Global Center for Good Governance in Tobacco Control

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Tobacco's Toxic Plastics

A GLOBAL OUTLOOK

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Tobacco products' post-consumer waste, including their packaging and cigarette butts, are some of the most widely littered items in the planet. Cigarette butts are a form of non-biodegradable plastic waste which carries tobacco residue, toxic chemicals, and heavy metals that have been shown to harm aquatic and plant life. Plastics in packaging and cigarette butts degrade into microplastics that may be ingested by marine organisms and animals.

Cigarette butts are considered "single use plastics" (SUPs) that need to be subject of regulatory restrictions or bans. Over a hundred countries have focused regulations and bans on shopping bags and food packaging while several countries have embraced the extended producer responsibility (EPR) approach for tobacco product waste, making the tobacco industry pay a certain fee for the waste management and allowing it to "be responsible" for related activities. Such related activities can include "take back" programs, and awareness raising programs, which are being undertaken in partnership with a government agency, or a government endorsed entity.

Tobacco products provide no benefit to humanity or economy, and the tobacco industry should not be treated like any industry. Imposing "social responsibility" obligations (such as the EPR) to a tobacco producer could undermine tobacco control policies, especially when it portrays the tobacco industry positively or allow some form of promotion and sponsorship. Even efforts by the tobacco industry to alter the cigarette filters to eco-friendly ones could become part of a marketing scheme that could undermine advertising bans or regulations.

KEY FINDINGS

In addition to costs of waste management, the world suffers at least USD 20 B per year in marine ecosystem losses due to the tobacco plastic waste that is estimated to enter the oceans. Considering inflation rates, this would roughly be a total of USD 186 B in the past 10 years. This estimate does not account for the environmental harms from the toxic chemicals and metals released by cigarettes.

The global tobacco control treaty could provide guidance on environmental interventions such as reducing plastics and eliminating SUPs like cigarette filters. Encouraging smokers to quit and preventing new smoking addictions can generate environmental benefits by reducing tobacco use-derived plastic waste, providing a triple win for health, environment, and the economy. Governments must put in place smoke-free environments, advertising and sponsorship bans, cessation support, tax and price measures, and other interventions. The tobacco industry should not be a partner in any environmental endeavor and must be held accountable for the costs of harms to the environment and waste management activities.

EXECUTIVE SUMMARY

The negotiations for a global plastics treaty demonstrates the momentum gained on the campaign against plastic pollution, of which tobacco product's plastic packaging and cigarette filters would be covered. More than 170 nations have expressed their commitment and over 90 percent have adopted a national ban on single use plastics (SUP) at the manufacturer or retail level.

Cigarette butts, a source of non-biodegradable plastic waste that carry tobacco residue, toxic chemicals and heavy metals, are known to be the most littered item on the planet. Aside from potentially degrading into microplastics, that may be ingested by marine animals and thus find their way into the human food chain, smoked cigarette filters leach out chemicals and metals that are toxic to fresh water and marine organisms as well as to plant life.

The cigarette filter is a design feature meant to make the product more convenient and attractive to smokers, including children and adolescents as new smokers. Internal tobacco industry documents and research reports reveal that tobacco companies are aware that the filters not only release plastic fibers when inhaled but are a risk for a more aggressive type of lung cancer. Nonetheless, the industry has long recognized the value of the fraudulent marketing claim surrounding the cellulose acetate filter as a safety feature found in more than 95% of commercial cigarettes.

The majority of countries that have banned single use plastics (SUP)s focused on straws, bottles/ food packaging and shopping bags, without any focus on cigarette filters. Only a handful of countries have specifically dealt with cigarette filters/ tobacco products. Instead of eliminating the filter as a single use plastic, as recommended for all such plastics, their approach involves "extended producer responsibility" (EPR), whereby the producer pays for clean-ups and also assists governments with educational campaigns and advocacy directed towards smokers.

The tobacco control community has pointed out that designating such "social responsibility" to a tobacco producer under the EPR rubric could undermine tobacco control policies. For instance, this could effectively portray the tobacco industry and thereby its products positively, or allow indirect sponsorship through so-called corporate social responsibility (CSR) efforts to improve its image. (The tobacco industry is known for its decades of tactics to undermine tobacco control.) Both the public health and environment sector need to speak up regarding the risks of EPR as this approach is being considered in different jurisdictions.

Reducing tobacco use remains a global priority because tobacco still causes eight million deaths and over USD 1.4 trillion in economic losses every year. Helping prevent cigarette butts, packaging, and e-cigarette plastics from entering the environment would also help reduce tobacco use. Based on global tobacco control treaty obligations, governments should support those who want to quit using tobacco products, ban attractive design features, ban all forms of tobacco advertising, promotion and sponsorship (including so-called CSR activities), strengthen the enforcement of smoke free policies in public places, impose higher taxes and other price measures, deal with tobacco industry liability, and address the environmental consequences of tobacco agriculture, manufacturing, and use.

It is clear that the health care costs of smoking due to medical care and indirect losses due to disability is unconscionably large. In addition, policy makers should now recognize the direct and secondary environmental costs of tobacco product agriculture, manufacturing, and disposal. The estimates presented in this report may initiate specific discussion on how to address tobacco's environmental burdens on governments. Governments should take action to hold the tobacco industry accountable for the costs of environmental harm as well as tobacco product waste mitigation, potentially through taxes, litigation, or other mandatory (non-voluntary) measures. They can work towards eliminating the sale of cigarette filters, among other environmental interventions, and thereby encourage smokers to quit. The tobacco industry should be obligated to submit information about product toxicity as well as marketing, sponsorship, and research activities; but independent research must be undertaken to support policy development. Multi-sectoral collaboration among health, environment, and agriculture sectors is key.

BACKGROUND

Tobacco Control and the Environment

Much like the diseases caused by the lethal tobacco product, the environmental harms caused by tobacco production and its usage are wide-ranging. Harms arise at every step of the production process, including tobacco cultivation, leaf curing and processing, manufacturing, use and disposal.

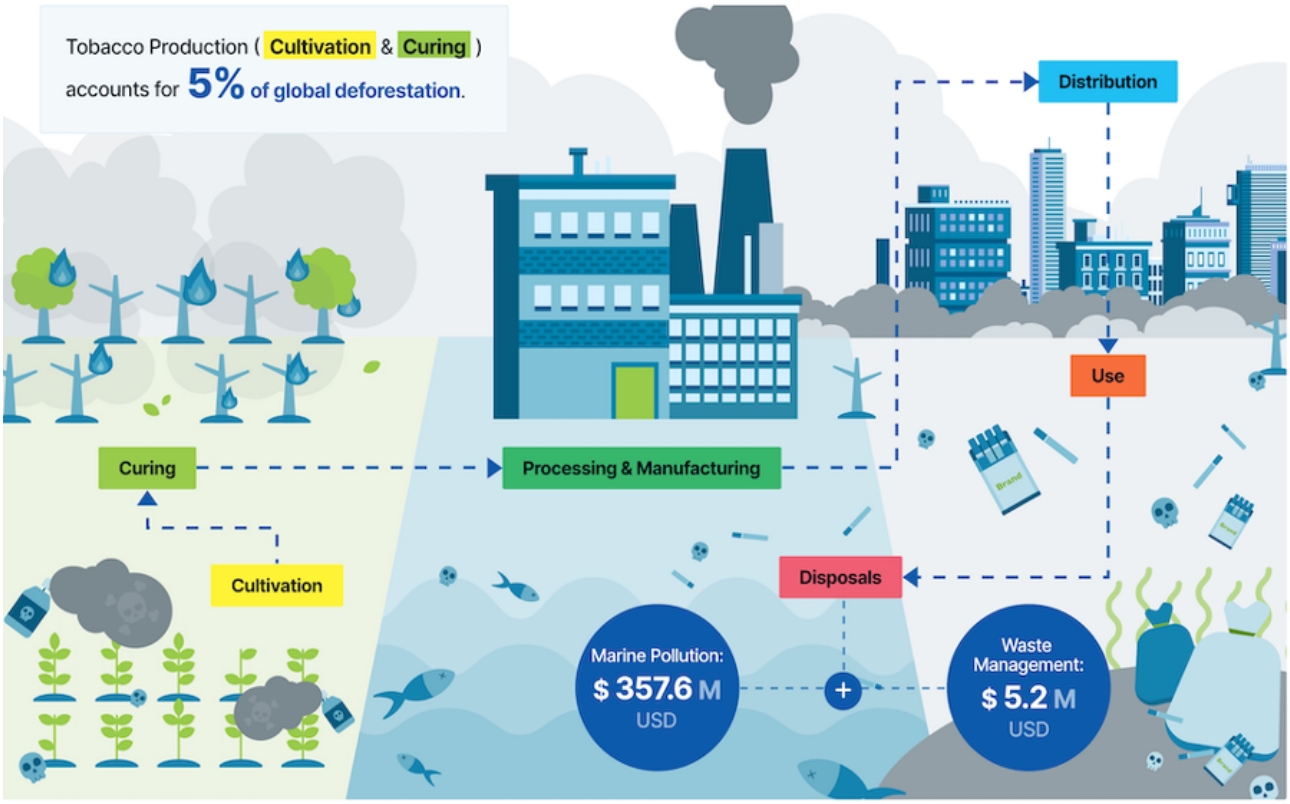
It begins with the tobacco industry's role in deforestation, using hazardous pesticides and toxic chemicals during growing and production, creating a market for flue-cured tobacco leaves that require wood burning, and marketing plastic filters that end up as microplastics.[1] For decades, the tobacco industry has obscured these harms through public relations activities such as tree planting, anti-litter campaigns, and donations to environmental organizations; these actions serve to drown out environmental and tobacco control stakeholders' voices.[2]

The trend to ban single use plastics has generated a fresh focus on cigarette filters, a form of plastic waste that persistently contributes to marine pollution. In March 2022, after years of expert study[3], a UN body established a committee[4] to develop what would be a historic global plastics treaty[5] in response to calls from governments and civil society.[6] In the past, many governments had given little attention to the mounting cigarette butt waste that is deposited into waterways and oceans,[7] but now the proposed new global plastics treaty can be an opportunity to propose robust policies that address the unique environmental problem of discarded cigarette butts.

Environmental groups' campaigns focusing on single use plastics (SUP), especially cigarette butts in coastal areas, have further brought the issue to light,[8] but challenges remain. To date, the participation of the tobacco control community in this discourse is scanty.

With over 170 nations expressing their commitment to a global plastic treaty, over 40 countries have adopted legal frameworks or national plans on dealing with marine plastic pollution. Over 90 governments are implementing a national ban on single use plastics at the manufacturer or retailer level, mostly on shopping bags and food packaging but not on tobacco product waste. [9-11] With a handful of exceptions, legislation has not addressed cigarette butts, despite it being dubbed as the "last acceptable form of littering"[12] and classified as a pervasive form of single use plastic. Similarly, a UN Environment Program report in 2021 on addressing SUPs analyzed in detail "life cycle approaches" on products like shopping bags, beverage bottles, takeaway food packaging, beverage cups, tableware, nappies, menstrual products, and face masks.[13] Notably, the report did not elaborate on cigarette butts, the single most littered item on the planet.[14] This represents a gaping loophole which the tobacco industry can exploit to avoid responsibility for tobacco product waste.

The WHO Framework Convention on Tobacco Control (FCTC) recognizes the tobacco industry as one that cannot be trusted to partner with governments, but in the fight against SUP, which must include cigarette filters, governments are "urged to work together with the industry."[15] This is unacceptable to tobacco control advocates, UN Agencies, including the World Health Organization, other entities and jurisdictions with a policy to avoid engagements with the tobacco industry.



Source: Environment Country Brief HOW SHOULD THE TOBACCO COMPANIES PAY FOR ITS POLLUTION

The infographic suggests how at every stage of tobacco's life cycle, there are serious environmental harms caused. Improper disposal of tobacco products and their clean-up also costs governments across the globe millions of dollars.

Our ocean is drowning in plastic – and with 4.5 trillion plastic cigarette butts leaking into the environment every year, it's a big part of the problem. If we are to truly reverse the current trend of increasing plastic pollution, we need urgent coordinated action to eliminate problematic plastic items. We need to deal with plastics before they becomes pollution, otherwise it will keep entering the ecosystems and the food chain, putting the environment and our lives at risk.

Vitor Leal Pinheiro
Campaigns Coordinator
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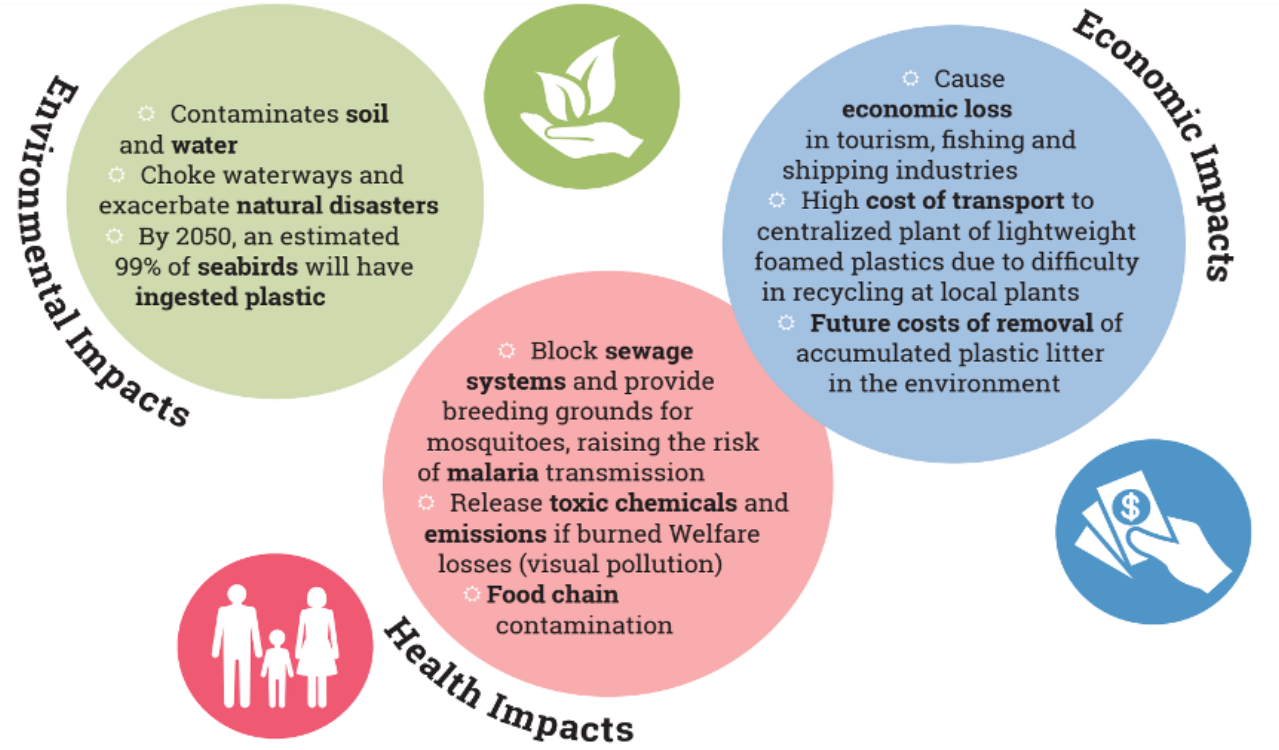
TOBACCO PRODUCT POST-CONSUMER WASTE

Plastics: Packaging & Filters

Tobacco product waste comes in many forms including residues from tobacco cultivation, curing, or manufacturing. In both the research and NGO community, more emphasis has been placed on post-consumer waste, likely due to its ubiquitous nature in terms of litter. Tobacco product waste includes paper, foil, boxes, labels, plastic packaging, cigarette filters, and the tobacco residue and ashes that remain in the cigarette butt. Of these, two stand out as part of the plastic problem: the clear plastic packaging, which typically uses polypropylene[16] and the cigarette filter which is made of cellulose acetate, a plastic/ polymer known to be non-biodegradable. Depending on their retail strategy, the plastic packaging can increase, for example, through wraps placed around multipacks sold in duty free stores.[17]

More attention is drawn to cigarette butts since these are unsightly and persistently littered wastes found in recreational spaces, such as parks and beaches. Some studies estimate that up to 2/3 (30-60 percent)[18] of cigarette butts are littered, while WHO estimates this at 20-40%. Studies consistently demonstrate cigarette butts to be the most littered item during beach clean ups,[19] and the most littered single use plastic by count.[20] Cigarette butts remain in the environment for decades unless picked up. More than 90 percent of commercial cigarettes sold globally are made of cellulose acetate,[21,22] and these are not commonly perceived as plastic due to its "cottony" or fibrous structure. The tobacco industry calls this "partially biodegradable" but admits these are not classified as biodegradable.[23] Various sources point out that butts take about 10 years to disintegrate. [24] Even then, their residuals may persist as microplastics or unidentifiable plastic pieces less than 5 mm in size.

