

Cigarette Waste: New Solutions for the World's Most-littered Trash

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By now it's no secret that plastic waste in our oceans is a global epidemic. When some of it washes ashore — plastic bottles, plastic bags, food wrappers — we get a stark reminder. And lately one part of this problem has been most glaring to volunteers who comb beaches picking up trash: cigarette butts.

Last year the nonprofit Ocean Conservancy reported that cigarette butts, which contain plastic and toxic chemicals, were the most-littered item at their global beach cleanups.

Trillions of butts are tossed each year. So what's being done about it?



Cigarette butts collected at a beach clean up. (Photo by Surfrider Foundation)

Environmental advocacy groups have spurred increased public education about the environmental impacts and pushed for the installation of more bins to safely dispose of butts. Some cities have put restrictions on where people can smoke or instituted additional fees on cigarettes to fund clean-up costs. Butt pollution continues.

Now legislators are trying a different approach — producer responsibility. New legislation in several states, including a bill in California to ban products with single-use filters, could force cigarette manufacturers to take responsibility for the environmental impacts of their products.

Information and Infrastructure

It's not news to California volunteers at [Surfrider Foundation](#), a nonprofit helping to protect oceans and beaches, that cigarette butts are the most-littered item in the world. They knew two decades ago, when the organization's San Diego chapter started a Hold Onto Your Butt campaign to educate the public about cigarette butt pollution after finding scores on local beaches.

The campaign, which has since spread to other localities on the East and West coasts, has created PSAs, posters and videos to educate people about the environmental impacts of cigarette-butt litter. The biggest problem is the filters, most of which are made of cellulose acetate, a kind of plastic. That means the filters don't readily biodegrade, although they do break down — and send thousands of tiny plastic fibers into the environment, waterways and wildlife. Along with the fibers come chemicals like arsenic, benzene and lead.

"They can trap toxins and pass that onto the aquatic environment," says Bill Hickman, the Southern California regional manager for Surfrider. Studies have shown that these chemicals can be [toxic to fish](#).

Along with public education, Surfrider's campaign has also helped cities install hundreds of new receptacles in high-volume areas like outside bars or near beach walkways, to make safely disposing of butts easier.

Surfrider's San Francisco chapter, for example, has installed 100 cans in select neighborhoods in the city. "In the areas [where we're installing the cans](#) and educating people to use them, we see reductions in cigarette litter of more than 60 percent," says Shelly Ericksen, a Surfrider volunteer who's leading the effort in San Francisco. Since indoor smoking bans have pushed smokers outdoors, they need better infrastructure to collect the waste and keep butts off the street, she says.

The campaign sends much of the collected waste to TerraCycle, a company that is able to [recycle the butts](#), turning the plastic into industrial-grade products like plastic pallets. Vancouver, where people litter a million cigarette butts a day, was the [first city](#) to pioneer this partnership with TerraCycle, installing 110 cigarette butt recycling bins in its downtown area in 2013.

Mike Roylos, a former café owner from Portland, Maine, has also partnered with the company. In 2013 he launched [Sidewalk Buttler](#) to manufacture aluminum containers to collect butts for recycling and track waste collection. His bins are now in 49 states, and he says they've kept 1.2 million butts off the streets.

"Cigarette butt litter is the last socially acceptable form of litter and we're trying to change that mentality," he says. "It's all about clean water — cigarette butts that get tossed on the ground will sooner or later make their way to water, whether the chemicals are released when it rains or it ends up down the sewer and washed out into rivers and lakes."

Collection efforts like these help keep more butts off the streets, but they're still a long way from stemming the tide.

Some cities in California have tried a different tactic: instituting smoking bans at beaches and parks. Assembly Bill 1718, introduced in the California Assembly and now in the state's Senate, would make that a statewide law.

Beverly Hills took things a step farther in June, passing the most restrictive tobacco law in the country, outlawing the sale of cigarettes, chewing tobacco and e-cigarettes in gas stations and convenience stores.

But it may not be enough to make a difference if it can't be enforced.

Hickman lives in Ventura, one of the cities that's already enacted a ban at beaches and parks, and he says the rule is rarely enforced and discarded butts still abound.

Despite local bans and clean-up efforts, Hickman says, "We're still finding huge amounts of cigarette butts."

That's why Surfrider is backing another piece of California legislation — one that tackles producer responsibility. California's S.B. 424 would ban any tobacco products with single-use filters and require that manufacturers of products like vaporizers and e-cigarettes ensure that they can be recycled or properly disposed of through take-back programs. Hickman says the bill would be "monumental in the fight against cigarette butt pollution."

It would be the most sweeping statewide restriction on tobacco in the United States and effectively ban cigarettes as they are currently made and packaged now, since virtually all have filters — which don't provide the benefits most smokers think they do.

Smoke Screen



Surfrider volunteers have helped install hundreds of bins to keep cigarette butts off city streets. (Photo by Surfrider Foundation)

The tobacco industry has pushed filters as a health improvement in cigarettes, but studies are finding the opposite.

“Evidence suggests that ventilated filters may have contributed to higher risks of lung cancer by enabling smokers to inhale more vigorously, thereby drawing carcinogens contained in cigarette smoke more deeply into lung tissue,” according to a report from the office of the Surgeon General issued in 2014.

