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Plastic To-Go Containers Are Bad, but Are the Alternatives Any Better?

Single-use plastic bans are showing up across the nation. But compostable plates and forks may not solve the plastic crisis.

BY GOSIA WOZNIACKA

JANUARY 14, 2020



[Zero-Waste Stores Ask Shoppers to Bring Their Own Everything](#)



US Supermarkets Are Doing Bulk Food All Wrong

On January 1, Berkeley, California rang in the New Year by putting a new rule in place requiring all cafés and restaurants to **start charging 25 cents** for disposable cups. The cups, in addition to lids, utensils, straws, and clamshells, must also now be certified compostable. This summer, eateries that offer on-site dining will also be required to serve customers using reusable plates, cups, and cutlery.

Berkeley's ordinance—one of the strongest in the country—seeks to do away with single-use plastics. And it's one of a slew of new laws that aim to do so. Towns, states, even **entire countries**, have been moving to ban everything from plastic **checkout bags and plastic straws**, to plastic **food containers and take-away serviceware**.

Many municipalities are also requiring restaurants and coffee shops to switch to plant-based compostables for takeout meals. They're joining several other cities, including San Francisco and Seattle, which pioneered such requirements years ago. Even in areas where they aren't the law, so-called bio-plastics are a booming business, and some **food and beverage companies** and **restaurants** have voluntarily made the switch as part of their sustainability plans.

While many have pinned their hopes on these alternatives, some researchers and recyclers caution that an over-reliance on compostable tableware and packaging may not be the solution it's cracked up to be. In life cycle assessments, it turns out, compostables don't necessarily outshine plastics when it comes to environmental benefits. And an increase in compostables in the waste stream could, in fact, bungle up the composting process, create more trash, and continue consumers' addiction to single-use items, detracting from the most environmentally beneficial practices: reducing and reusing.

"It's nice to be able to make people feel good about throwing something away, but we're really not changing their behavior or patterns," said Jack Hoeck, vice president of environmental services at **Rexius**, a Eugene-based recycling plant that no longer accepts compostable products. "From a climate change perspective, it would be better to reduce the amount we're generating."

Plastic Crisis Spurs Alternative Disposable Products

Recent years have marked a rise in awareness about the **detrimental impacts of plastic pollution**. Plastic **clogs up waterways, floats along the surface of the ocean, kills marine life and wildlife**, and is even **found in human tissue**. **New research** has also shown that plastic, when exposed to solar radiation, releases methane (a potent greenhouse gas) and ethylene, especially as it degrades.



Seventy-nine percent of the world's plastic **is not recycled**. In 2018, the 9 percent that is recycled plastic was threatened, as **China banned the import** of most plastics and other materials that it used to accept for recycling due to trash contamination issues. Most of that previously recycled plastic **is now being landfilled** or incinerated.

The recycling quandary has led to an even more urgent search for solutions; thus the turn to bio-plastics. **Compostable food serveware**—made from plants such as corn, sugarcane, and bamboo—is also sometimes called “biodegradable,” but that’s a misnomer. It doesn’t decompose in backyard compost bins and needs to be processed at industrial facilities. Currently, only **a few hundred of the roughly 4,000 composting** facilities in the U.S. have the ability to accept food scraps and **a much smaller subset** can accept bio-plastics.

The compostable product industry’s call to action is based on the idea that using compostable plates, cups, cutlery and packaging will also cause consumers to compost more food and mitigate the climate impact of the million tons of food scraps and food-soiled paper that are landfilled every year. It also helps to dispose the mass of throwaway items Americans generate in a kinder, gentler way. Early adopters, such as the city of Seattle, which **requires all food service businesses** to use compostable or recyclable packaging and serveware, say the model works.

“We have a lot to be happy about; we have diverted thousands of tons of food waste because of this program,” said Pat Kaufman, commercial recycling and composting program manager at **Seattle Public Utilities**. “We’ve encouraged people to move away from a dead-end product model into a circular model where these materials can break down and go back to feeding soils.”

But not everyone is happy with the increased reliance on compostable serveware, and some municipalities, and facilities like **Rexius**, have backed away from accepting them all together. In **a report released in October**, Greenpeace USA warned consumers to be skeptical of solutions that produce more single-use items and put undue pressure on environmental resources.