The problem with microplastics is that they may be ingested by marine animals and this ultimately becomes a possible exposure pathway for humans through seafood consumption. Microplastics found in freshwater and terrestrial environments and contaminants have also been found in drinking water.[25] Even airborne microplastics are of concern.[26] Plastics could also serve as carriers of chemicals and persistent organic pollutants (POPs). Some chemicals found in plastic debris included Polycyclic aromatic hydrocarbons (PAH) and polychlorinated biphenyls (PCB) , DDE Dichlorodiphenyldichloroethylene (DDE) (a breakdown product of DDT) and trace metals.[27] Plastic pollution found in the ocean and coastal states have adversely affected fishing and tourism (deters visitors). In 2019, Beaumont et al estimated that the loss of marine capital due to plastics is USD 3,300 to 33,000 per tonne per year, or about 2.5 trillion USD per year. Like other microplastics, cellulose acetate has been found at the bottom of the sea.[28] In a 2021 report for WWF by Dalberg, it is estimated that the loss of ecosystem services during the plastics' lifetime is USD 3.7 Trillion per year.[29]



ENVIRONMENTAL IMPACT OF PLASTICS

Source: Fact-sheet for Policymakers. Single-Use Plastics: A Roadmap for Sustainability. United Nations Environment Programme, 2018.

Cigarette Filters

Hazardous Waste

Chemical & Heavy Metals

Around 5.5 trillion cigarettes are produced annually in the world, amounting to about 1.2 million tons of cigarette filters. Smoked and discarded cigarette filters have higher metal content and toxicity than other plastics[30] (and even asbestos)[31] and a study conducted in the Persian Gulf demonstrated the high amounts of lead and mercury that could enter the food chain through discarded and consumed plastic waste and thus, the human body, though more evidence is needed to confirm these findings.[32]

Due to plastic waste's ubiquity in aquatic biomes; the harms to marine life, including contamination of the food chain, may be most concerning.[33] Laboratory-based studies on harms to aquatic life found that cigarette butt leachates are extremely toxic for a wide range of organisms including the most resilient and tolerant forms[34] (e.g. silver fish, clawed frog, catfish, snails, amoeba and shrimp)[35,36], increasing mortality with extended exposure; with smoked filters containing tobacco remnants being more toxic than those without.[37,38]

Toxic leachate from filters and tobacco residue pollute the waterways from when butts collect in storm drains and groundwater near improperly constructed landfills or dumpsites where butts are placed.[39]Even a small amount of cigarette butt leachate was sufficient to affect reproduction in the case of copepods, a key food source of fishes.[40] In most cases, the experiments lasted no more than 2-10 days before the lifeforms die. In one study, as little as five cigarette butts in a liter of water killed snails in two hours.[41]

Nicotine, a common chemical leached from cigarette butts, is so toxic that it has been used as a pesticide.[42] Smoked cigarette butts can also release nicotine in toxic concentrations in urban waterways[43,44] as well as in the air over 48 hours from disposal.[45] Other cigarette butt toxins that were studied included cadmium, arsenic, mercury, copper, iron, nickel, zinc, manganese, benzene, toluene, ethylbenzene and xylene (BETX), Polycyclic aromatic hydrocarbons (PAHs), pyridine, and others.[46] There are 7000 chemicals in cigarettes, and among these at least 50 are carcinogenic.[47]

This is in addition to toxicants that are transmitted to the air through mainstream / side stream, second and third hand smoke and discarded butts.[48] Even cigarette ashes have been tested for toxic metals and shown to be genotoxic (Harmful to genes/ DNA); while waterpipe wastewater exhibited toxicity that kills marine life.[49,50] Cigarette butts are found to be phytotoxic (harmful to plants);[51] impeding plant germination[52] and growth,[53] and contaminate plant-based commodities with nicotine.[54]

Despite what is already known, the level of toxicity of cigarette butts in terrestrial and wildlife requires further research.[55] Nevertheless, the knowledge gap in the extent of environmental harms should not preclude adopting policies to prevent harm. The precautionary approach in environmental law calls for taking preventive action even in the absence of full scientific uncertainty;[56] and the internalization of environmental costs while taking into account the polluters pay principle.[57,58]

Consumer Health

From a health standpoint, cigarette filters have two fundamental flaws. First, they serve to deceive the consumers into thinking that the product is safer[59] thus increasing initiation and reducing quit attempts. Second, they can cause increased inhalation of toxins and plastic fibers which cause cancers.[60] The filter originated as an attractive/ marketable design feature to keep tobacco out of the mouth as it traps cadmium and arsenic; however, the plastic fibers from the filters has been linked to increased risk of adenocarcinoma, a more aggressive type of lung cancer. [61,62] According to the US Surgeon General's Report of 2014, in 50-60 years of filter marketing, the actual incidence of adenocarcinoma has increased specifically related to the cigarette design. Cigarettes can function without the filter but when discarded, it would still be toxic, although biodegradable.[63] Cigarettes without filters could be less palatable and potentially induce quitting.[64] The vast majority of smokers use filtered cigarettes.[65] Almost all commercial cigarettes now use feature the cellulose acetate filter. Research of internal documents reveal how the tobacco companies[66] knew for over 40 years about the defective filters and demonstrate how the tobacco industry has been negligent in not conducting further studies on the same despite having the resources to do so. Instead, the tobacco industry actively concealed its studies[67] on the “fall out” of plastic fibers that could travel to the lungs.[68]

Waste Management

Wastes that are toxic should be contained so they do not find their way into the environment. In developing countries, not all wastes are contained or collected, and if they are, they could still land in uncontrolled landfills or dumpsites, where toxins would leach into the environment.

Cigarette butts pose an additional challenge as they remain the most littered item,[69] based on 32 years of clean up experience. Studies show that in municipal clean-up or anti-littering efforts, cigarette butts form a significant portion of visible litter.[70] Cigarette butts, often seen along with cigarette packs, are dropped onto the streets, or into drains and toilets as some believe that filters are made of cotton and are hence, are biodegradable; while some think they need to stub it out e.g. on the ground to avoid fires.[71] Anti-litter campaigns funded by tobacco companies, including giving away bins and pocket ashtrays, have not brought about a significant effect in reducing tobacco litter.[72] This could be due to the fact that the tobacco industry is more interested in supporting its public image and shifting the responsibility for littering cigarette butts to the consumer than genuinely solving the problem.[73]

Litter management or ”abatement” includes mechanical or manual sweeping or washing of public places, storm drains, sewers, (e.g., cleaning debris screens and filters at sewage treatment plants), waste water treatment,[74] and others forms of manual or mechanical clean-up. This can be costly and in many cities, implementing a smoking ban in public places significantly reduced cigarette butt litter.[75] In some jurisdictions, in addition to a smoking ban, the costs of clean-up have been passed on to the tobacco industry. In 2009 in San Francisco, an abatement fee of around 20 cents per pack was imposed on the tobacco companies[76] when it was estimated that the city spends about $5.6 million in abatement costs. USD 5.6 million represents 20 percent of the total abatement costs, since tobacco product waste represented 20% of all visible litter cleaned up.[77]

Litter management is but one part of waste management. Waste management could refer to managing solid or liquid wastes, usually undertaken at the municipal level. In most municipalities, this involves collecting, treating, and disposing of solid waste material in either a dumpsite or a landfill, ideally a sanitary landfill.

"Treating" solid waste will depend on the type of material, particularly, if it can be reused or recycled.[78]

Due to its toxicity, cigarette filters could be treated as a form of hazardous waste that would involve special handling. However, the ultimate goal in recent waste management trends is to reach "zero-waste," not just by managing existing waste but by focusing on preventing the waste from the start of the product life cycle including the redesign, so that ultimately, nothing is disposed.[79]

Recycled or Hazardous Waste

Despite the corporate narratives of tobacco companies in relation to sustainability, including "net zero" goals,[80] to date there is no sustainable means of dealing with cigarette butts. The hazardous chemical toxins released by cigarette butts[81] raised concerns about leaving them in landfills or incinerating them;[82] recycling them also introduces health risks.[83] Due to the high level of metals in cigarette butts, disposal in landfills would not be recommended.[84] A larger problem is that in many developing countries, where tobacco consumption is higher, solid waste, including cigarette butts, either remain in the environment, or if collected, are placed in uncontrolled landfills and dumpsites.

Current technology for hazardous waste such as pyrolysis and gasification[85] are seen as unsuccessful, or not financially viable and unsustainable due to emissions.[86] Industry-backed studies are supportive of recycling cigarette butts but there are data gaps on the safety and feasibility of recycling butts, for instance, into bricks, asphalt or other building material without pre-processing methods[87,88] or other uses that require significant preprocessing, including the removal of toxins or sterilization/ radiation, or altering their structure such as enclosed shredding.[89,90] Many of these studies fail to prove human/ environmental safety,[91] or cost effectiveness, while some suggest complex methods of isolating the cigarette butts by encapsulating them with wax and bitumen to prevent leaching toxic metals when used in building materials.[92]

Experts have proposed that cigarette butts be treated as "hazardous waste" [93,94] although "household hazardous waste" under which cigarette butts may fall, is typically excluded from "hazardous waste" classification; thus, cigarette butts would be treated just like any household waste unless otherwise legislated.[95]

It must be noted that the tobacco companies could easily claim to make the plastic packaging recyclable. As to cigarette filters, the tobacco industry claims that converting filters to biodegradable ones is not commercially feasible. According to the Golden Holocaust, it is cheaper for cigarette companies to manufacture filtered cigarettes than unfiltered cigarettes of the same size.

In the face of regulatory pressure, it is likely that the tobacco industry would introduce biodegradable filters and use it as a marketing and fake corporate social responsibility ploy.[96] It bears stressing that even if filters become biodegradable, they will still continue to carry hazardous chemicals and metals.[97]

A staggering 4.5 trillion cigarette butts are improperly disposed of in a single year. These cigarettes contain filters mainly composed of microplastics. Pollution from these microplastics, and the over 7,000 chemicals and toxins they contain, is damaging to land and marine ecosystems. The tobacco industry is harming not just human health, but the health of our planet and its other precious inhabitants.
It is high time that industry is held accountable for this devastation.

The WHO Framework Convention on Tobacco Control calls on Parties to protect the environment and the health of the people.

Dr. Adriana Blanco Marquizo
Head of the Secretariat of the WHO Framework Convention on Tobacco Control

UNIQUE PLASTICS & TOBACCO INDUSTRY TACTICS

UNEPs Legal Limits on SUPs and microplastics, 2018[98] reveals that around 120 countries have adopted policies to address single use plastics, of which 90 involves a ban imposed on manufacturers or retailers, mostly on plastic bags. Over 40 countries also adopted some form of Extended Producer Responsibility (EPR) in regulating plastic bags.[99] A 2020 compilation report for the G20 shows that at least 24 countries and the EU are working on a national legal framework or national action plan to address marine plastics, and the report shows that only France, Italy and EU have specific provisions on tobacco or cigarette butts.[100] The EU has applied EPR to tobacco products, of which France has started implementing in collaboration with a third party producer (see box on EPR in France); whereas in Italy, tobacco producers will be collaborating with the environment ministry to raise awareness about the environmental harms of cigarette butt littering.[101]

Although tobacco products are covered by a special provision in the EU SUP Directive, it appears that the EPR approach taken is not differentiated to prevent tobacco industry interference. Unlike any other single use plastic waste, tobacco product waste comes from a product with no beneficial use for humanity and that kills half of its consumers, if used as intended by the manufacturer.[102] Tobacco products are subject to strict regulations including through a global treaty, WHO FCTC, that over 180 governments have ratified. [103,104]

A general obligation (article 5.3) in the treaty mandates parties to protect public health policies from the commercial and vested interests of the tobacco industry. Article 5.3 Guidelines adopted by treaty parties, recommends, among others that: the tobacco industry must not be given a seat at the table, the government and its officials should avoid conflicts of interest and potential/ perceived tobacco partnerships, limit their engagement with the tobacco industry, denormalize so-called CSR of the tobacco industry, not incentivize the tobacco industry to run its business, and raise awareness about tobacco industry tactics.[105]

Accordingly, governments have divested tobacco industry interests (e.g. pension funds of Norway have dropped tobacco stocks from their portfolio), adopted Codes of Conduct to avoid "unnecessary interaction" with the tobacco industry (e.g. Australia, Canada, the Philippines, Thailand Uruguay) (Handbook on Implementation of WHO FCTC Art 5.3, GGTC). The EC also recognizes that, in terms of stakeholder inclusion, special rules like Art 5.3 of the WHO FCTC and the corresponding EU guidelines apply to the tobacco industry.[106] In the private sector, major asset managers that have embraced responsible investing have specifically excluded tobacco companies from their portfolios.[107]

Among international organizations, UN Agencies are urged, through a UN ECOSOC resolution, to adopt a Model Policy to prevent tobacco industry interference.[108] UN agencies have shunned tobacco participation (e.g. UN Global Compact), funding (e.g. ILO), and have developed exclusionary rules against tobacco companies (e.g. WHO, UNDP) along with the weapons or arms industry; the World Bank also has exclusionary rules applied against tobacco companies. [109-114]

SO-CALLED CSR

Although not unique to the tobacco industry, "so-called CSR" or greenwashing is a pervasive tactic to downplay environmental harms. The tobacco industry is known for its strategy of clouding the scientific debate on the harms of environmental tobacco smoke using sophisticated PR strategies.[115] It demonstrates the industry's reckless disregard for human life, (and even more so marine life and the rest of ecological habitat), as it seeks profits. The tobacco industry's own research has found that unsightly cigarette butts have the power to create tobacco control supporters, and in response, tobacco companies have focused their environmental PR strategy on litter collection.[116]

Also for the purpose of escaping being held "practically or financially responsible for cigarette litter," tobacco companies conduct educational campaigns, anti-litter campaigns, giveaway ashtrays/bins, and promote claims around producing biodegradable filters;[117] and ingeniously passes the responsibility on to smokers.[118] But because these activities are designed to protect interest in the product/ smoking, these do not substantially affect smokers' littering behavior.[119,120] Enforcement of anti-littering laws and campaigns have been found to be largely ineffective in preventing cigarette butts from entering the environment.[vii] The perception that tobacco producers are responsible (instead of smokers) increases with the increased knowledge about the non-biodegradability of cigarette butts.[122]

Anti-litter partnerships are usually made directly (e.g. by Philip Morris International (PMI), British American Tobacco (BAT), Japan Tobacco International (JTI)) or in partnership with third parties funded by major tobacco companies, such as Keep Britain Tidy and Keep America Beautiful,[123] with the latter often recognized by several environmental initiatives.[124] Research shows that reports involving such third parties put the tobacco industry in a good light, although no significant change in littering levels of cigarette butts were achieved.[125]

Studies also reveal the tobacco companies' ability to penetrate environmental NGOs to further their interests; for instance, with BAT's annual GBP 100,000 funding of the conservation science organization EarthWatch, [126,127] which moved forward despite ethical implications. Other industry-backed initiatives included refund schemes in Canada, anti-litter labeling policy in EU and conversion to plastic pellets in the US. In a 2018 report that listed cigarette butts as the number one item collected; Altria Group, previously known as Philip Morris, was listed as a "sponsoring partner in the International Coastal Clean Up effort" (see Annex III).[128]

Article 5.3 Guidelines agreed upon by the Parties calls for a ban on sponsorships including so-called CSR of tobacco companies. Around 70 countries have a ban on tobacco's so-called CSR and/ or the publicity thereof. Experts also recommend minimizing tobacco industry interference through the NGO sector, including "hidden" partnerships that may allow access to policymakers.[129]

In more recent times, tobacco companies' initiatives in the environment sector, including contributions made to NGOs, also serve an economic function for tobacco transnationals. Such activities are included in their sustainability and Environmental Social and Governance (ESG) reporting, which are designed to lure investors. [130]

Private Sector "Social Entrepreneurship": TERRACYCLE

A leading recycling company, Terracycle,[131] which claims to convert cigarette butts, and e-cigarette waste, into shipping pallets, ashtrays, plastic lumber, and park benches,[132-134] is linked to the tobacco companies. For years, Terracycle runs a program that provides receptacles to the communities or NGOs to facilitate cigarette waste collection and donates US$1 to Keep America Beautiful (KAB) for each pound of cigarette butts collected as an incentive.[135,136] Terracycle collaborates at the local level on butt recycling initiatives with funding from KAB,[137] and runs a national program with Santa Fe Natural Tobacco Company.[138] It claims to be funded by major brands and is operating in 24 countries naming Argentina, Brazil, Japan Korea and the UK among others.[139] The partnership with the tobacco industry has since become more blatant. In 2021, PMI through its Canadian subsidiary, a leading tobacco company called Rothmans Benson and Hedges, partnered with Terracycle and aligned it with its "Unsmoke Canada" corporate program. It is unclear if environmental organizations that partner with Terracycle like Greener Future are aware of the tobacco industry links.[140]

GREENWASHING:

Why typical solutions to greenwashing do not apply to tobacco

Tobacco industry's practice of so-called environment-related CSR is dubbed as "greenwashing." Greenwashing has been a perennial concern for environmental advocates. Corporations tend to compensate for their environmental harms with token "socially responsible" activities, usually accompanied by strong public relations efforts that magnify the disproportionately small or even negligible effort to mitigate environmental harms.[141] This has become more pronounced in view of the rising trend toward sustainable investments that are monitored based on "ESG ratings"-Environment Social and Governance ratings- that are tied to UN SDG initiatives where finance corporations and asset managers are strongly encouraged to invest in corporations that have high ESG ratings. Corporate actions taken and operational expenses made in the guise of "social responsibility" or sustainability now form part of self-published ESG reports which would influence a corporation's ESG ratings.[142]

In the environment sector, governments and most advocates recognize the value of bringing the corporate sector on board to solve the greenwashing issues in a meaningful way and would call on the corporate sector that has caused environmental harm to do more, or at least be more transparent and make honest claims about their contributions. Proposed solutions include:

- firming up definitions for purposes of clarity in corporate reporting,
- eco-labelling regimes (EU, France, Spain and the UK),[143]
- monitoring ESG ratings, curbing "unfair commercial practices" and "misleading and comparative advertising, (EU), and
- strengthening corporate governance rules (for example, improving corporate transparency and disclosure).