Today virtually all factory-made cigarettes sold contain filters. The industry started using them — and advertising their supposed benefits — in the 1950s after published studies began to reveal the health threats from tobacco. “The advertised benefits of filters were illusory, however, given that smokers of filtered brands often inhaled as much or more tar, nicotine, and noxious gases as smokers of unfiltered cigarettes,” a 2015 study found. “Filters were not really even filters in any meaningful sense, since there was no such thing as ‘clean smoke.’ The industry had recognized this as early as the 1930s, but smokers were led to believe they were safer.”

A 2017 study in the *Journal of the National Cancer Institute* reviewing recent medical literature on the topic concluded that “filter ventilation has contributed to the rise in lung adenocarcinomas among smokers,” one of the most dangerous forms of lung cancer, and therefore, “the FDA should consider regulating its use, up to and including a ban.”

A Tide Change

Legislation like S.B. 424 has been attempted before in California starting in 2014, but never gained enough traction to even clear the first committee.

Heidi Sanborn, senior advisor with the California Product Stewardship Council, thinks this year’s legislation has a better shot. The bill, which her organization is supporting, has already passed the policy and appropriations committees in the Senate before clearing the floor vote. It’s now in the Assembly where it will go before the health and governmental organization committees.

The deep pockets of the tobacco industry are a formidable foe, though, and are what stymied earlier efforts, she says.

But she believes growing public concern about pollution could boost the legislation’s chances.

“Whales are barfing up plastic bags and dying all over the beaches and everyone is realizing we have a huge plastic problem and cigarettes are a big part of it,” she says. “Most people hate all the cigarette waste — even the smokers — and I think the public needs to provide

good cover for the legislators to take a hard vote and know that tobacco is going to pull out every stop and hire every lobbyist they can to stop the bill.”



There’s also another sea change that could help the bill’s chances — the growing list of studies documenting negative health outcomes from filters in cigarettes.

That’s why another change in the tides is occurring, with efforts making the push to hold someone other than smokers themselves accountable.

“While we’re working hard on campaigns to install more receptacles and institute a lot of messaging targeted at smokers that will help to bring about behavior changes, we also realized that it’s really the fault of the cigarette manufacturers for putting a plastic filter onto the cigarette that is being littered everywhere,” says Ericksen. “At the end of the day, even though our efforts are great to raise awareness and are helping to curb the problem in some of our coastal areas, it’s really going to come down to policy, legislation and extended producer responsibility.”

Producer Responsibility

As nonprofit organizations concerned with plastic pollution band together across the globe, a concerted strategy is emerging. No amount of consumer behavioral changes or improved recycling programs can deal with the sheer volume of low-value plastics, like single-use

products such as straws and bags, without the producers changing their products to create less waste.

The European Union recently passed a “circular economy” law that includes extended producer responsibility language, which shifts the responsibility for the environmental costs of a product back on the producer and encourages manufacturers think about the full lifecycle of a product.

California is hoping to pass a similar law.

This concept of producer responsibility, or product stewardship, is also at the heart of S.B. 424.

“There’s not much we can do when they’ve designed a product that contains plastic and is meant to be burned,” says Sanborn. “It’s a horrible design. It needs to change and the people who should pay to change it are the people who make them. Not the rest of us.”

Local governments and the environment have already been paying the externalized costs, she says. “We’re done — it’s time for them to pick it up and start paying the bill.”

San Francisco has calculated that more than half the litter cleaned up from its streets is from tobacco products, including butts and packaging. The city now charges a 60 cent fee on packs of cigarettes to cover clean-up costs and was the first in the city, back in 2009, to assess a cigarette litter abatement fee.

Other localities have tried different approaches, but with little success yet.

Maine considered legislation in 2001 for a deposit and refund program, where cigarettes packs had a \$1 fee and a five-cent refund was given for butts returned to redemption centers. The legislation didn’t pass. New York tried to pass something similar in 2010 and 2013.

Pennsylvania may take up the issue this summer. State Representative Chris Rabb is hoping to introduce a cigarette filter upcycling bill, which would add 20 cents to a pack of cigarettes to fund collection centers and find safe ways to reuse the waste.

Cigarette Waste Brigade



TerraCycle turns cigarette butts into industrial plastic items. (Image by TerraCycle)

Legislators in Maine are also closely watching what happens with S.B. 424 in California this summer. A similar piece of legislation to create extender producer responsibility regulations for tobacco products, [L.D. 544](#), was introduced this year in Maine but it's being held over until next year's session starts in January while proponents hope to work with industry groups on crafting a solution.

One of the groups championing the effort is the [Natural Resources Council of Maine](#). "We don't think that communities, taxpayers and future generations should have to deal with a problem they didn't create," says Sarah Lakeman, the project director for the organization's Sustainable Maine program. "There needs to be more education and outreach, and options to recover the waste created from smoking — and it should be the responsibility of the tobacco industry to provide that."

Sanborn says she hasn't seen any other places in the world successfully address the cigarette butt pollution issue. "Unless you've changed the package and gotten rid of the plastic filter, I don't see how you could," she says. "It's hard to do though, because they lobby up — it's going to be a fight."