

# Our Shopping Obsession Is a Boon to Box Makers, But Not to Their Neighbors



A FedEx worker pushes boxes of goods along a busy street in New York City on Nov. 17, 2021, at the start of the holiday shopping season. Spencer Platt—Getty Images

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**T**he world is on a spending spree, and no matter what you're buying, it's probably going to have been in a box at some point along its route to you.

That means companies are rushing to build pulp mills and box factories to meet demand, and many of them are in the United States. About 40 billion boxes—

equal to 407 billion square feet, which is roughly the size of Switzerland —were shipped in the U.S. in 2020, surpassing the previous record from 1999 set amidst a hot economy and burgeoning e-commerce. This year is likely to beat that record; in the first nine months of 2021, box shipments were up 3.9% from 2020, according to the Fibre Box Association.

But making paper products is a smelly operation, and as more box factories expand into U.S. neighborhoods, there's come a pushback from people who don't want to be downwind of an American manufacturing revival.

In South Carolina, three groups of plaintiffs filed lawsuits this summer against New-Indy, a company that converted a paper mill to make containerboard, saying the conversion has made the air dangerous and unhealthy; the state received more than 17,000 complaints of noxious odors from citizens near the New-Indy plant in the first half of this year, which it calls “**an unprecedented number.**”

New York state fined a **Niagara Falls paper mill** \$375,000 in September for “intolerable odors” that it said impacted the health of the surrounding neighborhood, especially in the summer; the mill, Cascades Containerboard Packaging, agreed to spend millions of dollars in equipment upgrades. The mill says the smell comes from sludge created when the plant processes recycled paper into cardboard, and this recycled sludge was **generated at higher rates** this year to meet higher demand for boxes.

And in Kalamazoo, Mich., residents filed a **lawsuit** against paperboard maker Graphic Packaging International after they say the company started production on a machine that would increase output by 500,000 tons a year; the residents say the mill has “discharged discrete and offensive noxious odors, air particulates, and fugitive dust” into the air.

Adding to the tensions: many of these odor-emitting factories are in communities of color, which by virtue of zoning laws find themselves tucked against industrial zones. People of color account for the bulk of exposure to industrial pollutants in the United States, according to a [study](#) published in April in *ScienceAdvances*.

## How the pandemic changed shopping

The complaints about the box factories coincide with the reversal of a long-term trend in the U.S. that saw mills shutting down as demand for printer paper and newspapers waned. Now, shuttered mills that once printed newspapers and magazines in places like Old Town, Maine and Port Angeles, Wash., are reopening to make pulp and containerboard—the liner and brown paper used to make a cardboard box. There are even [new mills opening](#) in places like Green Bay, Wisc. and Wapakoneta, Ohio, and new mills planned in places like Henderson, Ky.

Though e-commerce has long driven an increase in the boxes passing through the average American's home, until now it had not led to a huge uptick in box production; the boxes being sent to people's homes were merely in lieu of the boxes carrying goods to brick and mortar stores. The pandemic changed that.

**Read more:** *I Tried Buying Only Used Holiday Gifts. It Changed How I Think About Shopping*

“There was this extraordinary shift from spending on services to spending on goods,” says Adam Josephson, a paper and packaging analyst at KeyBanc Capital Markets. “Higher purchases of goods leads to higher use of boxes.”

Now, people are buying so much stuff—a record \$16.3 trillion in October in the U.S. alone—that there's more demand for boxes than ever before. E-commerce and mail order use seven times more corrugated cardboard per dollar of sales than traditional retail does, according to [Fastmarkets RISI](#), which tracks the industry.

The new and updated mills in the U.S.—30 since 2017 by the count of the [Northeast Recycling Council](#)—are a boon to efforts to jumpstart American manufacturing and create new jobs in a long dwindling industry. But the manufacturing process can create hydrogen sulfide and other substances that smell like rotten eggs. In some places where mills have come on line or increased production, residents say that the problem goes beyond stench and that the operations, running at full capacity, are polluting the air and water.

## **The downside of ‘Made in America’**

For decades, Americans have bought things made from minerals extracted elsewhere, assembled in faraway factories where the stench and pollution impacted someone else. Now that more boxes are being made in the United States, some residents are confronting one of the pitfalls to making things in America again.

“It started as rotten eggs but recently it’s been a sweet port-a-potty, urinal cake smell,” says Kerri Bishop, 34, who runs a Facebook group for people trying to do something about the smell in Catawba, S.C., where the New-Indy mill is located. “I don’t really leave my house—it’s worse when I go outside, and I never know when it’s going to hit,” she says.