Several of these proposed policies, if applied to the tobacco companies, imply that they may continue to publicize its "good deeds" if these do not qualify as "false claims," and comply with transparency rules, among others. This ignores the fact that the tobacco industry must not be allowed to publicly communicate in any way that boosts its image as this could be a form of advertising that is inimical to public health. The proposed recommendations may work to address greenwashing issues of other industries that produce economically beneficial goods but could create greater damage when applied to the tobacco industry without taking into account tobacco sponsorship and marketing bans mandated by the global tobacco control treaty. Over a hundred countries implement some form of ban on advertising and sponsorship while around 70 countries ban CSR or the publicity thereof.[144]

Article 13 of the WHO FCTC obliges Parties to ban tobacco sponsorship, including so-called corporate social responsibility (CSR) of the tobacco industry, as part of a comprehensive advertising ban. Article 13 Guidelines further describe so-called tobacco CSR as a form of advertising: "Tobacco companies may also seek to engage in 'socially responsible' business practices which do not involve contributions to other parties (e.g., good employee-employer relations, environmental stewardship, responsible business practices). Promotion to the public of such otherwise commendable activities should be prohibited, as their aim, effect or likely effect is to promote a tobacco product or tobacco use either directly or indirectly."[145] "Public dissemination of such information should be prohibited, except for the purposes of required corporate reporting (such as annual reports) or necessary business administration (e.g., for recruitment purposes and communications with suppliers)."[146]

POLLUTERS PAY PRINCIPLE AND EXTENDED PRODUCER RESPONSIBILITY (EPR)

The principle that 'polluters must pay' is enshrined in international environmental law. Governments have implemented the principle in the form of eco-taxes imposed on polluters, surcharges on polluting products or industries, or charging polluting companies for clean up costs etc. Another approach is to treat the producers not only as polluters deserving penalties or fines, but also as stewards who are responsible for mitigating the environmental harms of their products throughout their life cycle.[147]

A trending formulation is the Extended Producer Responsibility (EPR), a "policy approach under which producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products. Assigning such responsibility could in principle provide incentives to prevent wastes at the source, promote product design for the environment and support the achievement of public recycling and materials management goals".[148] In some cases, such as in electronics and batteries, this involves collection of used electronics at points of sale or trade-in programs. In most cases, some form of duty is imposed on a producer to pay for costs; for instance, EPR fees could take into consideration, among others, the need to recover costs of waste management operations, harmonization across jurisdictions to reduce compliance costs,[149] unintended consequences of product design changes[150] administrative costs of complex structures, or magnitude of fee changes to encourage design changes.[151]

The idea of EPR and product stewardship comes from the precept that the plastic item or product has certain functions including some benefits to health or the environment. Evidence shows that cigarette butts have no benefit and in fact, is in itself a more harmful unnecessary accessory to an already lethal and addictive product.[152] It has no benefit to humans when used as intended and has enormous harms to the environment and animals when discarded.[153] Ultimately, some aspects of EPR, may be challenging to implement within the context of tobacco control.

The variety of EPR models (product fees or taxes, take back mandates, etc.) would likely undermine advertising and sponsorship bans unless the EPR model involves financial responsibility in the form of payments to a public fund to shoulder waste management, but does not allow the industry to participate in any other way or prohibits its exposure as CSR. This would be more akin to an outright tax or surcharge than EPR.[154] Notably, in the case of tobacco, even mandating that the taxes be proportionate to the product's level of toxicity, as some jurisdictions have practiced for plastics, could potentially undermine tobacco control policies if it comes across as a form of incentive to "improve tobacco product design", essentially providing the tobacco industry incentives to run its business, which WHO FCTC Article 5.3 Guidelines warns against.

Elements of EPR

The basics of EPR are almost the same in every country:

- Every obligated company pays a fee when introducing a packaged good in a market.
- The fees go toward the collection and further processing of the packaging waste.
- Ensuring the collection, sorting, recycling, or energy recovery of packaging waste remains the responsibility of the obligated companies. EPR involves producers in the management and financing of packaging waste and gives them the obligation to assume responsibility for their waste. Some level of awareness raising is undertaken to implement the activity (e.g. sorting, collection, refund, etc.)

EPR is not a Green Tax or a Simple Surcharge

Green taxes or Surcharges are environmental taxes or import duties that are charged for raw materials and goods. In these cases, most of the funds usually flow into the general budget, so no producer responsibility exists as defined under the EPR system.

Source: Modified from Legal Framework Study of Extended Producer Responsibility (WWF, 2019)

In practice, EPR needs to be constantly assessed to enable improvements.[155] Much can be learned from a review of existing EPR schemes. According to the OECD report, EPR , typically applied collectively towards producers, had been initially anticipated to encourage or instigate "Design for Environment" but has not shown much success.[156] The policy analysis recommends a more thoughtful approach of differentiating products and modulating fees in order to achieve EPR's objectives.

Differentiating Hazardous Products

The differentiation between beneficial products and inherently harmful or hazardous products is crucial. Hazardous products "can significantly increase the costs of recycling, lower the value of recycled material and cause substantial environmental damage in case of improper disposal; fees can be Increased to incentivize the phase-out of hazardous substances".[157]

Conducting Campaigns

EPR fees must be modulated to include communication efforts about sorting instructions, citing French EPR which incentivizes communication activities.[158] Current EPR schemes rely greatly on consumer awareness because the sorting at source/ point of disposal is at the core of improving collection and recycling rate. Most EPRs include a duty to engage in consumer awareness.[159]

Promoting Recycled Material

Some EPR schemes which encourage "secondary plastic" or recycled content aim to increase the demand, encourage recycling, and reward producers that innovate. However some have contested the scheme[160] because it could include increased fees if there are no eco-labels and decreased fees if a product has recycled content.[161]

In the case of cigarettes, this could signal encouraging a "better cigarette" or rewarding tobacco companies with attractive product design features, in contravention of treaty provisions on product regulation, and marketing restrictions.

Third Party Governance

Where the EPR system is administered by third parties, such as in France and Italy;[162] governance is key and the fundamental principles including of avoiding conflicts of interests should apply. In the case of tobacco control, this prohibits tobacco industry from taking part. For instance, the EPR formulation in France requires the setting up of a Producer Responsibility Organization (PRO) which acts on behalf of several corporations to collectively take back product waste. Such a third party could be acting to further tobacco industry interests and could be an instrument in promoting the tobacco industry's so-called CSR, undermining the principle that tobacco industry and social responsibility is an inherent contradiction. Such activities are also viewed to undermine CSR bans and Government efforts to denormalize so-called CSR of the tobacco industry.[163]

In some countries, the EPR system is a voluntary initiative of the industry typically in partnership with the national or local government.[147] Hence, it is crucial to ensure that any proposed policy to deal with tobacco industry's greenwashing or environmental impact, including the application of EPR, should be consistent with WHO FCTC, particularly Article 5.3 (Protection against Tobacco Industry Interference) and Article 13 (Tobacco Advertising and Sponsorship Ban).

Case study

France's EPR System

In the context of the Single Use Plastics legislation in France, Extended Producer Responsibility (EPR) systems are specific systems for organizing waste prevention and management for certain types of products. These systems are based on the principle of EPR. Producers generally choose to organize themselves collectively to meet these obligations within the framework of non-profit eco-organizations, approved by the public authorities. (These "producer responsibility organizations", which are nonprofit collective groups that manages the EPR fees, engages producer companies, and contracts with waste management entities, "holds campaigns, sometimes jointly with local authorities, that provide coherent messages across the country").[158]

There are currently fifteen waste management systems operating under this principle in France, which is one of the countries with the highest recourse to this system.

With the implementation of the European SUP directive in France the tobacco industry has used its EPR activities to promote itself much like promotion of so-called CSR activities that have been prohibited since 2016. The website of the eco-organism ALCOME gathering all tobacco producers presents its activities as "conceived by the main tobacco manufacturers and whose objective for two years was to prefigure this sector, in particular through work (studies, experiments with collection systems) and discussions". In their communication on the website they only focus the attention on the behaviours of smokers.

They communicated for the launch of the program in the first cities.[164] In parallel producers such as Philip Morris participated to environmental fairs supported by public authorities such as "le salon produrable" between 2019 and 2021). The CNCT seeks an implementation of the policy that is aligned with the country's tobacco control policies and commitment to WHO FCTC, especially the general obligation to protect against vested and commercial interests of the tobacco industry (Article 5.3) In effect, the tobacco industry should pay for environmental damages in accordance with the EPR policy but they will only pay, without any possibility to communicate about it, and without creating any relationship with any local and other public stakeholders, and the "producer organization" or waste management would be carried out by an one that is independent from the tobacco industry.

(Contributed by Emma Beguinot CNCT)

Case study

Tobacco Industry-linked Third Parties Perspectives on EPR

A "butt litter" "charity organization"[165], that partners with a private sector vendor of cigarette receptacles (ashtrays/ bins) proposed to include recycled butts in the Australian governments' "priority material list." The submission, which received an endorsement from tobacco company-linked Keep Australia Beautiful Council WA,[166] leveraged on the growing adoption of EPR and Stewardship Policies such as in Europe, California, the Netherlands, and Canada and potentially New Zealand and UK.[167]

The proposal also recognized that said policies were implemented with limited support from tobacco companies due to WHO FCTC restrictions limiting tobacco industry collaboration with governments; and then suggested that a third-party organization like the proponent could fill the leadership gap.[168] A review of the proposal reveals blatant reiteration of tobacco industry positions such as:

- Inclusion of tobacco companies in policy development.[169]
- Making the health department an optional participant[170] although recognizing that health policies would be affected.[171]
- Inclusion of civil society from environment sector but not from health sector.[172]
- An agenda to agree on high level principles that focuses on "stewardship," and revenue generation including a possible EPR scheme, but excludes tobacco control.[173]
- Urging government to fund research in recycling butts.[174]
- Shifting the responsibility to smokers by focusing on awareness raising and littering fees.
- Recommending tobacco product accessories like a "butt pocket" or portable ashtray which could undermine TAPS bans.[175]
- Recommending "labeling" schemes to "inform" smokers, which go against the plain packaging legislation.

According to the submission, tobacco companies resist the cleaner option of wide scale implementation of biodegradable filters due to focus on e-cigarettes/ smoke free future. And despite acknowledging that "filterless cigarettes is worth considering," it makes no further discussion on the same; and instead, focuses on repurposing/ recycling cigarette butt to keep them out of landfills. It also emphasized the consumers responsibility to reduce littering.[176]

LIABILITY FOR ENVIRONMENTAL HARMS

Some variation of "product stewardship" or "extended producer responsibility" that favors corporate actors may not fall squarely within what environmental NGOs envision as a mechanism to hold corporate actors accountable and to ensure climate or environmental justice and equity. To elaborate on the polluters pay concept, some NGOs have outlined principles for advancing liability which are essential for a just and equitable approach to holding the industry accountable for environmental concerns.[177] In the context of tobacco control, several of these principles are enshrined in the WHO FCTC, reflected in country policies, or reminiscent of some history. For instance, the principle that the governments must "be regulatory and mandatory" and "not self-regulatory or voluntary" is an underlying dogma in the Guidelines for the Implementation of Art 5.3 of the WHO FCTC, which frowns on government receiving voluntary approaches and contributions of the tobacco industry. The principle of "funding reparations owed to communities" echoes the litigation approaches by groups of victims against the tobacco companies; such as the flight attendants who were compensated for cancers caused by second hand smoke.[178] Imposing a surcharge or tax on tobacco products to finance health promotion activities, as practiced in several countries in accordance with WHO FCTC Article 6 Guidelines,[179] can be viewed as a form of "funding reparations".[180] The "phase-out of polluting products" is tantamount to endgame strategies toward phasing out the sale of tobacco products, that could qualify as a strategy to go beyond the tobacco control treaty, in accordance with Art 2.1 of the WHO FCTC; [181] while "funding a just transition that protects workers' rights and livelihoods," is at the heart of livelihood diversification embodied in Art 17/18 of the WHO FCTC.[182] For the principle "Deny transnational corporations immunity or protection from liability including through Investor-State Dispute Settlements (ISDS)"; a precedent was set when the tobacco industry was excluded from enjoying the benefits of ISDS chapter in the Comprehensive and Progressive Agreement for the Transpacific Partnership (CPTPP).[183]

In summary, the WHO FCTC and the policies or practices that some countries apply to the tobacco industry are in sync with some of the principles that are viewed to achieve climate or environmental justice. This could be viewed as one of the many compelling reasons for achieving environmental goals by advancing liability against the tobacco industry.

Environmental liability should serve two goals: it should provide incentives for the prevention of environmental harm to operators and it should lead to remediation of environmental harm, meaning compensation of victims and clean-up of the pollution caused.

Source: Environmental Liability of Companies, European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs, 2020 https://www.europarl.europa.eu/RegData/etudes/STUD/2020/651698/IPOL_STU(2020)651698_EN.pdf

Principles for Advancing Liability

Measures taken to hold polluting industries liable should employ a combination of legislation and litigation to spur actions that advance corporate accountability through a variety of actions, including those that are civil, criminal, legal, cultural, and administrative. Measures to advance liability should adhere to the following principles:

Be regulatory and mandatory:
Be regulatory and mandatory for the relevant corporation(s), not self-regulatory or voluntary.

Honor differentiated responsibilities:
Respect the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC) as enshrined in the United Nations Framework Convention on Climate Change and in international and climate change law, which acknowledges that countries that have contributed the most to climate change have the responsibility to take the greatest and fastest action.

Directly support frontline communities:
Provide publicly governed mechanisms that channel large-scale finance to directly support the communities on the front lines of the climate crisis: those who are leading the way in just and gender-responsive solutions and who are unduly experiencing the greatest impacts.

Frontline communities control public finance:
Place control of public finance in the hands of these frontline communities and under public control in general.

Protect rights of people:
Protect the rights of local communities, Indigenous peoples, peasants, fisherfolk, pastoralists, nomadic and rural peoples, and women as stewards of nature.

Recognize and protect the rights of nature:
Recognize and protect the rights of nature in harmony with protecting rights of the stewards, acknowledging nature sustains all life on Earth and must be respected, preserved, and treated with reverence.

Ensure equitable access to real solutions:
Ensure equitable access to real, community-led and gender responsive solutions to adapt to and mitigate the effects of climate change.

Finance real solutions at scale:
Make feasible the implementation of real solutions by accessing vast finance to implement them at scale, while rejecting polluting industry schemes like carbon markets, net-zero, negative emissions, and geo-engineering and ending abusive business practices.

Fund reparations toward climate/ ecological debt:
Fund reparations toward the climate and ecological debt owed to communities most affected by the climate crisis, not shareholders or other actors such as investors.

Promote phase-out of polluting products:
Contribute to a rapid phase-out of polluting products like fossil fuels and destructive activities such as deforestation in line with what is needed to keep global temperature rise to 1.5 degrees Celsius, not become a "license to further pollute."

Help fund a just transition:
Help communities fund a just transition that protects workers' rights and livelihoods. Avoid dependence on polluting industries: Guarantee workers or communities are not made to become dependent on polluting industries, directly or indirectly.

Help end corporate impunity:
Contribute to ending corporate impunity and other business practices that are exposing nations and communities to the threat of extinction.

Shift costs from people to entities responsible:
Shift the costs of climate change from people and communities to the entities responsible for both global greenhouse gas emissions and the intentional deceit that has inexcusably delayed climate action.

Deny immunity to corporations:
Deny transnational corporations immunity or protection from liability, including through Investor-State Dispute Settlements (ISDS).

This list is not exhaustive but it should be used to assess the strength of steps taken by decision-makers to advance policy measures (such as to advance liability).

