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Title: Environmental Impact of Tobacco and Retail Tobacco Policies

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In this episode, we're talking about the environmental impact of commercial tobacco products. Despite not typically being at the forefront of commercial tobacco prevention and control efforts, now more so than ever in our world, it is paramount to understand how commercial tobacco products in addition to the marketing and greenwashing tactics used by the tobacco industry negatively impact our environment. From the manufacturing of tobacco, the use of non-biodegradable cigarette filters which remain the planet's most littered plastic item, the impact of e-cigarette and e-liquid waste, and ways that communities across the country are standing up to the commercial tobacco industry to reduce the environmental impact of tobacco products.

Transcription:

You're listening to the Counter Tobacco Podcast.

Hi there! I'm your host for today, Michael Kelly. On this podcast, we aim to highlight how the tobacco industry's tactics and addictive and deadly products have drastically impacted the environment. You'll learn about how the manufacturing of tobacco impacts the ecosystem, accounts for deforestation, and contributes to both water and air pollution. Further, you'll hear about the tobacco industry's greenwashing, or deceptive persuasion to the public that their aims are environmentally friendly when in fact, they are at fault for the planet's most littered plastic item in non-biodegradable cigarette filters. Lastly, we will talk about how e-cigarette waste negatively contributes to the environment and how unique policy solutions across the country are reducing the environmental impact caused by the commercial tobacco industry.

To start off, if you happen to be taking a walk as you listen to this podcast, keep an eye out if you see tobacco products, such as cigarette butts or used e-cigarette pods or devices, and tobacco product packaging.

Now, let's begin by talking about how tobacco cultivation impacts the environment. Growing and manufacturing tobacco leads to ecosystem destruction, as tobacco-related deforestation is responsible for 5 percent of the planet's greenhouse gas emissions, and contributes to both water and air pollution. With regard to deforestation, in addition to the need to clear land for agricultural use, curing, or the process of drying out the tobacco leaf, is heavily dependent on wood-burning in many low- and middle-income countries which happen to make up 90 percent of the planet's tobacco growing and where environmental regulation and enforcement is often less stringent. Given that one tree's worth of wood is used to cure tobacco for roughly 300 cigarettes, after taking into account that over 6 trillion cigarettes are manufactured each year, this could amount to an annual loss of more than 20 billion trees for tobacco curing alone. Deforestation is a significant environmental problem as forests can remove carbon dioxide, the most prevalent greenhouse gas, from the atmosphere by absorbing and storing it. Deforestation reduces the capacity to remove carbon dioxide while tree burning also releases large quantities of carbon dioxide back into the atmosphere.

In addition to greenhouse gas emissions, deforestation also negatively affects land quality and biodiversity. Because tobacco farmers typically clear land by burning it, the land is often abandoned after only a few seasons, oftentimes contributing to desertification. Displacement of food crops by tobacco has contributed to food-surplus regions becoming food-insecure regions. Because tobacco plantations often take part in monocropping, or growing the tobacco plants without rotation with other crops, vulnerability to pests and diseases is heightened, increasing the need for and the use of pesticides when cultivating tobacco. Exposure to chemical pesticides have led to documented negative health effects such as increased cancer risk, birth defects, neurological and psychiatric disorders, and Parkinson's-like symptoms. Little to no information about these chemicals' toxicity or occupational safety measures is provided to tobacco farmers and farm workers in low- and middle-income countries, leaving them at risk of significant exposure. Tobacco workers also experience acute nicotine poisoning from the handling of tobacco plants, an ailment called green tobacco sickness, or GTS. In addition, tobacco production in many regions of low- and middle-income countries rely on unpaid child labor, resulting in billions of dollars saved by the tobacco industry each year.

Water is another resource that tobacco manufacturing requires extensively but the greatest contributor to cigarette manufacturing's environmental impact may be energy usage. China, which produces nearly half of the world's cigarettes, relies on coal for nearly 70 percent of its energy consumption which increases tobacco product manufacturing's carbon footprint.

With a total of more than 6 trillion cigarettes produced each year, not to mention the other varieties of tobacco products, tobacco manufacturing processes consume enormous amounts of resources. All of this said, it is no surprise to hear that in a 2006 Corporate Responsibility Review, Imperial Tobacco, a British multinational tobacco company that manufactures

numerous cigarette brands, including Winston, through its subsidiary ITG Brands, has admitted that of the various stages in the tobacco product lifecycle, their greatest direct impact on the environment comes from tobacco product manufacturing activities.