Bishop, who moved her family to South Carolina from Rochester, N.Y., in 2016, says that before the conversion, the mill would make the air smell like rotten eggs a few times a year, but it didn’t bother her. Then, New-Indy Containerboard, a joint venture part-owned by the Kraft Group, bought the mill in 2018 and converted it to making brown paper for containerboard. The mill began high-volume production in February of 2021, and people working within a 30-mile radius started complaining of strong odors and physical reactions, according to the [lawsuit](#).

In order to start making brown paper at the mill, New-Indy had to apply for a new permit; the permit application estimated that hydrogen sulfide emissions would not significantly increase because of the conversion, according to the South Carolina Department of Health and Environmental Control, or DHEC. The state began receiving thousands of complaints about foul odors in the vicinity in February 2021; when it investigated, it found the odors were coming from the mill. When it asked for information about current sludge management at the facility, the state says, New-Indy provided documents from 2014 and 2017, before the conversion.

In May 2021, the EPA issued an **emergency order** under the Clean Air Act requiring the company to reduce hydrogen sulfide emissions and install air quality monitors on its fence line. But for Bishop and other residents, that's not enough; the company was only required to install a few monitors, and air quality has not improved since May, she says.

**"It started as rotten eggs, but recently it's been a sweet port-a-potty, urinal cake smell."**

She and other residents blame the odor on something called a steam-stripper, which treats foul condensate; they say that because of the increased volume at the plant, the steam-stripper can't handle all the waste the company is producing. Bishop has a cranial nerve disorder, which means the smells hit her even harder, making her physically ill; she gets dizzy and starts seeing spots, she says.

Her youngest son developed a rash on his face. She and others say that the environmental agencies are monitoring for the wrong chemicals and that the wastewater the mill is sending into surrounding lagoons is contaminating the groundwater. They say that the problem isn't just the smell, but that the mill is polluting the air, causing nausea, rashes, and other health problems. Other residents say they can't take their dogs outside when the smell hits, that they

can't sleep at night; one woman says she keeps a gas mask by her bed to wear when the air seems particularly dirty.

New-Indy declined to comment for this story.

## The China connection

There's another reason that there's a boom in paper mills in the U.S. In 2018, **China stopped accepting** most types of recycled material from the U.S., including paper and cardboard. That created an opportunity for paper mills that previously couldn't compete with China on cost. There was cardboard available to recycle, so mills just had to be retrofitted to turn that cardboard into more cardboard.

“The Chinese import restrictions changed the recycling equation and spurred a revitalization of the U.S. mill industry,” says Colin Staub, senior reporter at Resource Recycling, who compiled a **map of more than two dozen conversions** and new mills announced across the U.S. “We're certainly seeing more interest in buying and opening paper mills.”

China consumes 107 million tons of paper per year, but it has fewer trees to use for pulp and less of a recycling infrastructure than the U.S. Its import restrictions mean that it can primarily import pulp, not cardboard, so some Chinese companies are funding new mills in the U.S. to make pulp that can then be sent overseas. A Chinese company, Nine Dragons, reopened the **shuttered mill in Old Town, Maine** to make pulp to export to China for boxes. (The mill spilled more than 30,700 gallons of chemicals into the Penobscot River in 2020, **violating state and federal laws**, causing a rise in the river's PH level and prompting the Penobscot Nation to advocate for greater **stewardship of the river.**)

Of course, the pulp mills and containerboard factories opening now are much more sustainable than the mills of the past. These mills are an important part of the circular economy in which nothing is thrown away and everything is reused; without mills to recycle cardboard, it would be going to a landfill.

But the communities hosting these mills often don't want to have to bear the brunt of our obsession with shopping.

“They’re causing pollution that’s never going to leave; they’re turning their own community into a superfund site,” says Jackie Lane, a marine biologist who lives near an International Paper mill in Cantonment, Fla., that she and others say has long polluted Perdido Bay. International Paper failed to meet its wastewater treatment plant permit limits for toxicity on 19 documented occasions from 2015 to 2019, according to a **final consent order** executed by the state in May. The consent order fines International Paper \$190,000 in penalties and requires it to pay a \$10,000 fine every time it fails certain water quality tests, an order Lane says is a slap on the wrist.

International Paper said in a statement that its monitoring, done in coordination with the state, has shown that the wetlands are “biologically rich and diverse” and that it works closely with the state to preserve the wetlands. International Paper employs more than 500 Alabama and Florida residents, the company said.

## **‘Environmental racism’**

Most of the new and improved paper mills are on sites that have long held paper mills—it’s much easier to get the permits and infrastructure on an existing site than to build a new factory. But that’s meant that because of historical zoning practices that located polluting plants near Black neighborhoods, it’s minority neighborhoods who are subject to much of this pollution.