Source: Liability Roadmap, available at www.liabilityroadmap.org (emphasis supplied)

PLASTICS POLICY LANDSCAPE & TOBACCO CONTROL

It is widely recognized that the global plastics treaty will need to incorporate the entire chain and go beyond waste management to include production and reuse. Environmental scientists and organizations identified the following starting points for discussion: absolute reduction in plastic (especially virgin plastic), elimination of SUP, safe recycling (ban hazardous activities used to give plastic desired qualities/ produce plastics only if it can be safely and optimally recycled), removing plastic from/ preventing its entry to the environment, and modifying existing legislation such as EPR to consider certification schemes and voluntary industry standards, remediation of plastics in the environment with a view to making whole the adversely impacted communities. [184,185] Remediation of plastics from the environment such as removing plastics from the ecosystem e.g. rivers and oceans, is financially unsustainable[186] and hence, the focus has been on prevention.[187] CIEL, in its analysis of the greenhouse gas impact of the plastic waste, recommends a ban on SUP. As to other forms of plastic, EPR for "circular economy", which focuses on reuse and recycling of resources to eliminate waste and pollution, is considered a "high impact" intervention; while beach clean ups and river controls are deemed medium impact. Low impact solutions include offsetting with reforestation projects, using renewable energy sources/ maximizing energy efficiency in the plastic supply chain and tagged as "false solutions" are ocean clean up, and biodegradable plastic. [188]

Tobacco's plastic waste, being part of the plastics problem, must be included in these broad policy considerations. The plastic packaging (likely polyethylene) may or may not be recyclable and may or may not come from recyclable materials; while cigarette butts have been recognized as a single use plastic.[189] Policies to eliminate single use plastics would invariably include regulatory (ban), fiscal (tax or levy), cooperative (EPR) measures or a combination of the same.[190] Some of these interventions are recommended for inclusion in the global plastics treaty, as seen in Table 1.

TABLE 1: Initial Assessment of Proposed Inclusions for the Global Plastic Treaty

Policy Recommendations of Environment Sector	Implication for Cigarette Butts / Tobacco Products	WHO FCTC Treaty Provision Affected
Reduce Virgin Plastics	Both the cigarette filters and the outer plastic packaging can be derived from virgin plastics; and reducing these would be consistent with the objective of reducing tobacco use.	Generally consistent with the treaty objectives. Art 14 mandates Parties to promote cessation of tobacco use.
Eliminate Single Use Plastics	Cigarette filters are primarily made from cellulose acetate which are classified as "single use plastics" hence, should be eliminated. Filters create an added health risk due to plastic fibers that fall out as well as its link to lung adenocarcinoma (aggressive type of cancer), and its attractiveness tends to fuel adolescent uptake.	Generally consistent with the treaty objectives Art 9/10 prescribes regulations to reduce the attractiveness of cigarettes includingof design features and ingredients.
Safe Recycling	There is no recycling method for cigarette butts that has been widely accepted and scientifically proven to be safe and cost efficient. This may not be applicable for cigarette butts. Encouraging recycling of filters may also send the wrong signal that it is a safe, more eco-friendly way of consuming tobacco, contrary to urging users to quit.	Will likely go against Art 13 which prohibits / restricts marketing of tobacco products, and Art 9/10 (Guidelines) on reducing attractiveness of the products.
Removing Plastics		
Preventing Plastics entry into the environment	Cigarette butts are the most littered item in most public places and while littered, releases toxins that are harmful whether on land, water and air. Action must be taken to remove these and prevent these from entering the environment.	Art 18 gives important to protection of the environment and health of persons in relation to the environment. [191]
Modify legislation: From EPR to certification schemes	Certification schemes and voluntary industry standards require self-policing by the tobacco industry, andsome level of cooperation with the government. This is usually implemented as a precursor or alternative to a regulatory measure such as a ban or levy. Tobacco companies have used these types of schemes as part of their marketing and public relations strategies in the past, at the expense of public health	Inconsistent with Art 5.3, which prohibits partnerships with and voluntary agreements of the tobacco industry; and potentially Art 13, restricting or banning tobacco sponsorship including so-called CSR
Modify legislation: From EPR to voluntary industry standards		
Remediation of plastics with a view to making impacted communities whole	Due to its toxic nature, cigarette butts need to be taken out of the ecosystem, along with other plastics, despite the financial costs. Under the polluter pay principle, tobacco companies can be made to pay proportionately to the harms caused.	Art 6 Guidelines provides for tax measures including dedicating taxes for health promotion. Art 19 provides for addressing liability of the tobacco industry including compensation

UNEP identified a set of priority actions and policy tools to address SUPs: Improve waste management systems, promote eco-friendly alternatives to phase out SUPs, educate consumers to make environmentally friendly choices, enable voluntary reduction strategies, ban or introduce levies on the use and sale of SUP items which can be a combination of regulatory or market based economic instruments (Ban, levy on producers, retailers or consumers, or ban and levy plus EPR).[192] Underpinning these actions and tools is a need to analyze and assess the one's own context and the health and environmental impact of each policy decision or action.

In the case of tobacco, it will make sense to improve waste management systems and educate consumers towards healthy choices for as long as the product exists, but it will be against public policy to "promote eco-friendly alternatives" that are harmful or to "enable voluntary reduction strategies" of the tobacco industry.[193] Article 5.3 Guidelines prohibits any voluntary agreements with the tobacco industry, except if it forms part of an enforceable court or similar settlement; and further prohibits the state from granting incentives or privileges for the tobacco industry to run its business.[194] For cigarette butts, a toxic form of SUP, the policy tool that is most appropriate is a ban, as this is the most effective in reducing the impact on both health and the environment. It is also consistent with the WHO FCTC provisions (see Table 2).

TABLE 2: Initial Assessment of Proposed Policies to Eliminate Single Use Plastics

Policy Tools	Implications	WHO FCTC Treaty Affected
Ban on the item	If tobacco companies will continue to sell the product without the filters, the product will likely be less palatable and attractive and ultimately, discourage use.	Generally consistent with the treaty objectives. Art 14 mandates Parties to promote cessation of tobacco use, and Art 18 on the protection of the environment.
Levy on suppliers/ producers	A form of levy through tobacco taxes is in place in many jurisdictions. The infrastructure made available by the fact that practically all governments impose some form of excise or specific tax on tobacco products, make this a feasible and practical option but should not preclude a subsequent ban on the cigarette filter as a toxic single use plastic. A levy may also be used as a delay tactic to avoid a ban on cigarette filters so care must be taken in using this option.	Can be consistent with WHO FCTC if done as part of or a precursor to a ban instead of an alternative to it or as a means to delay the same.
Levy on retailers	A levy on retailers has not met much success in tobacco control as this requires a complex process of licensing all retailers which has yet to be done in many jurisdictions. Nevertheless, levy on retailers has been done in many countries for bans on shopping bags. A levy may also be used as a delay tactic to avoid a ban on cigarette filters so care must be taken in ensuring this is a means to an end, not the end itself.	
Levy on consumers	A levy on consumers has the effect of a price measure which could dissuade smokers and encourage quitting, but it may also be used as a delay tactic to avoid a ban on cigarette filters so care must be taken in using this option.	

Policy Tools	Implications	WHO FCTC Treaty Affected
Ban and Levy (e.g Ban on one item, and levy on another less polluting item)	Tobacco companies are likely to produce the alternative (unfiltered cigarettes/ vapor products) in light of any ban on filtered cigarettes. Any form of encouragement towards the use of an alternative to tobacco, eg, vaping products; would have public health and governance implications.	May violate Art 13 to the extent that alternative tobacco products are promoted and may violate Art 5.3 to the extent that tobacco companies are incentivized or benefitted to run its business.
Extended producer Responsibility	Current forms of EPR fundamentally require self-policing, and some level of cooperation with the government. This is usually implemented as a precursor or alternative to a regulatory measure such as a ban or levy. Tobacco companies are exploiting this scheme to promote itself as a "socially responsible" company.	Inconsistent with Art 5.3, which prohibits partnerships with and voluntary agreements of the tobacco industry; and potentially Art 13, restricting or banning tobacco sponsorship including so-called CSR.

In summary, some of the general policy recommendations to address plastic pollution could potentially conflict with WHO FCTC policies and principles. The more detailed interventions recommended to eliminate SUPs other than a ban (such as a levy or EPR) could also be inconsistent with WHO FCTC if not further qualified to ensure compliance with the global tobacco control treaty.

Taxes and Cost Recovery

A general recommendation for single use plastics, especially those that one can do without, is to ban the same. As an alternative to a ban or a precursor to it, both tax and incentives are being employed for single use plastics. For the recyclable plastics, incentives are applied to increase the re-use of plastics and taxes are used to discourage the production and use of the same. For instance, in disincentivizing hazardous product, EU sets regulatory limits on chemicals in or ban certain substances in the plastic products. [195]

Taxes levied on cigarette butts may appear to be a practical option under the polluters pay concept, but it should not be a cause for delaying or avoiding a ban on cigarette filters as single use plastics. Taxes have been recommended[196] to be used to cover collection and treatment of cigarette waste, but has been a perennial challenge due to tobacco industry interference. [197,198]

Cigarette butts are hazardous wastes requiring waste minimization, source reduction (removal of filters or toxic contents), and special waste treatment. These processes may require resources that are currently inadequate. To cover the costs of abatement of cigarette litter, the city of San Francisco imposed a 20 percent increase per pack.[199] Other US states are also doing the same.[200] Around 20 countries have placed a form of surcharge, fee, or polluters pay charge on cigarettes and dedicated this for a variety of purposes. One country is considering legislation imposing 30% environment tax on cigarettes, in consideration of environmental harms.[201] It is important to recover costs of preventing tobacco plastics from entering the environment and internalize externalities by imposing taxes. But with respect to cigarette filters, it is ultimately a ban which would significantly reduce annual degradation of the environment.

ESTIMATING ENVIRONMENT HARMS & COSTS OF PREVENTING PLASTIC POLLUTION

Objective of Valuation

Economic valuation is the fundamental basis of major policy decisions. Quantifying the lives saved by increasing taxes by a specific amount is a crucial first step in convincing policy makers of the measure. Environmental harms from tobacco are multifaceted and constant, but economic valuations are lacking.[202]

Recently, global estimates on the economic valuation of marine pollution and waste management (Beaumont, 2019 and WWF and Dahlberg, 2021) have allowed for an initial estimate of some aspect of the environmental harms.[203,204] The estimates for harm or damage (limited to loss of marine ecosystem services in this paper) is meant to place a conservative value to the disadvantages of tolerating the tobacco companies' hazardous waste. It is recognized that the loss of natural capital or ecological services may be suffered disproportionately by coastal communities, which may not be the same jurisdictions that are responsible for allowing cigarette butts to enter the ocean. But it bears stressing that the ultimate responsibility for the fatally "flawed product design" of cigarette filters lies with the tobacco companies, and the costs of preventing further harm will be a burden borne by governments where tobacco is consumed.

Country estimates of waste management costs (OECD, 2022 and World Bank, 2012) also allow for estimating costs of managing tobacco product waste.[205,206] The estimates for waste management, limited to Solid Waste Management in this paper, is meant to provide a starting point for quantifying costs of preventing the plastics from finding its way into the environment.

Solid Waste Management Costs

The key to addressing the plastics pollution is to manage the waste from source. In particular, cigarette butts, as a hazardous waste should ideally be banned, but in the meantime, current disposed butts as well as tobacco product packaging would require waste management. All efforts must be taken to prevent the plastic from entering the aquatic and terrestrial environment. World Bank (2012) has provided rough estimates of how much is spent to manage each ton of waste, depending on the collection efficiency, differentiating HICs UMICs, LMICs and LICs. These cost estimates are based on country surveys conducted and projections made by the World Bank. These may or may not include litter management. The current cost of cleaning up is estimated by applying consumption volume.

It is recognized that collection efficiency is not 100%. To capture the cost of cleaning up what has not been previously collected (1 - % collection efficiency), "benchmark costs" for solid waste management (OECD 2022), a higher value than World Bank's estimates, is applied. This incorporates additional costs and capital investment that would be necessary to go beyond the usual collection efficiency.

CURRENT COST

Tobacco product packages & Cigarette Butts in tons X
[Collection Efficiency x (WB estimate)]

ADDITIONAL COST

Tobacco product packages & Cigarette Butts in tons X
[(1-Collection Efficiency)x (OECD Estimate)]

WASTE MANAGEMENT COST

Current cost + Additional Cost

The Waste Management Cost covers only current day to day waste, and does not include costs of cleaning up the waste that is already degrading in the environment for some time. Including the "additional costs" of collecting beyond the current collection efficiency levels is intended to reflect the cost of reducing the tobacco's toxic plastics from entering the ocean. It bears stressing that increasing the investment in waste management is an assurance that such plastics will be completely collected, or fully managed properly. It is recognized that some countries will face more challenges than others given the topography, coast lines, climate, etc.

Loss of Marine Capital or Value of Ecosystem Services

Nations consider the ocean as a shared resource of humanity.[207] Hence, estimating the cost of tobacco plastics' pollution in the ocean can be an initial point of global discourse, even if the loss is more palpable in coastal communities whose health and economies are directly affected.

Valuing the cost of plastic pollution on the world's oceans have been challenging due to data gaps but recent estimates by Beaumont (2019) and WWF and Dalberg (2021) are often cited. This paper uses Beaumont's and WWF's estimates for loss of ecosystem services annually and on the basis of the lifecycle of plastics, respectively.

Their methods for quantifying the environmental costs of plastic pollution is to cost out the amount of economic value that is lost due to the plastic pollution . This loss is estimated from a baseline value of the benefit of ecosystems to humans such as support of food chain, animal or plant harvest, provision of scenic views, hence this involves economic value derived from tourism and aquaculture, among others.[208] Quantifying this economic degradation is an appropriate way to capture intangible costs of marine plastics, however, experts place a caveat on accounting for the "interdependencies between economic and ecological systems." This paper submits the position that in the case of tobacco, the usual "interdependencies between economic and ecological systems" do not apply because tobacco products, yield a net economic loss globally and have no benefit to humanity.

A caveat is also placed on the likelihood of severe underestimations. Understandably, many estimates avoid intangible and indirect costs, at the expense of severe underestimation.[209] An estimate of the loss of marine capital due to tobacco's plastic waste is expected to be a severe underestimation as it does not take into account the toxic contents of the filters and considers it only as a source of microplastics and related dangers attributable to plastics. It also fails to account for other features of cigarette butts such as the high likelihood that it is littered and either dumped or leaked into the oceans due to mismanagement.

QUANTIFIABLE COST OF TPPW (USD/YEAR)

Waste Management Cost/year + Marine Pollution Cost/ year

Quantifiable Cost of Tobacco Product Plastic Waste (TPPW)

The paper provides an initial rough estimate of annual post-consumer waste management costs of tobacco products, as well as secondary costs of tobacco's plastic waste pollution based on what is known about the level of plastic contamination of oceans and other water bodies.

TPPW

(Consumption (in sticks) x filters (in grams/ stick)) + plastic component (in tons)
plastic component = Consumption (in packs) x plastic size required per pack & sleeves (meter) X plastic density (grams/meter)

Tobacco Product Plastic Waste (TPPW)

The Tobacco Product Plastic Waste (TTPW) estimate is the volume of commercial cigarette consumption per country multiplied by the weight of the cigarette filters and plastic components of product packaging. The packaging component is the estimated size of boxes and outer sleeves multiplied by the number of packs/ sleeves and the estimated density of the plastic, which can be polyethylene or PVC.

WMC/YEAR

current WMC/ year + projected WMC / year

Where:
Current WMC/ year= TPPW (in tons) X Collection Efficiency (in %) X WMC* /year (USD)*
*Projected WMC/ year = TPPW (in tons) x Uncollected Waste (in %) *** x "Benchmark Cost"**/year (USD)*

Sources:
**World Bank, What a Waste Projected for 2025, by income classification*
***OECD, WG Paper, by country groups*
****Uncollected Waste (1-Collection Efficiency) (in %)*

Waste Management Cost (WMC)

Waste Management Cost (WMC) estimates are derived from Tobacco Product Waste (TPW) multiplied by WMC per ton (in USD). The country data is provided by the World Bank. TPW includes cigarette butts and the packaging (both plastic and non-plastic components). Because current solid waste management data reflect low collection efficiency (not all waste is collected, especially in lower income countries), additional estimated costs of collecting the rest of the waste are also included. Hence, current waste management costs (based on current collection efficiency) differs from projected waste management costs (based on a benchmark cost multiplied by the balance of uncollected waste).