“To solve the plastic pollution crisis, companies need to rethink how products are delivered to consumers and invest significantly in reusable and refillable delivery systems,” **said Greenpeace**.

Flaws in the System

Last year, all of the compost manufacturing facilities that serve Oregon **signed a letter** stating they won't accept compostable products. "These materials compromise our programs and limit many of the environmental benefits of successful composting," read the letter.

The main problem is contamination, as consumers often throw in non-compostable look-alike items into their bins. Removing this trash increases the use of water, energy, and other resources and drives up operating costs, said Hoeck with **Rexius**, one of the signatories of the letter.



Photo by **Brian Yurasits** on Unsplash

When Rexius first began accepting compostables 10 years ago, it only took products that were food related, third-party certified, and clearly identifiable as compostable from 10 feet away (branded, marked, or color coded). Despite these rules, and a robust training and information campaign, constant contamination made sorting a nightmare, Hoeck said. "It's not practical to pick out 500 little sticks ... or to sort out 50 plastic cups mixed in with 100 identical compostable cups," he said.

Unfortunately, the compost couldn't be sold to organic farmers because the National Organic Program considers compostable plates, cups, cutlery, and plastic bags **as synthetic materials that cannot be used** in compost for organic production.

The company was also concerned, he said, that **some compostable packaging** designed to hold up to wet or greasy food contains **highly toxic "forever chemicals" called PFAS**, which can transfer into finished compost and contaminate soil and waterways.

"If the compost is contaminated and people don't want it or are unhappy with it, it's not a good business idea," said Hoeck.

The companies producing compostable products concede that “a small amount of conventional plastic... is commingled and impossible to sort or screen out,” said Rhodes Yepsen, executive director of the [Biodegradable Products Institute](#) (BPI), which certifies compostables. But that problem can be solved, he said. And starting this month, BPI [will no longer certify](#) any product that contains high levels of fluorine, a highly reactive element that combines with carbon to make PFAS.

“We have been openly working with composters, municipalities, and states on these topics for years. Just because something is challenging, or costs more, doesn’t mean it isn’t worthwhile,” added Yepsen. Following the BPI standard can help avoid false compostable and biodegradable claims and further compost contamination, he added. But they are only part of the solution.

BPI supports Washington state’s [new legislation](#), which goes into effect this summer and requires better labeling of compostable products while banning the deceptive labeling of plastics. At a hearing for the bill, representatives of [Cedar Grove](#), one of the big composting companies that serve Seattle, testified that it [spends over \\$5 million a year](#) removing plastic bags, forks, and spoons from its compost.

Zero Waste Doesn’t Always Equal Sustainability

Even if contamination weren’t such a big issue, other important questions about the value of composting have emerged in recent years.

“What’s missing from that discussion is the impact of making these compostable items,” says David Allaway, senior policy analyst at the Oregon Department of Environmental Quality (DEQ). “The fact that something is compostable is a useless predictor of environmental impact.”

Indeed, a [2018 analysis](#) by the Oregon DEQ showed that “compostability is a poor indicator for determining the environmental benefits and burdens of packaging and food serviceware items” and that compostables introduces a set of trade-offs. Instead of just looking at the final result—does it generate waste?—the study used [a complete life-cycle analysis](#), which evaluates the raw materials used, the manufacturing process, the transportation system, and what happens to the waste.

In the case of compostables, the Oregon DEQ reviewed 18 years of life-cycle assessments, including over 1,200 comparisons involving compostable packaging and over 360 comparisons for food serviceware. In most of these comparisons, the production and use of compostable materials (and composting them) was found to result in *higher* environmental impacts than that of either non-compostable materials, or compostable materials treated via recycling, landfilling, or incineration.

While many people focus on the impacts of disposal, the environmental impacts of producing materials generally can be 10, 50, or 100 times higher than the impacts of disposal, depending on the source materials, packaging, and production process, Allaway said. He added that some compostable items are low-impact while others high impact, but the industry does not provide detailed information on the particulars so consumers can make a choice.