If you're still on a walk while listening to this podcast, how many of the planet's most littered plastic item have you seen thus far? Cigarette butts, or filters, are highly toxic to wildlife and are polluted on our sidewalks in our communities, in the parks that our children play in, and eventually, find their way into the waterways and oceans across the U.S. and the world. In fact, 4.5 trillion cigarette butts across the planet are polluted each year.

The tobacco industry has also adopted numerous greenwashing tactics, skirting responsibility while creating corporate social responsibility programs with the goal to portray themselves in a more positive light with these programs actually proving ineffective. Some tobacco companies have included reducing the number of cigarette butts in the environment as part of their sustainability goals, such as Philip Morris International which claims to reduce plastic litter from its products by 50% from 2021 to 2025 as part of its "Our World Is Not an Ashtray" initiative. Eco-activism campaigns like this one appear to be hypocritical and misleading to the public as they are responsible in the first place for this monumental waste stream.

The tobacco industry has also misled the public about cigarette filters for decades by encouraging their effectiveness and their biodegradability. Going back over half a century ago to the 1950s, the cellulose-acetate filter was added to cigarettes in the wake of convincing scientific evidence that cigarettes caused lung cancer and other serious diseases. These filters served as a marketing tool by the tobacco industry by implying added safety through the presumed filtration of inhaled smoke but instead likely encourage smoking initiation and reduce intentions to quit smoking because filters make smoking easier, increasing harm to its consumers. These cigarette filters are made of a type of plastic called cellulose acetate, which breaks down into microplastics that do not decompose in the environment, which is the reason you may see them littered in public areas. Not to mention that these non-biodegradable cigarette filters are laced with toxic chemicals and heavy metals, and can leach out chemicals such as nicotine, pesticides, arsenic, and heavy metals such as lead and cadmium into the environment and can remain in the water and soil for decades while impeding plant growth and contaminating waterways.

Cigarette butts also are a leading contributor to fires as research reveals that U.S. fire and disaster tolls have fallen when smoking decreases. This is an extremely encouraging byproduct in our efforts to reduce the commercial tobacco industry's influence. Personally, fires caused by cigarette butts hit close to home, or my sister's home I should say, as recently, her neighbor improperly discarded an actively lit cigarette butt that started a fire that quickly spread to her home, leaving it heavily damaged and inhabitable to this day, nearly nine months since the fire took place.

A relatively new consideration when it comes to the commercial tobacco industry's negative impact on the environment is e-cigarette pollution. E-cigarettes, or electronic nicotine delivery

systems, in addition to e-liquids, including nicotine salts, contain toxic nicotine which is considered an acute hazardous waste by the Environmental Protection Agency under the Resource Conservation and Recovery Act. Further, the proliferation of disposable e-cigarettes is a grave environmental concern as well given that they are discarded after single-use, are plastic products that reach their end-of-life much more quickly, and are always nearly unrecyclable.

Discarded e-cigarettes introduce the aforementioned nicotine and nicotine salts, along with plastic, heavy metals, lead, mercury, and lithium-ion batteries into waterways, soil, and wildlife. Lithium-ion batteries in e-cigarettes are also flammable and have been known to explode and cause fires in garbage trucks and waste management plants if damaged or exposed to extreme heat. In California, 40% of the fires at waste facilities between 2016 and 2018 were reported to have been caused by lithium-ion batteries.

According to Truth Initiative research conducted in 2020, young e-cigarette users reported they did not know what to do with used e-cigarette pods and disposable devices. Currently, there is no legal way to recycle e-cigarettes in the U.S., and no documented baseline standards for end-of-life disposal by e-cigarette manufacturers. Sadly, it is not surprising that e-cigarette manufacturers are more than happy to put their highly addictive products in our communities but fail to devise a plan and safe system to dispose of their environmentally dangerous items.

Tobacco product retailing, and tobacco product waste, are also environmental justice issues. The tobacco industry has intentionally and aggressively targeted communities of color with their products for decades, meaning that the density of retailers in these communities is higher than in other areas, leading to more tobacco product waste accumulating where there are more tobacco product locations, sales, and users.