BEAUMONT MPC

TPPW (in tons) X Leakage X MPC per year

WWF MPC(LIFETIME)

TPPW (in tons) X Leakage X MPC per year

Marine Pollution Cost (MPC)

MPC for this analysis is limited to the estimated "Cost of the Loss of Ecosystem Services." The latter is based on Beaumont (2019), which is estimated at USD 3300-33000 per ton of marine plastics per year,[210] and WWF and Dahlberg (2021), which is estimated at USD 204,270 to USD 408,541 per ton of marine plastics per year for the lifetime of the plastics.[211] The median of the range is applied to the fraction of TPPW contaminating oceans ('leakage'). This leakage estimate is based on OECD data for plastics contaminating the aquatic environment (all bodies of water, not just oceans).[212]

See Annex I for Methodology Details

Environmental Harms of Tobacco Plastic Waste In terms of Loss of Ecosystem Services per year by income classification
Median values, in millions of USD

Income Class	Annual (Beaumont 2019)	Lifetime (WWF 2021)
High Income	310.00	5,233.44
Upper Middle Income	361.27	6098.07
Low Middle Income	501.17	8460.67
Low Income	36.78	620.88
TOTAL	2,418.45	20,706.00

Results

Damage

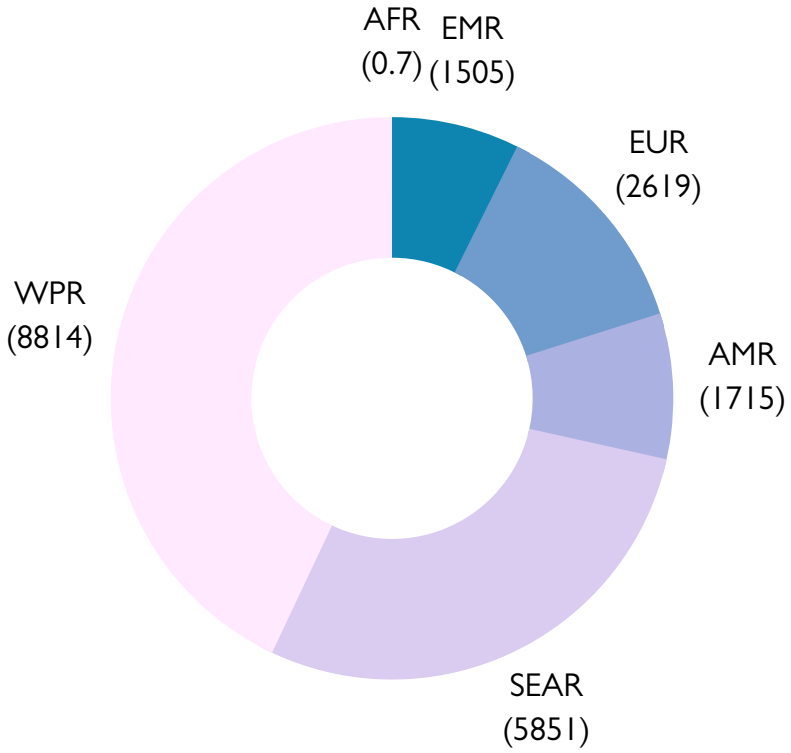
The estimates show that USD 20 Billion is lost every year in terms of loss of ecosystem services* due to tobacco plastics for the duration of the lifetime of the plastics. If consumption rates remain the same every year, this means the world is losing 20 B worth of ecosystem services each year, from plastic pollution alone. This does not take into account the toxicity of cigarette butts for which no data is currently available to make a valuation.

In the estimates, the losses are higher in places where smoking is higher but in reality, the coastal cities would suffer the most damage. The common understanding in plastics pollution is that high income countries generate more plastic waste per person. This is not true in the case of cigarettes where consumption is higher in developing than in developed countries.

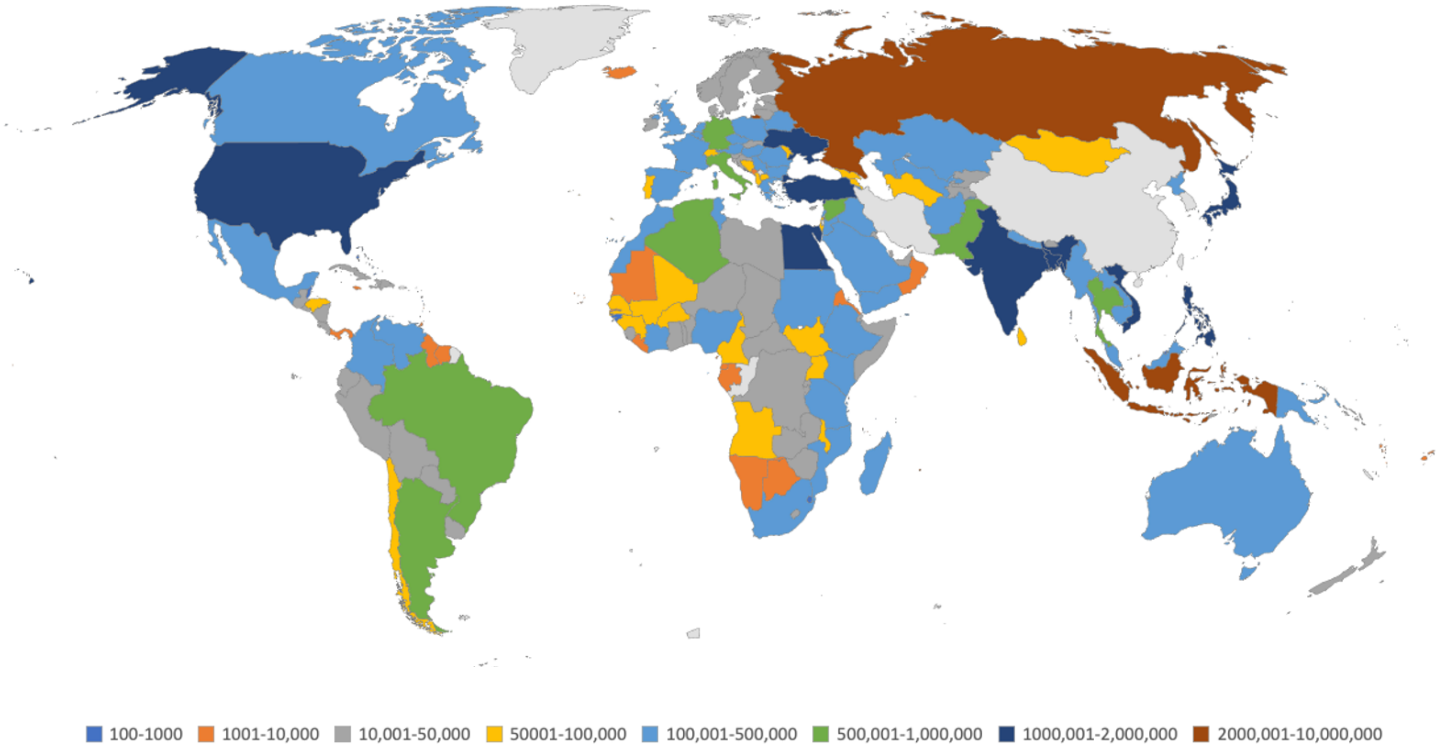
Nevertheless, the rest of the assumptions apply: most of the plastics in the ocean comes in from rivers in LMICs which have mismanaged their plastic waste, resulting in 80% of the plastics in oceans to be originating from land. In Asia, where tobacco consumption is the highest, the probability of plastics entering the ocean is also highest due to the number of rivers, the terrain etc.. Asia accounts for 80% of plastics emitted into the ocean.[214] It follows that the estimates are highest in Western Pacific Region, but this also reflects the fact that China's disproportionately high rates have skewed the results.

**Ecosystem services is defined as "provisioning, regulating, habitat and cultural services," estimated to be worth US$61.3 trillion in 2011. "Provisioning services include the various goods people can obtain from marine habitats, including aquatic food in the form of farmed or wild capture fish, invertebrates, and seaweeds. Regulating services include carbon sequestration, flood control, and pest control. Finally, habitat and cultural services include novel chemicals, genetic diversity, spiritual sites, and recreation".[213]*

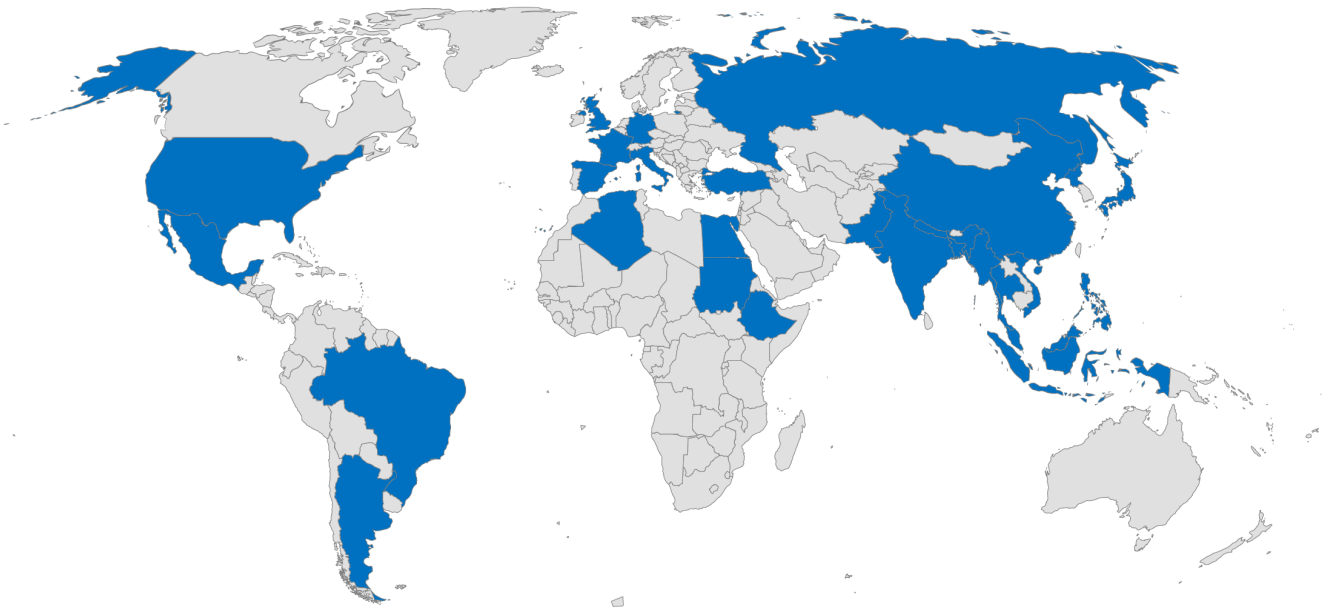
Environmental Harms of Tobacco Plastics Per Region
Marine Pollution per year for the lifetime of plastics and Waste Management Cost (In Millions USD)



Global Map of the Costs of Environmental Harms (194 Countries)
in Millions of USD



Countries with the Highest Volume of Cigarette Plastics Entering the Environment



China, Indonesia, Japan, Bangladesh, Philippines, Vietnam, Republic of Korea, U.S.A., Thailand, Turkey, Brazil, Egypt, Germany, Russian Federation, Democratic People's Republic of Korea, India, Sudan, Italy, Islamic Republic of Iran, Argentina, Pakistan, United Kingdom, Spain, France, Ethiopia, Malaysia, Nepal, Mexico, Myanmar, Algeria

Waste Management

Based on the amount of cigarette filters and plastic packaging, over USD 400 M per year is being spent to collect and manage waste at the municipal level. To further reduce plastics from entering the ocean, governments need to scale up the efforts and invest further in waste management. Based on a World Bank recommended strategy (which reduces rather than prevent plastics from entering the ocean), additional investments of around USD 200-500 per ton of waste, the world will have to spend about USD 548 M per year to manage tobacco's plastic waste.

Summary of Quantifiable Costs

In sum, if consumption patterns persist, at least USD 20 B every year will continue to represent the annual global losses and cost of dealing with tobacco product waste. This is a severe underestimation because conservative estimates were applied and the estimates fail to recognize tobacco filters as additionally hazardous to marine life given its toxic properties. It bears stressing that these figures refer to current costs and do not account for past harms. Toxic tobacco filters have been polluting our oceans and land for at least 5 decades. Just for the past 10 years alone, the loss of ecosystem value would be around USD 186 B, accounting for inflation. Although this amount is small compared with the annual economic losses from tobacco (US$1.4 Trillion a year) and may appear insignificant compared with the 8 M deaths a year; environmental costs should not be downplayed as these are accumulating and continuing.

Waste Management Costs By Income Classification

Income Class	Butts (in millions of tons)	Package Plastic (in millions of tons)	WB data range (USD) per ton (70-328)	Waste Management Cost: Current ('000 USD)	OECD data range (USD) per ton (274-406)	Waste Management Cost: Additional ('000 USD)	Total Waste Management Cost ('000 USD)
HIC	198,670	368,474	328	183,039	*274.91	2,266	184,835
LIC	20,984	37,793	70	1964	*506.18	15,544	17,508
UMIC	419,869	952317	140	184,805	*274.91	31,615	216,421
LMIC	158,328	333,988	110	33,407	*506.18	95,471	128,878
TOTAL	797,851	1,692,572	-	403,217	-	144,897	547,644

Marine Pollution & Waste Management Costs By Income Classification (In Millions USD)

Income Class	Waste Management Cost (USD)	Loss of Ecosystem Service Lifetime (Marine Pollution)	Total
High Income	184,835	5,233,43	5,418,27
Upper Middle Income	216,421	6,098,97	6,315,39
Low Middle Income	128,878	8,460,67	8,589,55
Low Income	17,508	620,881	930.71
GLOBAL	547,644	20,413,96	20,961,60

Marine Pollution & Waste Management Costs By Region

Region	Filters (Millions)	Plastic Package (Millions)	Waste Management (USD)	Loss of Ecosystem Services Lifetime (Marine Pollution) (USD)	Total (USD)
AFR	27,968	22,509	22,323,66	724,949	747,273
EMR	56,685	48,264	37,931,37	1,467,28	1,505,21
EUR	194,747	156,994	138,661,98	2,481,12	2,619,79
AMR	79,605	63,300	60,658,02	1,654,56	1,715,21
SEAR	74,249	74,966	72,650,19	5,779,33	5,851,98
WPR	364,593	364,025	215,419,42	8,599,04	8,814,46
TOTAL	797,851	730,062	547,644	20,413,96	20,961,60

CONCLUSIONS & RECOMMENDATIONS

The increased global attention on addressing plastics pollution is an opportunity to tackle tobacco's plastics, but this is just one part of a larger chain of environmental harms. Tobacco post-consumer waste comprises of the plastic packaging and the cigarette filter, both are known to be single use plastics. Tobacco's plastic packaging can be differentiated from cigarette butts, in terms of policy treatment, as the latter is a hazardous material, and the former could easily be replaced with other forms of packaging. Based on experiments conducted, smoked cigarette filters, due to the toxic content and tobacco residue, could potentially cause far more harms to marine life, plant life, and genetic material, even in the short run.

Tobacco's plastics are costing the global economy at least 20 B USD every year if global consumption trends remain the same. Since, environmental harms are continuing and accumulating, past and future harms must not be neglected. For just the past 2 decades, this is about 180 B USD, accounting for inflation.This accounts for cost of managing the waste and losses in terms of ecosystem benefit caused by plastics, but does not account for the toxic nature of cigarette butts. Estimates are conservative, and decades of past harms have not been estimated. Some of these costs can be recovered through taxes or surcharges under the polluters pay principle. But for single use plastics such as cigarette filters as it is designed today, experts have recommended to eliminate these.[215] Taxes are a standard tool to internalize negative externalities including covering costs of managing tobacco plastic wastes, but must not be used as an excuse to avoid or delay a ban on single use plastics of a hazardous nature, such as cigarette filters. The tobacco industry is likely to introduce eco-friendly alternative filters when pressured to do so,[216] but these should not be used as a marketing tool to entice more/ new smokers. Tobacco companies have concealed for decades the truth about increased heath risk and environmental degradation caused by cigarette butts; unveiling the truth could entice consumers to quit. As an anticipated response, governments must be ready to provide the support needed, in accordance with the WHO FCTC obligations.

Treating tobacco just like any other producer in the context of environmental law could pose challenges in complying with WHO FCTC implementation. Policies that apply to the usual plastic industries such as private public partnerships, cooperation with the industry, awareness campaigns with the tobacco industry, etc., could create opportunities for the tobacco industry to undermine tobacco control treaty implementation. EPR, unless modified to strictly comply with tobacco control principles and policies, can be used to undermine existing tobacco control policies.

Due to the differences between tobacco's plastic waste (particularly used/disposed filters or cigarette butts) and other forms of plastic; tobacco's waste must be clearly designated in any definitional or scoping approach to product coverage under the proposed global plastics treaty, (for instance, as being subject to outright prohibition or more stringent regulation). Because the governments are expected to treat the tobacco industry differently from other industries in accordance with the tobacco control treaty guidelines; the tobacco industry actors must be distinguished from other actors (for instance, the tobacco industry must not be given a seat at the table and must not be partnering with governments).

Polluters pay is a commonly accepted principle in environmental law. The tobacco industry, as a polluter, must be held to account. Even more fundamentally, the nature of its business, tobacco companies are violating human rights,[217] including the right to health and a clean environment. They have significant control over the product design and supply chains that cause harms to ocean life and disruption to the ecosystem.

CONCLUSIONS & RECOMMENDATIONS

Many policy options have been proposed,[218] but the Parties to the WHO FCTC can already be guided by treaty provisions and guidelines, to take appropriate action:

01

Price and Tax Measures (Art 6)

Require the tobacco industry to pay for negative externalities through increased taxation or fees; several countries impose fees consistent with the polluters pay principle. This can be used to recover costs of mitigating the environmental harms caused by tobacco.

02

Product Regulation (Art 9/10)

Recommend reducing the attractiveness of tobacco products. "Regulating ingredients aimed at reducing tobacco product attractiveness can contribute to reducing the prevalence of tobacco use and dependence among new and continuing users."

03

Communication (Art 12)

Promote awareness of tobacco control issues including health, social, economic and environmental consequences of tobacco production, consumption and exposure to tobacco smoke as well as tobacco industry tactics.

04

Sponsorship Bans (Art 13)

Prohibit so-called CSR of tobacco companies or, if there are constitutional restrictions to a ban on CSR, ban its publicity; and do not participate in, partner in, or publicize the industry's activities Unlike any other industry, tobacco industry's advertising promotion and sponsorships, including so-called CSR or efforts to act "socially responsible" are prohibited in many countries, as required by treaty law[219].

05

Cessation (Art 14)

Promote the reduction of tobacco use and support treatment of tobacco dependence.