“It’s a little bit of a red herring,” he said. “Taking something and putting it in the landfill feels bad, but most of the damage has already been done by the time you buy it.”

And while food waste produces rich compost that restores soil fertility and helps store soil carbon, some compostable packaging doesn’t produce much compost at all. When it degrades in a composting facility, corn-based PLA—polyactic acid—just turns into carbon dioxide and water. Essentially, Allaway said, it disappears.

It's also important to note that reliance on compostables doesn't necessarily lead to more food waste being composted either, Allaway said. In food courts, baseball stadiums, and fast food restaurants, composting bins tend to overflow with plates and tableware, but people eat most of the food they buy when eating out. Most food waste occurs at home, he said, and in restaurant kitchens. So when Allaway hears fast food companies touting compostables as part of their sustainability plan, he mainly sees a marketing gimmick.

"The producers of single use service items have pinned their hopes on composting and the idea of zero waste as a way to justify the continued existence of [those] service items," Allaway said.

Yepsen with the BPI disagrees. "We clearly need to generate less waste, whether that's packaging or food waste," he said. "But let's not pretend that waste is going away overnight, we still need curbside collection for materials, to find beneficial pathways to get waste recovered." Promoting compostables isn't contradictory with "the three R's"—Reduce, Reuse, and then Recycle, he said.

Cities, Restaurants, and Cafes Push to Reuse, Refill

While some cities and food companies are pushing for compostable products, others are working to promote durable, reusable containers, leading the cultural shift back to reuse and reduce our use of materials.

GO Box, a reusable takeout container service, offers those who buy takeout a sturdy plastic reusable container to eliminate the need for single-use clamshells. The reusable containers are checked out from vendors via an app and then dropped off at designated locations. The company—which is based in Portland but has expanded to San Francisco—collects, cleans, and sanitizes the containers, which are then re-used by other customers. At the end of their lives, the plastic reusable containers are recycled. A similar service, **Green GrubBox**, also exists in Seattle, and another, **Rogue To Go**, was recently launched in Ashland, Oregon.

For Here Please, is an Oakland-based nonprofit that helps cafés and restaurants reduce single-use plastics. The organization aims "to disrupt 'to-go culture'" by putting together customized plans for cafés that want to convert to using reusable cups. The group trains baristas, educates customers face-to-face, helps with media and social media coverage, teaches people to make upcycled coffee sleeves, and provides visual reminders. Last year, For Here Please helped convert **Perch Coffeehouse** into **the first disposable-free cafe in Oakland**. The café offers a 25-cent discount to customers who bring their own mug and charges a small fee for renting out a reusable cup or mason jar.

"The financial incentives is huge... if you can't do anything more about your café's practices, you can at least offer a discount if someone brings a reusable mug," said Vanessa Pope, the group's co-founder.

In Portland, **Nosa Familia Coffee** started a Zero Waste coffee shop in 2018 where all customers are charged 25 cents for a disposable to-go cup and given 25-cent discount for bringing their own cup. According to the company's **transparency report**, the move significantly shifted coffee drinkers' behavior. The use of a to-go cup was slashed in half—from 66 percent to 31 percent. And 17 percent of the customers brought their own cup. Last year, Nosa Familia introduced the surcharge in all three of its Portland cafés.

Blue Bottle Coffee (owned by Nestlé) is also **piloting a zero-waste project** for its cafes, aiming to divert at least 90 percent of their waste from landfills by the end of 2020, and asking customers at two of their cafes to bring their own cups or rent one from the café. "We know some of our guests won't like it—and we're prepared for that," Blue Bottle CEO Bryan Meehan **wrote in a blog post** in December. "But the time has come to step up and do difficult things. It's our responsibility to the next generation to change our behavior."

Experts caution that because reusable cups, containers, and cutlery also require raw resources and energy to produce, so they **must be used consistently** to offset their environmental impact. Despite this, most everyone agrees that reuse is best for the environment.

Those who aren't ready to require reusable foodware may also resort to shaming. Whether **photos of a frowning Greta Thunberg**, the teen climate change activist, can lead consumers to skip on the disposable cup or fork remains to be seen.



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