Much can be done to reduce the environmental impact of the commercial tobacco industry. Environmental cleanup efforts are a valuable and helpful endeavor. Speaking from my personal experience alongside several fellow tobacco research ambassadors at the University of Missouri, we collected thousands of littered cigarette butts and tobacco paraphernalia as part of a research project to discern daily prevalence of tobacco product use as onlooking community members expressed gratefulness for our cleanup efforts. And on the topic, if you are still enjoying your walk while listening to this Counter Tobacco podcast episode, reflect on the number of discarded cigarette butts, packs of cigarettes, and tobacco product packaging items you have noticed littered on the sidewalks, paths, and streets you have been walking on. It is easy to forget just how much tobacco product litter there is in our communities.

However, cleanup efforts are not enough to combat the effect of littered tobacco products. An overall reduction in tobacco use is essential and this can be accomplished by reducing the number of locations that sell these addictive and deadly products and keeping the commercial tobacco industry accountable for their actions. Going further upstream will maximize our ability to curb the detrimental effects on fish, wildlife, water quality, and public health as a whole.

With that said communities across the country are addressing tobacco pollution through innovative ways, such as drafting or implementing laws to control or eliminate this pollution which can include sales restrictions and tobacco retailer density reduction.

For example, in November 2022, the mayor and city council of Baltimore, Maryland filed a first-of-its-kind lawsuit against six cigarette manufacturers, including Philip Morris USA, Altria Group, and R.J. Reynolds, British American Tobacco P.L.C, Liggett Group LLC, and The George J. Falter Company, to ensure they are held accountable for cleanup costs and the persistent harm resulting from the copious amounts of cigarette butt litter on Baltimore city property. These harms include economic loss, including millions spent in clean-up, decreased property values, and lost business revenue caused by smelly and unsightly litter; environmental degradation, the diversion of city resources, such as government labor, time, and attention devoted to the problem; as well as the unmitigated harms caused by all the cigarette butt litter that deteriorates into microplastics full of toxic chemicals before it can be found and collected.

Baltimore, which spends over \$32 million dollars annually to collect upwards of 2,600 tons of litter argues that the tobacco companies deliberately created this toxic litter problem because between two cigarette filter options: a biodegradable filter made of tobacco leaves, and the current filter made of cellulose acetate—the non-biodegradable plastic which we discussed earlier in the podcast, they intentionally chose to mass produce the non-biodegradable filters because they believed their consumers preferred them. The lawsuit points out that the tobacco companies could have removed the cigarette filters from their products altogether and did not educate their consumers about the toxicity and non-biodegradability of their plastic filters, despite being aware of the prominent misconception of biodegradability but instead, profited greatly while pushing the environmental, health, and economic costs onto the City of Baltimore.

Baltimore's lawsuit resembles mitigation fee policies, or the "polluter pays" principle, to help reduce the burden of cigarette butts and make the tobacco industry responsible for cleaning up the pollution it creates. In effect on January 1st, 2023, in both the city and county of San Francisco, California, every cigarette retailer is responsible for paying a Cigarette Litter Abatement Fee of \$1 dollar and 25 cents per pack of cigarettes sold.

Further, municipalities are enacting policies to curb tobacco product use in key outdoor areas and according to the American Nonsmokers' Rights Foundation, as of July 2017, 312 municipalities across the U.S. prohibited smoking on beaches and 1,497 municipalities prohibited smoking in parks with these numbers surely having increased since 2017. In 2022, Florida passed a bill called the Florida Clean Air Act that allows municipalities and counties to restrict smoking on public beaches and in parks. This move was welcomed and backed by several local government bodies and constituents aiming to preserve the state's delicate natural ecosystem, which includes coral reefs, wetlands, and dense forests. Additionally, four jurisdictions in California, Monterey, Monterey County, San Benito County, and Soledad, have prohibited the sale of single-use e-cigarettes to reduce e-cigarette litter.

Litter education programs and raising the price of tobacco products that contribute to litter waste are additional options to reduce the environmental impact of tobacco products. Policies that reduce the overall availability of commercial tobacco products from point-of-sale establishments would thus decrease consumer use of tobacco products in the jurisdiction that passed the policy and subsequently reduce the amount of tobacco product waste in that jurisdiction's streets and waterways. Continuing to work towards upstream policy solutions and spreading awareness about the agricultural and manufacturing impacts of the commercial tobacco industry will improve the public's health and our environment.

That's all for today. Thanks for listening, and I look forward to you joining us again next time! Check out our website at countertobacco.org, email us at info@countertobacco.org if you have any questions or would like to connect, and check out the show notes if you'd like to see the transcription of this podcast episode. And make sure to rate, subscribe to, and share the Counter Tobacco podcast!

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