CONCLUSIONS & RECOMMENDATIONS

06

Economically-Viable Alternatives (Art 17/18)

Adopt and sustainably finance farmer/ worker-driven policies towards diversification (to shift away from tobacco growing), and protect these from tobacco industry interference. [220]

07

Liability (Art 19)

Promote international cooperation in holding the tobacco industry liable for harms caused. This can potentially include liability for environmental harms including compensation where proceeds will be used for reparation or remediation at the community level. In the context of climate justice, liability can include holding the industry criminally and financially responsible, and ending the harmful and deceptive practices such as use of plastic filters.[221]

08

Tobacco Industry Interference (Art 5.3)

Protect policies from the commercial and vested interests of the tobacco industry; and denormalize so-called CSR of the tobacco companies. Except by virtue of legal mandate or compensation settlements, governments are not allowed to receive contributions from the tobacco industry. Governments must not participate in, partner in, or publicize "socially responsible" activities of the tobacco industry)[222] and further recommend governments to "denormalize" tobacco industry's activities that are described as "socially responsible."

Tobacco's "corporate social responsibility" is an inherent contradiction. When so-called Extended Producer Responsibility (EPR) is applied to the tobacco industry, it should not be allowed to publicize the same, make false claims relating to sustainability, or use the same for influencing policy or engaging with governments. If it would amount to a form of tobacco sponsorship, it should be prohibited.[223]

For certain, multi-sectoral collaboration and a whole-of-government approach will be needed to address tobacco's environmental harms. Addressing the environmental and health concern will require support from a variety of sectors: health, agriculture, environment, justice, and governance. As needed, countries can cooperate, through the FCTC platform, to develop guidance on how to deal with tobacco industry's harms on the environment in accordance with Art 17, 18 and 19.

Finally, the valuation of tobacco's environmental harms is a crucial component to holding it accountable for the same, but data is severely limited. Governments must invest in further independent research in this field to make informed decisions, the tobacco industry can also be made to pay for these through taxes or levies. Furthermore, the tobacco companies should be obligated to submit the necessary information to fill the data gaps, with severe penalties for submitting false information, in accordance with Art 5.3 Guidelines.

Tobacco consumption and production causes irreversible damage to ecosystems and natural resources. The entire 'environmental life cycle' of tobacco production releases tons of waste and chemicals into our water, air and soil. Tackling this issue requires a whole-of-government approach; Misnistries of Health must work with other sectors including agriculture and environment to reduce the environmental harms of tobacco. The impact of the tobacco industry on planetary health cannot be underestimated nor ignored any longer.

Douglas Webb
Manager
United Nations Development Programme (UNDP)

Take Action

Civil Society & Policy Makers

- Initiate the conversation on environmental harms of tobacco. Share the pertinent materials. The debate on SUP regulations is a good platform to discuss one aspect of harm: tobacco's toxic plastics.
- Raise awareness about the global tobacco control treaty esp Art 5.3 of the WHO FCTC, to emphasize why the tobacco industry must not be treated like any other industry when it comes to standard corporate solutions to addressing environmental concerns (EPR, Product Stewardship)

Policy Makers:

- Make the tobacco industry pay for environmental harms caused. This can include, among others, imposing mandatory charges, surcharges, fees, or increased tobacco taxes that can be used for compensation or reparation of harms; holding legislative inquiries to gather more information on the extent of harm and potential remedies; or strengthening legal systems to allow claims against the tobacco companies.
- Fund independent research on the environmental harms of tobacco. Tobacco taxes can be a good source of financing for this purpose.
- Include tobacco in SUP policy at national and global levels. Classify cigarette filters as SUPs that are toxic and adopt the most stringent regulations, including a ban on cigarette filters as SUPs.
- Ban so-called CSR, including those that would potentially fall under EPR schemes.
- Increase multisectoral collaboration e.g., Health, Food, Agriculture, and Environment sectors.

Finally, intergovernmental bodies, international organizations, and governments collectively could consider issuing guidance and goals on tobacco and the environment which Parties to the WHO FCTC can implement.

Detailed Methodology

ANNEX I

Quantifiable Cost of Tobacco Product Plastic Waste (TPPW)

The paper provides an initial annual rough estimate of waste management costs and the costs of the pollution based on what is known about the level of plastic contamination of the ocean.

Quantifiable Cost of TPPW (USD/year)
= Waste Management Cost/year + Marine Pollution Cost/ year

Tobacco Product Plastic Waste (TPPW)

The Tobacco Product Plastic Waste (TTPW) estimate is the volume of commercial cigarette consumption per country multiplied by the weight of the cigarette filters and plastic component of total product packaging. The plastic packaging component is the estimated size of boxes and outer sleeves multiplied by the number of packs/ sleeves and the estimated density of the plastic, which can be polyethylene or PVC.

TPPW
= Consumption (in sticks) x Filters (in grams/ stick)) + Plastic component (in tons)

Plastic Component
= Consumption (in packs) x Plastic Size required per pack & sleeves (meter) X Plastic Density (grams per meter)

Waste Management Cost (WMC)

Because current solid waste management data reflect low collection efficiency (not all waste is collected, especially in lower income countries), additional costs of collecting the rest of the waste is also estimated. Hence, current waste management costs (based on current collection efficiency) differs from projected waste management costs (based on a benchmark cost multiplied by the balance of uncollected waste).

WMC/year
= Current WMC/ year + Projected WMC / year

Where:
Current WMC/ year= TPPW (in tons) X Collection Efficiency (in %) X WMC* /year (USD)*
*Projected WMC/ year = TPPW (in tons) x Uncollected Waste (in %) *** x "Benchmark Cost"**/year (USD)*

Sources:
**World Bank, What a Waste Projected for 2025, by income classification*
***OECD, WG Paper, by country groups*
****Uncollected Waste (1-Collection Efficiency) (in %)*

SWM Costs
World Bank Projection of 2025

	Lower range	Upper range	Collection Efficiency	Average APP
LIC	37	118	43	70.00
LMIC	88	345	68	110,00
UMIC	195	480	85	147.00
HIC	295	790	98	327.50

Municipal Solid Waste Management systems (MSWM), as defined by the World Bank, include hauling/ collecting, transferring, sorting, recycling, and landfills or dumpsites. In HIC, it also includes cost of incineration, with or without energy recovery. Current MSWM costs are very low for LICs, LMICs, UMICs because in many of these countries, collection efficiency is very low. (43%, 68%, 88% respectively, and 98% for HICs) The estimates used are the World Bank's projection for 2025. This is likely an underestimate because this does not cover abatement or litter management such as special services to pick up/ clean up or sweeping in specific hotspots or special cleaning of drainage systems, as reported in several studies. The estimates have limitations as the data were acquired at different times, and countries' reports are varied and inaccurate. Nevertheless, it provides a framework[224] and initial valuation which can be further improved as data become available. This has been further adjusted to reflect the data on collection efficiency based on the Global Plastics Outlook database.

Projected MSWM is a costing scenario in which countries increase their investment and resources in MSWM[225] to collect the remaining tobacco product waste and prevent it from entering the environment. OECD estimates on the annualized costs of various stages of waste management were used in developing this model. For high income countries, this represents an additional investment of USD 506, and for other countries USD 274, annually.

Marine Pollution Cost (MPC)

MPC for purposes of this analysis is limited to the estimated "Cost of the Loss of Ecosystem Services." The latter is based on Beaumont (2019) which estimated 3,300 to 33,000 per ton of marine plastic waste annually;[226] this builds on previous studies and has been cited in many reports,[227] e.g., in OECD and the WWF Report. For a "lifetime" estimate, WWF uses 204,270 USD to 408,541 USD per ton for the lifetime of the plastic per ton, and this is based on conservative estimates.

The median of the range is applied to the fraction of TPPW entering the ocean (Leakage). Leakage is based on the estimate provided in the OECD data for plastics leaking into the aquatic environment (all bodies of water, not just oceans).

Beaumont MPC
= TPPW (in tons) X Leakage X MPC per year

WWF MPC(lifetime)
= TPPW (in tons) X Leakage X MPC per year

ANNEX I

As to the WWF-commissioned report by Dalberg (2021), "Plastics: The cost to society, environment and the economy" "lifetime cost of plastics" is derived by calculating " the lifetime cost of plastic by using the perpetuity formula with a discount rate of 2% as per Drupp (2018). [228] Consequently, 85% of the lifetime value of plastic is borne in the first 100 years and 95% of the lifetime value is borne in the first 150 years. This gives the authors confidence in their efforts to provide a conservative estimate of plastic's lifespan since key plastic waste types have life expectancies beyond 150 years. The formula used was the annual cost of plastic produced in 2019 that entered the ocean (LB: 41,897,689,714 , UB:83,795,379,428) divided by the discount rate of 2%".[229] The report is further qualified in that "The currently quantifiable societal cost of plastic is significant, but this could be just the tip of the iceberg. In particular, the costs of known and potential impacts on human health as well as impacts on the terrestrial ecosystems have not been quantified or are still difficult to quantify at this point."

Ecosystem services is defined in the report as "provisioning, regulating, habitat and cultural services," estimated to be worth US$ 61.3 trillion in 2011. "Provisioning services include the various goods people can obtain from marine habitats, including aquatic food in the form of farmed or wild capture fish, invertebrates, and seaweeds. Regulating services include carbon sequestration, flood control, and pest control. Finally, habitat and cultural services include novel chemicals, genetic diversity, spiritual sites, and recreation."[230]

ANNEX I

ANNEX II

Assumptions on Tobacco Plastics Entering the Ocean

The estimates on the percentage of plastics entering the ocean varies by source.

OECD Estimates: In the Global Plastics Outlook, OECD, using data from previous studies, estimates that plastics entering the ocean ranges from 1-14% (see table below).[231]

Fractions of Leaked Macroplastics that enter aquatic environments and that reach the ocean

Macro region	Region	Fraction of leaked macroplastics entering aquatic environments	Fraction of aquatic plastics reaching the ocean
OECD America	USA	32%	3%
	Canada	36%	3%
	Other OECD America	21%	5%
OECD Europe	OECD EU countries	34%	3%
	OECD Non-EU Countries	34%	4%
OECD Asia	OECD Pacific	43%	11%
	OECD Oceania	44%	2%
Other America	Latin America	28%	5%
Eurasia	Other EU	27%	1%
	Other Eurasia	32%	1%
Middle East & Africa	Middle East & North Africa	27%	4%
	Other Africa	23%	4%
Other Asia	China	28%	2%
	India	26%	4%
	Other Non-OECD Asia	34%	14%

Source: Fraction of mismanaged and littered plastic waste entering aquatic environments (adapted from Borrelle et al. (2020) and fraction of waste in aquatic environment entering the ocean environment (adapted from Meijer et al. (2021) by region.

Author's Estimate: Following the findings that 20-40% of cigarette butts are littered (WHO, 2017), and applying the percentage of littered/ uncollected waste that enters the ocean (20-40%, OECD), the amount of cigarette butts that enter the ocean could be between 5-15% depending on income classification.

General Assumption: Simplified / general estimates of the amount of plastic that enters the ocean include 3% of plastics (Jambeck et al.) and 4% (WWF, 2021). The general understanding is that lighter and smaller items are more likely to enter the ocean and true cost estimated that 100% of cigarette butt litter will enter the ocean. This study also considers a rough general estimate placed at 6%.

Of the three estimates, the paper utilized the assumption that yielded the lowest results, which is the OECD Estimates found in the Global Plastics Outlook.

Assumed Percent of Plastics Entering the Ocean (%)	Beaumont in millions USD)	WWF (in millions USD)
OECD Estimates (1, 3, 5, 14%)	1,209	20,413
Author's Estimate based on butts littered (5, 10, 15%)*	2,757	46,541
General Assumption (6%)	1,692	28,558

ANNEX II

Assumptions on Percent of Cigarettes that have Filters

It is estimated that over 90% of 6 trillion cigarettes consumed annually have filters. Practically all cigarettes in high income countries have filters,[232] while figures vary in other countries especially where roll your own cigarettes are prevalent. To determine the proportion of cigarettes that have filters, this paper uses Novotny's 1995 estimate[233] for 49 countries (see table below) and adjusted the figures where more updated data has become available (e.g. Bangladesh). There is a likelihood that filtered cigarettes are increasingly used especially in low and middle income countries but no adjustments are made for these. However, for the other countries, an estimate of 98% is used across the board where data is unavailable.

Assumptions on the Plastic Content of Filters

According to various sources, 95-98% of filters are made of cellulose acetate, a type of plastic. Because it is unclear how the 98% of plastic fiber can be divisible from the non-plastic component of cigarette butts in terms of waste management, the weight of the whole filter is used in computing for waste management costs and marine pollution costs.

ANNEX III

Estimates of total and filtered cigarette consumption, cartons, and packages produced in 49 selected countries and worldwide, 1995 (in million units)

Country	*Cigarette consumption*	*% of Filtered cigarettes (sales)*	*Cigarette filters*	*Cartons*	*Packages*
Argentina	41 000	98	40 180	205	2 050
Australia	32 179	95	30 570	161	1 609
Austria	13 192	99	13 060	66	660
Bangladesh	14 450	14	2 023	72	723
Belgium-Luxembourg	16 194	95.5	15 465	81	810
Brazil	1 194 000	99	118 206	597	5 970
Bulgaria	16 000	92.8	14 848	80	800
Canada	53 500	97.5	52 163	268	2 675
Chile	12 561	99	12 435	63	628
China	1 660 250	72	1 195 380	8 301	83 013
Colombia	19 800	85.1	16 850	99	990
Cuba	15 900	48.5	7 712	80	795
Former Czechoslovakia	29 150	95	27 693	146	1 458
Denmark	8 360	83.5	6 981	42	418
Egypt	38 745	92.1	35 684	194	1 937
France	88 336	86.9	76 764	442	4 417
Former Soviet Union	352 550	74.9	264 060	1 763	17 628
Germany	149 000	95.7	142 593	745	7 450
Greece	30 700	97.6	29 963	154	1 535
Hungary	28 850	96.4	27 811	144	1 443
India	87 430	64.5	56 392	437	4 372
Indonesia	175 810	69	121 309	879	8 791
Iran	24 000	81.11*	19 466	120	1 200
Iraq	13 200	81.11*	10 707	66	660

ANNEX III

Estimates of total and filtered cigarette consumption, cartons, and packages produced in 49 selected countries and worldwide, 1995 (in million units)

Country	*Cigarette consumption*	*% of Filtered cigarettes (sales)*	*Cigarette filters*	*Cartons*	*Packages*
Italy	87 750	94	82 485	439	4 388
Japan	318 177	99	314 995	1 591	15 909
Malaysia	16 700	94.7	15 815	84	835
Mexico	46 298	81.9	37 918	231	2 315
Morocco	15 526	55	8 539	78	776
Netherlands	25 000	88.9	22 225	125	1 250
Nigeria	18 500	70	12 950	93	925
Philippines	62 009	95.5	59 219	310	3100
Poland	103 000	76.9	79 207	515	5 150
Portugal	16 247	97	15 760	81	812
Romania	39 000	50	19 500	195	1 950
Saudi Arabia	19 850	81.11*	16 100	99	993
South Africa	37 695	92.1	34 717	188	1 885
South Korea	93 500	98	91,630	468	4 675
Spain	77 980	97	75 641	390	3 899
Sweden	8 200	96	7 872	41	410
Switzerland	15 550	99.3	15 441	78	778
Taiwan	37 997	99	37 617	190	1 900
Thailand	48 600	97	47 142	243	2 430
Turkey	96 500	91.1	87 912	483	4 825
United Kingdom	90 970	99	90 060	455	4 549
United States	470 000	96.1	451 670	2 350	23 500
Venezuela	9 653	98	9 460	48	483
Yugoslavia	45 000	81.11*	36 500	225	2 250
Subtotal	4 840 259		4 008 689	24 201	242 013
World	5 535 059	82.82*	4 584 136	27 675	276 753

Source: National statistics/ trade source/ industry estimates/ United States Department of Agriculture/ World Tobacco

**Estimated percentages. World total is a weighted average using filtered cigarette consumption from all 49 countries with available data.*

How the Tobacco Industry Hinders UN's Sustainable Development Goals relating to the Environment

ANNEX IV

How the Tobacco Industry Hinders UN's Sustainable Development Goals (SDGs) Relating To The Environment

SDG	Tobacco companies claim to...	In reality, tobacco companies...
6. Clean water & sanitation	Promote water recycling, protect watersheds, and promote sustainable water management	**Pollute waterways and threaten aquatic life though cigarette filters and pesticides.** • Cigarette butts, which are often dumped into oceans, lakes and other water sources, have toxic substances with implications for the quality of drinking water.
12. Responsible consumption & production	Reduce the environmental impact of their products, including recycling and litter-prevention programs	**Generate 1.69 billion pounds of toxic waste each year releasing thousands of chemicals into the air, water and soil.** • Over 4.5 trillion cigarette butts are not disposed of properly, making them the most littered item on the planet.
13. Climate action	Mitigate risks of climate change through carbon neutral programs	**Shirk responsibility for compensating for the environmental harm caused by its business, including a deforestation rate of 200,000 hectares a year.** • Tobacco companies routinely downplay their environmental harm.
14. Life below water	Reduce the environmental impact of products, including through litter prevention, and ensure effluents released are within government regulations	**Find ways to continue their business practices that harm aquatic systems.** • Tobacco companies provide campaign donations that allow cigarette butts to go unregulated despite being the single most collected trash in beach clean-ups. • They also pollute waterways and threaten aquatic life though cigarette filters and pesticides.

