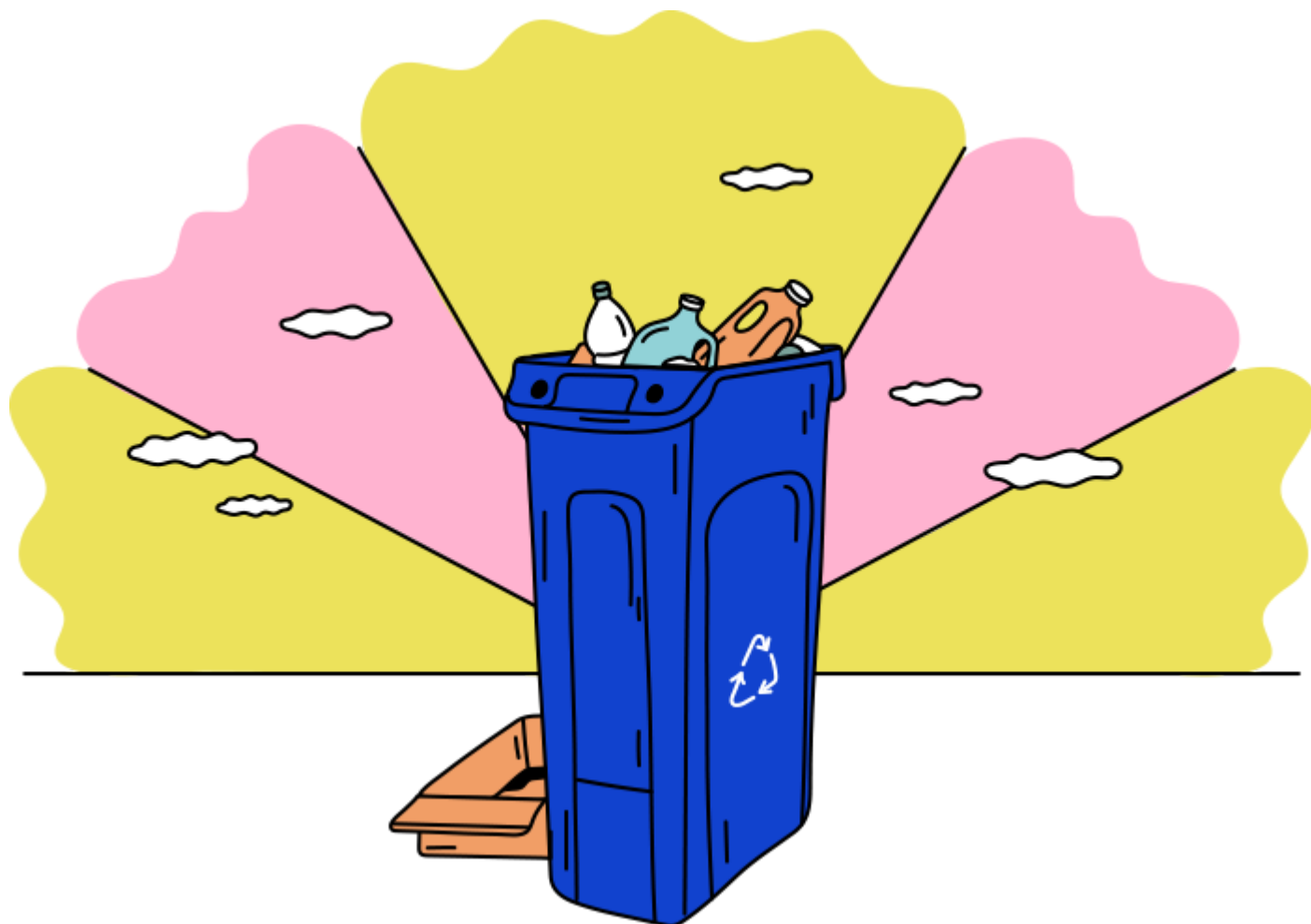
Regulate single-use plastics.

A growing number of states and cities have banned single-use plastic bags. Others have banned plastic foam products, which can't be recycled.

Some states are thinking about phasing out certain plastics, requiring the use of recycled material or discouraging use of mixed materials like plastic-coated papers that make recycling tougher.

What about you?

It's going to be hard for communities and individuals to change how all this works on their own, said Ana Baptista, an environmental policy professor and associate director of the Tishman Environment and Design Center at The New School.



That said, there are things that individuals can do. Keep recycling category 1 and 2 plastics, as well as paper, cardboard and metals. Depending on where you live, it might also be possible to recycle the ones marked 5.

Consider switching to different products or brands (ones with more recyclable packaging), or making fewer purchases online given that bubble mailers aren't accepted by most curbside recycling programs.

Buying fewer consumer goods in general, to the extent possible, can reduce the plastics waste stream. Getting involved in local efforts to improve recycling or reduce local plastic use is another option.

“They are small things,” Dr. Baptista said, “but they start to introduce some pushback against a system that is dumping cheap plastic into our society.”

Game design by Sean Catanguí; art and design direction by Claire O'Neill and Gray Beltran