

ENVIRONMENT THE STORY OF PLASTIC

This common plastic packaging is a recycling nightmare

The enormous variety and abundance of plastic packaging—including tough-to-open clamshells—is a big headache for the recycling industry.

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The scissors were on sale for \$3. Suspended between two thick layers of tough plastic, they looked permanently imprisoned. Ingenuity, and no small amount of effort, would be needed to free my excellent deal from its clamshell prison. But there was also a risk that blood would be spilled—my blood. Thousands of people seek medical treatment every year with cuts and other injuries from attempting to open clamshells and other similar packages.

Clamshells have not only been voted the worst design ever, they've spawned the term “wrap rage” as exemplified by comedian Larry David's attempt to open one. Despite all this, products inside clamshells line the shelves of retail stores and supermarkets.

Product packaging generates more plastic waste than any other industry. In Europe it accounts for 59 percent of all plastic waste by weight. In the United States that is likely closer to 65 percent, experts say. The global packaging market is a \$700-billion-a-year industry and growing at 5.6 percent per year. Plastics account for one-third of this, making packaging the largest single market for U.S. plastics.

Clamshells, like most packaging, are single-use plastics and while technically recyclable, few are recycled in the U.S. That needs to change quickly if product manufacturers and the plastics industry are to meet their commitments to recycle or recover all plastics and greatly increase their use of recycled plastic in packaging.

Clamshells evolved

Thomas Jake Lunsford is credited with inventing the clamshell, although he called it a “Separable Packaging and Display System” when he filed for a patent on September 15, 1976. Clamshells look a bit like their namesake as they are made from two identical plastic “shells” that fit around the product and hinge on one side. When the sides are pressed together, snaps form a seal, some of them harder to unfasten than others.

Lunsford made no mention of using a heat seal on the edges to make clamshells impossible to open without tools. Scissors, even when they aren't trapped in a clamshell, don't work well on tough, slippery plastic. And, like boxcutters, they pose some risk of hand injury.

Tin snips work better, but there is a tool whose only purpose is to open clamshells.

To help his 90-year-old mother open sealed clamshells, retired dentist Steve Fisher invented the battery-powered Zip-it Opener 10 years ago. It's very popular with seniors, people with arthritis and others with diminished hand strength, Fisher said in an interview.

Clamshell packaging remains popular with retailers because the product is visible on both sides, it can be hung or freestanding, and it's harder to shoplift since the package is bigger than the product inside. It's much lighter than cardboard or other alternatives—saving energy during transport—cheaper to make, and more durable. The food industry accounts for more than 60 percent of all clamshell packaging.

“There's a huge variety of clamshell and blister packaging,” says Sara Greasley, who runs a popular blog about packaging and works in the industry.

Blister packs are usually a clear bubble of plastic mounted on a piece of cardboard. Batteries are still sold this way. But the terms are often used interchangeably, so it can be confusing, Greasley said. The type of clamshell packaging used is usually driven by the retailers, particularly volume buyers like the club stores (i.e. Costco) who have specific packaging requirements, she said. For example packaging may have to withstand shaking, crushing, and dropping tests to ensure there's no damage.

Recyclable doesn't mean it will be

The enormous variety and abundance of plastic packaging turns out to be a big headache for the recycling industry. “It's a big challenge,” acknowledges Steve Alexander, President of The Association of Plastic Recyclers.

“Clamshells are usually made out of PET plastic, so they are highly recyclable,” says Alexander.

There is big demand for recycled PET (Polyethylene terephthalate) content in new clamshells, particularly those used in the food industry. However, clamshells aren't being recycled because they aren't being collected, and if collected, most existing material recovery facilities can't sort them out from the other materials. And if they can sort them, sticky labels or food residues can be a problem to remove, as is the cardboard backing on blister packs, he said.

The public is increasingly buying products that are more sustainable—and come in appropriate packaging—at twice the rate of other products, a 2018 Neilson survey showed.

Starting in August vendors on Amazon will have to meet waste-efficient packaging standards, including no clamshells or other plastic packaging for medium- and large-sized products, or face \$1.99 chargeback per package, said Kim Houchens, director of customer packaging at Amazon.