ANNEX IV

How the Tobacco Industry Hinders UN's Sustainable Development Goals (SDGs) Relating To The Environment

SDG	Tobacco companies claim to...	In reality, tobacco companies...
15. Life on land 	Protect biodiversity, particularly in affected forested areas	**Conduct so-called environmental activities to detract attention from liability for environmental harm.** • Tobacco farming and cultivation causes the irreversible loss of trees and biodiversity. • Clearing land for tobacco growing and cigarette-related forest fires leads to deforestation.
16. Peace, justice & strong institutions 	"Combat illicit trade in tobacco products,"[7] support the rule of law and transparency Be against the "illegitimate tobacco industry" that can "erode the rule of law and upset peaceful existence by financing the operations of criminal networks"[8]	**Lobby and bribe policymakers to favor commercial interests and weaken, delay or completely frustrate implementation of lifesaving measures through litigation against governments or outright circumvention of its provisions.** • The major tobacco transnationals have been found to be complicit in illicit trade; a vast majority of illicitly trafficked cigarettes are "illicit whites" or legitimately produced products that find their way into illicit markets.
17. Partnerships for the goals 	Be a partner in health, despite conflicts of interest, in order to promote alternative products Partner with governments to fight illicit trade	**Influence policymakers to water down life-saving measures (including raising taxes and banning advertising, promotions and sponsorship) in favor of commercial interests in dangerous, addictive products, effectively undermining efforts to achieve the SDGs.** • The tobacco industry's CSR activities related to SDGs are designed to enhance its public image and induce tax exemptions. • Tobacco companies cause violation of treaty laws, which disapprove of partnerships with the tobacco industry in general, and especially on efforts to fight illicit trade.

Source: How the Tobacco Industry undermines the SDGs, STOP, 2020

ANNEX IV

Tobacco Industry's Practice of Avoiding Liability

Tobacco growing leads to ecosystem disruptions and accounts for 5-30% of deforestation, a leading cause of greenhouse gas emissions. The production yields 2 million tons of solid waste annually, leading to polluted water systems, compounded by poor waste management systems. The poorly designed cigarette butts cause fires and continuously harm ocean life for decades. Engaging in litigation and economic interventions to recover the costs of industry misconduct and environmental damages is a key solution that experts recommend to address tobacco's environmental harms. This is consistent with Article 19 of the WHO FCTC to deal with tobacco industry liability including compensation. Yet, the tobacco industry has avoided responsibility for environmental harms by moving its operations into jurisdictions that have less stringent or lax regulations. For example, as a response to complaints of air pollution and calls for stricter regulation of tobacco in Uganda, British American Tobacco (BAT) moved its facilities to Kenya.Despite the extent of environmental damage assessed, no litigation holding the tobacco company accountable for harms has been filed. Article 6 of the WHO FCTC (price and tax measures to reduce demand for tobacco) takes into account the need to make the tobacco industry pay for negative externalities through increased tobacco taxation. In line with this, a few countries already impose surcharges and fees consistent with the "polluter pays" principle. The tobacco companies have resisted any form of tobacco tax increase including those that require earmarking of proceeds to pay for tobacco harms. Tobacco companies have resisted policies that make the tobacco industry pay for clean-up costs,including those that are under consideration in the European Union, France, Ireland, the United Kingdom and the United States of America.

Source: Sy, D., Tobacco Industry and the Environment , STOP, 2021. www.exposetobacco.org

ANNEX V

Tobacco Industry-backed Initiatives and Organizations Working in the field of Environment

A. International Organizations

Name or Organization/ Initiative* / Website**	Linkage to Tobacco Companies/ Funded Entities
International Chamber of Commerce	Philip Morris
Foundation For A Smoke-Free World	Philip Morris
International Tobacco Growers Association (ITGA)	BAT, PMI, JTI and Imperial Tobacco
Eliminating Child Labor in Tobacco-Growing Foundation (ECLT)	BAT, PMI, JTI and Imperial Tobacco

B. Global Initiatives

Name or Organization/ Initiative* / Website**	Linkage to Tobacco Companies/ Funded Entities
Keep America Beautiful	Altria and BAT
Trout Unlimited	Altria Group (Amt undisclosed)
Total LandCare	Altria, PMI, JTI, & Foundation for Eliminating Child Labor in Tobacco

C. Initiatives at Country-level

Country	Name or Organization/ Initiative* / Website**	Linkage to Tobacco Companies/ Funded Entities
Brazil	Growing Up Right	BAT
India	PROTECT	Imperial Tobacco
Indonesia	Sampoerna untuk Indonesia scheme, Hope Project	PMI
Malawi	Total LandCare	Foundation for Eliminating Child Labor in Tobacco
Mozambique	Promoting Rural Investment in Smallholder Enterprises (PRISE)	Imperial Tobacco
New Zealand	Keep New Zealand Beautiful	BAT
Portugal	#BreaktheHabit	PMI
Sri Lanka	Sustainable Agriculture Development Programme	BAT
Tanzania	Community Reforestation and Support Program	JTI
U.S.A & Canada	• Cigarette Litter Prevention Programme • Unsmoke Canada Cleanups (The Great Outdoors Fund & Unsmoke Canada)	Altria, BAT, PMI, Rothmans, and Benson & Hedges
	• Alliance for the Chesapeake Bay • Center for Watershed Protection • Cumberland River Compact • The Nature Conservancy • Longwood University • James River Association • Keep Virginia Beautiful • Washington State University Foundation	Altria and BAT

ANNEX V

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1 "Cigarette butts are dangerous pieces of plastic, but are usually not handled properly and consist of more than 15,000 detachable strands of plastic fiber. Discarded cigarette butts may be carried into rivers and lakes, and finally into the ocean. The plastic fibers will continuously release microplastic fibers into the environment. About 300,000 tons of potential microplastic fibers may enter the aquatic environment from this source per annum. (Note that the estimate here is 300,000 tons may enter the aquatic environment while authors estimate is 781,000 tons total filters, of which roughly 21-41% (OECD) is estimated to enter aquatic environments, and around 14% would enter the ocean (109,000 tons), considering that more cigarettes are consumed in Asia Pacific where leakage is higher."
Source: Shen M, Li Y, Song B, Zhou C, Gong J, Zeng G. Smoked cigarette butts: Unignorable source for environmental microplastic fibers. Sci Total Environ. 2021 Oct 15;791:148384. doi: 10.1016/j.scitotenv.2021.148384. Epub 2021 Jun 9. PMID: 34139503.

2 Ibid.

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Source: Stockhaus, H; Sachdeva, A; Sina, S; Bolopion, E; Mislang, G; Espenilla, J; Guiao, C.T.; Sulistiawati, L.Y.; Popattanachai, N. 2021. A New Treaty on Plastic Pollution – Perspectives from Asia. Published in October 2021 by WWF-World Wide Fund For Nature (Singapore) Limited (WWF-Singapore). Available at: https://law.upd.edu.ph/wp-content/uploads/2021/11/WWF_21-962_Plastic_Report_2108_08_low-res.pdf

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Ocean Conservancy, International Coastal Cleanups, and others such as Novotny TE, Lum K, Smith E, Wang V, Barnes R. Cigarettes butts and the case for an environmental policy on hazardous cigarette waste. Int J Environ Res Public Health. 2009;6(5):1691-1705. doi:10.3390/ijerph6051691; Slaughter E, Gersberg RM, Watanabe K, et al. Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish. Tobacco Control 2011;20:i25-i29; Wajhul Qamar, Ahmed A. Abdelgalil, Suliman Aljarboa, Mohammad Alhuzani, Mohammad A. Altamimi, Cigarette waste: Assessment of hazard to the environment and health in Riyadh city, Saudi Journal of Biological Sciences, Volume 27, Issue 5, 2020, Pages 1380-1383, ISSN 1319-562X, https://doi.org/10.1016/j.sjbs.2019.12.002.

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46 "With a sampling time interval of 10 days. The Cd, Fe, As, Ni, Cu, Zn and Mn contents of cigarette butts were found to vary widely between 0.16 and 0.67 μg/g, 79.01 and 244.97 μg/g, 0.12 and 0.48 μg/g, 1.13 and 3.27 μg/g, 4.29 and 12.29 μg/g, 6.39 and 21.17 μg/g, and 38.29 and 123.1 μg/g, respectively. A Wilcoxon signed rank test showed that there were no significant differences between the Cd, Fe, As, Ni, Cu, Zn and Mn contents of cigarette butts at different sampling times. Considering the estimated number of cigarette butts littered annually, the results of this study indicated that considerable metals including Cd, Fe, As, Ni, Cu, Zn and Mn may enter the marine environment each year from cigarette litter alone."
Source: Dobaradaran S, Nabipour I, Saeedi R, et al Association of metals (Cd, Fe, As, Ni, Cu, Zn and Mn) with cigarette butts in northern part of the Persian Gulf Tobacco Control 2017;26:461-463. Available at https://tobaccocontrol.bmj.com/content/26/4/461.

47 Warren, G. W., Alberg, A. J., Kraft, A. S., & Cummings, K. M. (2014). The 2014 Surgeon General's report: "The health consequences of smoking--50 years of progress": a paradigm shift in cancer care. Cancer, 120(13), 1914–1916. https://doi.org/10.1002/cncr.28695

48 "Tobacco toxicants are inhaled by smokers and transmitted to the environment through SS, SHS, THS, and discarded CBs."
Source: Soleimani, F., Dobaradaran, S., De-la-Torre, G. E., Schmidt, T. C., & Saeedi, R. (2022). Content of toxic components of cigarette, cigarette smoke vs cigarette butts: A comprehensive systematic review. The Science of the total environment, 813, 152667. Available at: https://doi.org/10.1016/j.scitotenv.2021.152667

49 "The most hazardous compounds with acute and chronic toxicity in aquatic organisms include acrolein, acrylonitrile, and metals (cadmium, lead, chromium, nickel, cobalt) found in both WP tobacco and charcoal wastewater, and N-nitrosonornicotine, nicotine, crotonaldehyde and selenium were additionally found in WP tobacco wastewater. All the identified chemicals are considered harmful or potentially harmful constituents in tobacco products and tobacco smoke per FDA's list, and seventeen of them represent hazardous waste per EPA's list.
Conclusion: Our study expands the identification and quantifies several WP wastewater chemical constituents. It characterizes the ecological hazard of these chemicals and identifies chemicals of concern, aiding our evaluation of the environmental impacts of WP waste products. Our results add to the existing evidence that WP wastewater is a source of toxins that could affect water quality and aquatic organisms, and bioaccumulate in the environment if disposed of into public sewers, on the ground, or in an onsite septic system."
Source: Edwards, R. L., Jr, Venugopal, P. D., & Hsieh, J. R. (2021). Aquatic toxicity of waterpipe wastewater chemicals. Environmental research, 197, 111206. Available at: https://doi.org/10.1016/j.envres.2021.111206

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51 "Concentrations of As, Cr, Cd, Pb, and Ni were 17.45, 2.5, 0.15, 6, and 0.62 ppb in the butt leachate and 7.21, 2.64, 0.29, 13.61, and 1.24 ppb in the ash leachate, respectively, indicating that heavy metals could explain the higher toxicity of cigarette ash. Based on the present study, cigarette ash imposes not only higher levels of genotoxicity and phytotoxicity but also more values of toxic heavy metals on our planet. Thus, cigarette ash plays a major role in environmental pollution, and the importance of cigarette ashes should receive attention even more than cigarette butts. This paper casts new light on the toxic impacts of cigarette ash."
Source: Mansouri, N., Etebari, M., Ebrahimi, A., Ebrahimpour, K., Rahimi, B., & Hassanzadeh, A. (2020). Genotoxicity and phytotoxicity comparison of cigarette butt with cigarette ash. Environmental science and pollution research international, 27(32), 40383–40391. Available at: https://doi.org/10.1007/s11356-020-10080-z

52 Rudolf E Noble, Effect of cigarette smoke on seed germination, Science of The Total Environment, Volume 267, Issues 1–3, 2001, Pages 177-179, ISSN 0048-9697. Available at: https://doi.org/10.1016/S0048-9697(00)00810-X.

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See also: Green D. Cigarette butts are the forgotten plastic pollution – and they could be killing our plants. The Conversation, July 19, 2019. Available at: https://theconversation.com/cigarette-butts-are-the-forgotten-plastic-pollution-and-they-could-be-killing-our-plants-119958; Dannielle S. Green, Bas Boots, Jaime Da Silva Carvalho, Thomas Starkey, Cigarette butts have adverse effects on initial growth of perennial ryegrass (gramineae: Lolium perenne L.) and white clover (leguminosae: Trifolium repens L.), Ecotoxicology and Environmental Safety, Volume 182, 2019, 109418, ISSN 0147-6513. Available at: https://doi.org/10.1016/j.ecoenv.2019.109418.

54 "This path of contamination pertains even when there is only one cigarette butt per square meter. Even such minor pollution results - at least in the case of basil and peppermint - in considerable high nicotine contaminations, which exceed the maximum residue level by more than 20-fold. The data reported here clearly outline the large practical relevance of this soil-borne contamination path and imply that unthoughtful disposal of cigarette butts in the field by farm workers may be the reason for the widespread occurrence of nicotine contamination in plant-derived commodities. Therefore, such misbehavior needs to be prevented using education and sensitization, and by including this issue into the guidelines of good agricultural practice."
Source: Selmar, D., Radwan, A., Abdalla, N., Taha, H., Wittke, C., El-Henawy, A., Alshaal, T., Amer, M., Kleinwächter, M., Nowak, M., & El-Ramady, H. (2018). Uptake of nicotine from discarded cigarette butts – A so far unconsidered path of contamination of plant-derived commodities. Environmental Pollution, 238, 972–976. Available at: https://doi.org/10.1016/j.envpol.2018.01.113

55 "Over 35 studies have examined the toxicity of cigarette butts in biota from aquatic and terrestrial habitats from microbes to mice, but many organisms and habitats have not been tested. Two-thirds of studies are on aquatic organisms, and lethal effects were common. Research on the impacts on terrestrial life is lagging behind. Cigarette butts can affect the growth, behaviour, and reproductive output of individual organisms in all three habitats, but research on wider effects on biodiversity and ecosystem functioning is lacking."
Source: Green, D. S., Tongue, A., & Boots, B. (2022). The ecological impacts of discarded cigarette butts. Trends in ecology & evolution, 37(2), 183–192. Available at: https://doi.org/10.1016/j.tree.2021.10.001

56 "Rio Declaration Principle 15 To protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. See also Article 3 of the United Nations Framework Convention on Climate Change (UNFCCC) establishes that "parties should take precautionary measures to anticipate, prevent, or minimize the causes of climate change and mitigate its adverse effects." It continues by affirming that a lack of full scientific certainty should not be used as a reason for postponing measures to prevent serious or irreversible damage."
Source: United Nations General Assembly. Report of the United Nations Conference on Environment and Development, A/CONF.151/26 (Vol. I), (12 August 1992). Available at: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf

57 "Principle 16 National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."
Source: Ibid.

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58 "In some cases, the precautionary principle has been used to shift to producers, instead of the public, the burden of proving that there is no harm..
Wingspread definition of the precautionary principle states that "When an activity raises threats of harm to human health or the environment… the proponent of an activity, rather than the public, should bear the burden of proof" (Wingspread, 1998). The EU REACH Regulation (EC) No. 1907/20065 on chemicals also places the burden of proof onto the supplier or manufacturer, requiring companies to identify and manage the risks associated with the substances they manufacture and market in the EU. They must demonstrate to the European Chemicals Agency how the substances can be safely used, and have to communicate health and safety information to the other users in the supply chain…
In the Norwegian Gene Technology Act of 2 April 1993 No. 38 Relating to the Production and Use of Genetically Modified Organisms, etc. (amended 2005), the deliberate release of organisms may only be approved when there is no risk of adverse effects on health or the environment, placing the burden of proof firmly on the prospective producer. Significant weight is also given to whether the deliberate release will be of benefit to society and is likely to promote sustainable development, when deciding whether to grant an application. This legislation, therefore, makes strong use of the precautionary principle…
The precautionary principle could also shift the burden of proof to the defendant. This occurred in the United States where the Environmental Protection Agency (EPA) was required to prove that greenhouse gas emissions from the transport industry do not contribute to climate change. The EPA failed to prove this and was ordered to regulate transport emissions. The court took a precautionary approach in this case, arguing that the EPA could not avoid its obligations because of some 'residual uncertainty' (Supreme Court of the United States, 2007)."
Source: Science for Environment Policy (2017) The Precautionary Principle: decision making under uncertainty. Future Brief 18. Produced for the European Commission DG Environment by Science Communication Unit, UWE, Bristol. Available at:https://ec.europa.eu/environment/integration/research/newsalert/pdf/precautionary_principle_decision_making_under_uncertainty_FB18_en.pdf

59 Evans-Reeves K, Lauber K, Hiscock R. The 'filter fraud' persists: the tobacco industry is still using filters to suggest lower health risks while destroying the environment Tobacco Control Published Online First: 26 April 2021. doi: 10.1136/tobaccocontrol-2020-056245

60 Filters are not only a health deception perpetrated by the tobacco industry, they have been associated with increased risk, given that the misplaced sense of security associated with smoking filtered cigarettes has almost certainly reduced health concerns, resulting in increased smoker initiation, and postponed quit attempts (Stratton et al. 2001; Warner 2002). Filtered cigarettes also produce elevated levels of more-addictive free-base nicotine, and deeper inhalation by smokers has resulted in a shift in cancer diagnoses in which squamous cell carcinomas replaced by more aggressive adenocarcinoma as the most common form of lung cancer in much of the world (Brooks et al. 2005; Ito et al. 2011).