Earlier this year, a former resident filed a complaint against the city of Kalamazoo with the Michigan Department of Civil Rights, alleging that leaders discriminated against Black residents by approving a tax break that allowed Graphic Packaging to expand in a predominantly Black neighborhood. The city also agreed to cut down 721 trees for the company, according to the complaint.

Brandi Crawford-Johnson, the plaintiff, also filed a complaint against Michigan's Department of Environment, Great Lakes, and Energy, alleging that it discriminated against a predominantly Black neighborhood when it approved changes to an air permit allowing Graphic Packaging to expand in November of 2020. In November, the EPA's Civil Rights Compliance Office said that it would [investigate this complaint](#).

"It's environmental racism," says Crawford-Johnson, who after moving to the neighborhood was shocked to learn how many of her neighbors had asthma and other health problems.

Graphic Packaging said in a statement that the expansion is not yet fully operational and that it has taken several steps over the years to mitigate potential odors. Though it does not comment on pending litigation, the company said that there are several other local manufacturers and a city wastewater treatment plant near its operations, and the odors are caused by "a number of complex factors."

And in Brunswick, Georgia, which is 55% Black, residents have long been accustomed to the smell of rotten eggs from a nearby Georgia-Pacific pulp mill. But starting in December of 2020, residents started having such severe health reactions to the smell that some called 911 because they couldn't breathe in their homes, says Rachael Thompson, the executive director of the Glynn Environmental Coalition. "I feel like if this were a Caucasian neighborhood and community, more would be done about it," one resident who called 911, Spanline Dixon, told *The Current*, a news site covering coastal Georgia.

Brunswick is home to four Superfund sites, but the University of Georgia worked with the Glynn Environmental Coalition to analyze weather reports and track what was upstream from the odor complaints. The study showed definitively a direct correlation between the mill and the odors, Thompson says. Her group has received 130 complaints since last year; the only time it did not receive any complaints was during a month the mill was temporarily closed.

A Georgia-Pacific spokesman said, in an email, that the company is aware of the odor complaints and shares the community's concern. The company is working with the state environmental regulatory agency and other stakeholders to identify and mitigate the potential sources of the odor, the spokesman said.

**Read more:** *How American Shoppers Broke the Supply Chain*

Tensions between growing demand for paper and the environmental problems that causes aren't limited to the U.S. In Indonesia, more than 30 community groups sent a [letter to Asia Pulp & Paper](#) in August arguing that the mill's plan to triple pulp production will risk the respiratory health of millions of people. And a community in Nova Scotia is divided after a paper company is taking legal action to reopen a mill that was shut in 2020 after community concerns about its wastewater discharge.

One thing's for sure, says Joshua Martin, director of the Environmental Paper Network—these conflicts are likely to mount as the world consumes more packaging.

The problem isn't just that mills create bad odors; despite high cardboard recycling rates, trees are still cut down to make packaging—around 3 billion a year, according to EPN. Although cardboard is easier to recycle than other products like plastic, it can only be recycled about 5-7 times before it can't be used any more. Recycled cardboard is often mixed with virgin pulp to make boxes.

The U.S. drives that demand—it consumes 202 kg of paper and paperboard per capita, compared to Africa's 6 kg per capita, Latin America's 44 kg per capita,

and Asia's 44 kg per capita, according to the **Food and Agricultural Organization of the United Nations**. "If the entire world used the amount of paper as America currently does, it would be completely unsustainable," he says.

The only way to reverse this trend, he says, is to change the way we buy things to have less dependence on paper and packaging. Consumers can send messages to companies by patronizing businesses that use packaging **certified by the Forest Stewardship Council**; they can try brands like Loop that deliver groceries in reusable packaging, which Loop then collects.

Perhaps the easiest solution, though, is to buy less stuff that you're going to toss soon—disposable coffee cups or takeout packaging or multiple e-commerce orders. "It's this culture of disposability and single-use, no matter what the product is made from, that needs to change," he says.

It's something Kerri Bishop, the South Carolina resident, is taking to heart. Bishop spent her career working in manufacturing and says she didn't join the class-action lawsuit and didn't even want the mill to shut down at first. She just hoped they would upgrade their equipment. Now, though, she's worried she moved to a state that values manufacturing and jobs more than the quality of life and health of its residents. She's considering getting a home air filtration system.

Once a frequent Amazon shopper, she tired of ordering a few different things and having them arrive in many different boxes, even if she tried to get them to all come the same day. She'd heard from a local politician that the New-Indy boxes were being used by Amazon, so she started boycotting the online retailer. She lifted the boycott for the holidays, as **higher prices and supply chain problems** made it hard to buy things elsewhere, but Bishop says she plans to stop shopping at Amazon again in January.