“Previously we paid vendors a dollar for each package that was redesigned for the e-commerce market,” Houchens says in an interview.

PLANET OR PLASTIC?

Three things you can do to be part of the solution:

1. Recycle clamshells, making sure to remove any stickers.
2. Advocate for your recycling center to accept clamshells and other packaging if they don't already.
3. Bring your own reusable containers to a restaurant for leftovers, or to-go orders.

Over the past decade Amazon's sustainable packaging initiatives have reduced Amazon's packaging waste 16 percent; the overall reduction target is 25 percent, she said. To that end the company has developed a fully recyclable padded-paper envelope mailer to replace the ubiquitous yellow plastic-bubble envelopes.

Reduce, reuse, on a big scale

Multinational giants like PepsiCo, Coca Cola, and Walmart, and 400 others, have set ambitious recycling goals under the New Plastics Economy Global Commitment, started in 2018 by the Ellen MacArthur Foundation. The goal is a circular economy for plastic in which it never becomes waste; packaging is its first target. To that end companies have agreed to increase the amounts of recycled plastic used in packaging to an average of 25 percent by 2025, compared with the current global average of just 2 percent. That too is a big challenge, Alexander said.

"To meet those goals we need 3.5 times more PET from what's currently collected and sorted," he says.

Plastic bottles are also made of PET and are the primary source for recyclers. An investment of at least \$3 billion in processing plants alone will be needed over the next decade to achieve companies' goals, according to a report by research and analysis firm Wood Mackenzie. That doesn't include additional investments in collection or improved material recovery facilities.

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Only 50 percent of U.S. household have curbside collection, so how do recyclers get their hands on the material, Alexander asks. Less than five percent of plastics in the U.S. is recycled. The rest is landfilled, burnt or exported. In 2017 two billion pounds of plastic waste were sent to China and Hong Kong, the same year China said it will no longer accept it.

So now shiploads of U.S. waste plastic are going to countries like Thailand, India, and Indonesia where most waste is mismanaged. And up to six times more plastic was burned in the U.S. in 2018 than was recycled. Burning plastic produces CO2 and can release toxins.

"We need a sweeping discussion in this country on how to solve this problem," says Alexander.

Recycling aside, the reusability of the clamshell is what Lunsford, its inventor, claimed was its advantage over existing plastic packaging. But there in the store, I had a thick plastic heat-sealed clamshell in my hand, with a pair of \$3 scissors securely trapped inside. They were sturdy scissors, good enough to open all manner of packages. But like Larry David did, I would have to destroy the package to get them out, rendering the clamshell worthless. Were they worth the effort and risk to somehow free them from their plastic prison?

I put them back on the shelf.

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Reduce usage of the phone

It is important to reduce the usage of the phone as it can be a distraction and affect your productivity. There are several ways to do this, such as turning off notifications, using a timer, and avoiding checking the phone during work hours.

One of the most effective ways to reduce phone usage is to turn off notifications. This will prevent the phone from vibrating or making sounds when you receive a message or email, which can help you stay focused on your work.

Another way to reduce phone usage is to use a timer. You can set a timer for a specific amount of time, such as 15 minutes, and use that time to work on a task. When the timer goes off, you can take a short break and check your phone.

Finally, it is important to avoid checking your phone during work hours. This can be a habit that is difficult to break, but it is essential to stay focused on your work. You can try to keep your phone in a drawer or another location during work hours to avoid the temptation to check it.

By following these tips, you can reduce your phone usage and improve your productivity. Remember, the phone is a tool, and it should not be a distraction. Use it wisely and stay focused on your work.

It is important to remember that reducing phone usage is not about eliminating the phone entirely. It is about using it more effectively and staying focused on your work. By following these tips, you can achieve a better work-life balance and improve your overall productivity.

Reducing phone usage is a key to staying focused and productive. By turning off notifications, using a timer, and avoiding checking the phone during work hours, you can minimize distractions and maximize your time. Remember, the phone is a tool, and it should be used to help you work better, not to distract you from your work.

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