61 Brooks, D. R., Austin, J. H., Heelan, R. T., Ginsberg, M. S., Shin, V., Olson, S. H., Muscat, J. E., & Stellman, S. D. (2005). Influence of type of cigarette on peripheral versus central lung cancer. Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology, 14(3), 576–581. Available at: https://doi.org/10.1158/1055-9965.EPI-04-0468

62 Cigarette filters are a marketing tool,6 originally intended to keep loose tobacco out of the smoker's mouth,7 not to protect the health of smokers. Indeed, filters have been implicated in increased rates of adenocarcinoma.8 Filters are made of cellulose acetate, which is photodegradable,9 but not biodegradable; they trap residues from smoking including arsenic, cadmium and toluene.1
Source: Smith E and Novotny T. Whose butt is it? Tobacco industry research about smokers and cigarette butt waste Tobacco Control 2011;20(Suppl 1):i2ei9. doi:10.1136/tc.2010.040105. Available at: https://tobaccocontrol.bmj.com/content/tobaccocontrol/20/Suppl_1/i2.full.pdf
See also: Brooks, D. R., Austin, J. H., Heelan, R. T., Ginsberg, M. S., Shin, V., Olson, S. H., ... & Stellman, S. D. (2005). Influence of type of cigarette on peripheral versus central lung cancer. Cancer Epidemiology and Prevention Biomarkers, 14(3), 576-581. Available at:https://scholar.google.com/scholar_lookup?journal=Cancer+Epidemiol+Biomarkers+Prev&title=Influence+of+type+of+cigarette+on+peripheral+versus+central+lung+cancer&author=DR+Brooks&author=JH+Austin&author=RT+Heelan&author=MS+Ginsberg&author=V+Shin&volume=14&issue=3&publication_year=2005&pages=576-81&pmid=15767332&

63 Slaughter, E., Gersberg, R. M., Watanabe, K., Rudolph, J., Stransky, C., & Novotny, T. E. (2011). Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish. Tobacco control, 20 Suppl 1(Suppl_1), i25–i29. Available at: https://doi.org/10.1136/tc.2010.040170

64 Smith, E. A., & McDaniel, P. A. (2011). Covering their butts: responses to the cigarette litter problem. Tobacco control, 20(2), 100–106. Available at: https://doi.org/10.1136/tc.2010.036491

65 "Over the past 50 years, almost all smokers (99%) started smoking filtered cigarettes citing Novotny et al., 2009)."
Source: Maria Christina B. Araújo, Monica F. Costa, A critical review of the issue of cigarette butt pollution in coastal environments, Environmental Research, Volume 172, 2019, Pages 137-149, ISSN 0013-9351. Available at: https://doi.org/10.1016/j.envres.2019.02.005.

66 Involves Philip Morris RJR and other companies. "We searched different databases to determine if companies other than Philip Morris, Inc were aware of the cigarette filter defect. Our findings showed that several other companies have recently investigated the release of cellulose acetate filter fibres. Variable results have been reported (table 1). This may be attributed to inappropriate methodologies or inexperience. In this respect, it is noted that no standardised testing procedures have been adopted.
Notable is that none of the companies who have reported studies that have been undertaken to measure the release of fibres from cigarette filters have made reference to the extensive "fall-out" studies of Philip Morris, Inc. Has Phillip Morris, Inc been successful in hiding their observations from other companies for several decades?
In 1993, the RJ Reynolds Tobacco Company (RJR) argued, albeit unconvincingly, that cigarette fibres are not released from cigarettes94, 95 (table 1). RJR cites a paper by Langer and colleagues,96 presented at a 1988 conference on cigarette smoke sponsored by RJR, and concludes that: "It has been shown in very rigorous analyzes that the mainstream smoke of modern cigarettes does not contain any fibrous material."94
Source: Pauly, J. L., Mepani, A. B., Lesses, J. D., Cummings, K. M., & Streck, R. J. (2002). Cigarettes with defective filters marketed for 40 years: what Philip Morris never told smokers. Tobacco control, 11 Suppl 1(Suppl 1), I51–I61. Available at: https://doi.org/10.1136/tc.11.suppl_1.i51

67 "We have shown that: (a) the filter of today's cigarette is defective; (b) Philip Morris, Inc has known of this filter defect for more than 40 years; (c) the existence of this filter defect has been confirmed by others in independent studies; (d) many methods exist to prevent and correct the filter defect, but have not been implemented; and (e) results of investigations substantiating defective filters have been concealed from the smoker and the health community. The tobacco industry has been negligent in not performing toxicological examinations and other studies to assess the human health risks associated with regularly ingesting and inhaling non-degradable, toxin coated cellulose acetate fragments and carbon microparticles and possibly other components that are released from conventional cigarette filters during normal smoking. The rationale for harm assessment is supported by the results of consumer surveys that have shown that the ingestion or inhalation of cigarette filter fibres are a health concern to nearly all smokers…
…the analytical laboratories of the world's largest tobacco company are perceived as having the best resources to undertake studies of defective filters (for example, funding, personnel, technology, and equipment); and (d) the mass cigarette production facilities would presuppose frequent collaboration, partnerships, and contracts with manufacturers of filter fibres (for example, "tow"), machines for making filter rods, plasticisers, and other items…
The term "fall-out", coined by Philip Morris, Inc, depicts the ease with which the loose fibres and particles are puffed from the cut surface of the cigarette filter. Collectively, the 61 "fall-out" papers establish that cellulose acetate fibres and carbon particles are emitted from the filters of all cigarettes tested over a period of many years and under normal smoking conditions. Moreover, the filter defect is universal and widespread, and it is not restricted to a given cigarette brand, filter type or tobacco company…
"Document management and destruction for some companies are a routine part of business operations. However, the document destruction memo to Ms Ryan (1994) was issued soon after the 1993 published reports of our research documenting the release of fibres from cigarette filters (table 1; also see below: "Filter contamination . . .", "Laboratory research . . .", and "Discussion"). While this may be coincidence, we note that this declaration was issued only once—our searches of different document web sites failed to locate document destruction declarations issued to Ms Ryan in the preceding or subsequent years.
Filter contamination not disclosed by Philip Morris, Inc
Having established that Philip Morris, Inc knew for approximately 40 years that cigarette filters released cellulose acetate fibres and carbon particles, we undertook a search of the scientific literature to determine whether the results of these experiments had been reported. Our efforts included a search of publications referenced in Medline, PubMed, Tobacco Abstracts, Chemical Abstracts, and CORESTA papers and reports."
Source: Ibid.

68 "We reported also the presence of cellulose acetate cigarette filter fibres in human lung tissue. In his critique of this study, tobacco spokesperson Professor Dr F Adlkofer noted that: "With high probability, the fibres which were seen by the authors in the lungs of smokers with lung cancer are in fact cellulose acetate fibres."15
Results of studies presented in this report have been confirmed and extended in investigations of consenting adult smokers."
Source: Ibid.

69 Cleanup Reports. Ocean Conservatory. Available at: https://oceanconservancy.org/trash-free-seas/international-coastal- cleanup/annual-data-release/
See also: Rainey J. Plastic straw ban? Cigarette butts are the single greatest source of ocean trash. NBC News, August 27, 2018. Available at: https://www.nbcnews.com/news/us-news/plastic-straw-ban-cigarette-butts-are-single-greatest-source-ocean-n903661

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70 Novotny, T. papers, WHO brochure on environment, 2022

71 Cigarette littering behavior studies including internal documents

72 Smith, E. A., & McDaniel, P. A. (2011). Covering their butts: responses to the cigarette litter problem. Tobacco control, 20(2), 100–106. Available at: https://doi.org/10.1136/tc.2010.036491

73 "It may be that Philip Morris' interests lie primarily in shifting the responsibility for butt waste to the consumer; KAB's efforts focus on public education and increasing availability of butt receptacles, including hand held ashtrays; its campaigns support Philip Morris' corporate social image [30]. In 2007, it received a $3 million grant from Philip Morris USA for its butt litter campaigns [31]. The tobacco industry has considered this problem further with some of their own research on filter degradability. Philip Morris documents described 'Project Natural' at the 1990 Philip Morris International Marketing Meeting, where the litter issue and the problems with filter degradability were discussed. The presenter stated: 'to avoid this problem, the simplest solution would be to eliminate the filter! But this of course would defy consumer preference and make it difficult to control tar and nicotine levels' [32]."
Source: Novotny TE, Lum K, Smith E, Wang V, and Barnes R. Cigarettes butts and the case for an environmental policy on hazardous cigarette waste. International Journal of Environmental Research and Public Health, May 20, 2009. Available at: https://www.mdpi.com/1660-4601/6/5/1691/htm

74 E.g. mechanical street sweeping, mechanical and/or manual power washing, manual clean-up, storm drain clean out, and water treatment processes.

75 Novotny TE, Lum K, Smith E, Wang V, and Barnes R. Cigarettes butts and the case for an environmental policy on hazardous cigarette waste. International Journal of Environmental Research and Public Health, May 20, 2009. Available at: https://www.mdpi.com/1660-4601/6/5/1691/htm

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77 "Cigarette butts and other TPL, when disposed of improperly, are typically dropped, flicked or flushed into streets, sidewalks, parks, toilets and so on. Following disposal, TPL either accumulates in the vicinity of disposal or migrates to other areas through gutters, culverts, and drainage and sewage systems. TPL abatement includes the collection of litter at or near the source using a combination of manual clean-up, mechanical street/sidewalk sweeping and power washing. TPL abatement is also necessary at centralised accumulation sites, such as storm drains, sewers and treatment plants. Mitigation at centralised sites includes storm drain clean out, sewer clean out (eg, cleaning debris screens and filters at sewage treatment plants) and others forms of manual clean up."
Source: Schneider, J.E., Peterson, N.A., Kiss, N., Ebeid, O., & Doyle, A. (2011). Tobacco litter costs and public policy: a framework and methodology for considering the use of fees to offset abatement costs. Tobacco Control, 20, 36 - 41. Available at: https://tobaccocontrol.bmj.com/content/20/Suppl_1/i36

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81 Many articles, marine, air emissions, land, etc. In view of this, the cigarette butt waste, when disposed of directly into the environment without any treatment, can cause negative impacts on terrestrial and aquatic ecosystems, landscapes, and public health. "The landfilling and incineration methods have been tested for the disposal of cigarette butt waste generated in large urban centers and cities [9]."
Source: Maciel, L.A.R., Loiola, R.L. & Holanda, J.N.F. Feasibility of using cigarette butts waste in eco-friendly ceramic roofing tile. SN Appl. Sci. 2, 2014 (2020). Available at: https://doi.org/10.1007/s42452-020-03672-4
See also: Poppendieck D, Khurshid S, Emmerich S (2016) Measuring airborne emissions from cigarette butts: literature review and experimental plan, NISTIR 8147 Report. Natl Inst Stand Technol. https://doi.org/10.6028/NIST.IR.8147; Slaughter E, Gersberg RM, Watanabe K, Rudolph J, Stransky C, Novotny TE (2011) Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish. Tob Control 20:i25–i29. https://doi.org/10.1136/tc.2010.040170; Kadir, A. A., & Sarani, N. A. (2015). Cigarette Butts Pollution and Environmental Impact – A Review. Applied Mechanics and Materials, 773–774, 1106–1110. https://doi.org/10.4028/www.scientific.net/amm.773-774.1106; Rebischung, F., Chabot, L., Biaudet, H., & Pandard, P. (2018). Cigarette butts: A small but hazardous waste, according to European regulation. Waste management (New York, N.Y.), 82, 9–14. https://doi.org/10.1016/j.wasman.2018.09.038

82 "In view of this, the cigarette butt waste, when disposed of directly into the environment without any treatment, can cause negative impacts on terrestrial and aquatic ecosystems, landscapes, and public health. The landfilling and incineration methods have been tested
for the disposal of cigarette butt waste generated in large urban centers and cities"
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Source: Maciel, L.A.R., Loiola, R.L. & Holanda, J.N.F. Feasibility of using cigarette butts waste in eco-friendly ceramic roofing tile. SN Appl. Sci. 2, 2014 (2020). Available at: https://doi.org/10.1007/s42452-020-03672-4

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Source: Waste Gasification & Pyrolysis: High Risk, Low Yield Processes for Waste Management a Technology Risk Analysis. GAIA, 2017. Available at: http://www.no-burn.org/wpcontent/uploads/Waste-Gasification-and-Pyrolysis-high-risk-low-yield-processes-march2017.pdf

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Mohajerani, A. et al. (2017). Physico-mechanical properties of asphalt concrete incorporated with encapsulated cigarette butts. Construction and Building Materials, 153, 69-80. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0950061817314241
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98 Legal Limits on Single-Use Plastics and Microplastics: A Global Review of National Laws and Regulations. United Nations Environment Programme, 2018. Available at: https://www.unep.org/resources/publication/legal-limits-single-use-plastics-and-microplastics-global-review-national

99 Ibid. – "Forty-three (43) country national laws were identified as including characteristics of EPR.27 These countries are provided by region in Table 19. A map of the countries that recognize characteristics of EPR is provided as well.(Map 4)"

100 G20 Report on Actions against Marine Plastic Litter: Second Information Sharing based on the G20 Implementation Framework. Institute for Global Environmental Strategies, November 2020. Available at: https://g20mpl.org/wp-content/uploads/2020/11/G20mpl_20201214_IGES_second-edition.pdf

101 "Tobacco producers shall implement information campaigns, in collaboration with the Ministry of Environment, Land and Sea, with the aim to raise consumer awareness about the harmful consequences for the environment resulting from the littering of cigarette butts."
Source: Ibid.

102 Fact Sheet: Tobacco. World Health Organization, May 24, 2012. Available at: https://www.who.int/news-room/fact-sheets/detail/tobacco.

103 WHO Framework Convention on Tobacco Control. World Health Organization, May 25, 2003. Available at: https://fctc.who.int/who-fctc/overview.

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106 As mentioned in STOP letter to OECD: "OECD Webinar, "Regulating corporate political engagement: trends, challenges and the role for investors", is also laudable, and we appreciate the outreach to STOP made through the Coalition of Influencers. At the webinar, the expert from the Secretariat-General of the European Commission emphasized that in the realm of stakeholder inclusion, there are special rules such as Article 5.3 of the World Health Organization's Framework Convention on Tobacco Control (FCTC) and corresponding EU guidelines that apply to the tobacco industry.

107 "Tobacco exclusions increased significantly for European ETFs and is the largest exclusionary category in the US for active funds. Exclusions for companies that derive a significant percentage of revenue from tobacco product/sales increased 940bps to 9.8% for ETFs in Europe. This compares to active fund exclusion at 9.7% (+430bps). It remains the largest exclusionary factor in the US at 2.1% for active funds, up 120bps. Exclusions in US ETFs remains minimal at ~0.4%."
Source: Jones D, Bedell B. What are exclusionary trends in sustainable investing? dbSustainability - Deutsche Bank Research, April 2021. Available at: https://www.dbresearch.com/PROD/RPS_EN-PROD/PROD0000000000518186/Q%26A_series%3A_What_are_exclusionary_trends_in_sustai.pdf?undefined&realload=QGBl8m9EWjE60bmYRkJePVnAWrcfQxyES8j~DpEbe46X~FVuTypIV6VnZDO2t3Fl; USD 16 trillion in assets under management exclude tobacco stocks. Source: The Tobacco-Free Finance Pledge. Tobacco Free Portfolios. Available at: https://tobaccofreeportfolios.org/the-pledge/

108 "The WHO FCTC is an important tool to ensure that public health is prioritized over industry profits by governments and the UN system, and to ensure the enjoyment of the highest attainable standard of health as one of the fundamental rights of every human being."
Source: Model policy for agencies of the United Nations system on preventing tobacco industry interference. World Health Organization, February 26, 2021. Available at: https://fctc.who.int/publications/m/item/model-policy-for-agencies-of-the-united-nations-system-on-preventing-tobacco-industry-interference-(full-text)
See also: United Nations Economic and Social Council. Resolution 2017/8, United Nations Inter-Agency Task Force on the Prevention and Control of Non-Communicable Diseases, E/RES/2017/8 (4 August 2017). Available at: https://digitallibrary.un.org/record/1298699?ln=en.

109 UN Global Compact Integrity Policy Update (12 September 2017). The UN Global Compact's (UNGC) Integrity Policy Update, dated 12 September 2017, stated that: "the UN Global Compact will increase scrutiny of companies upon entry into the initiative, review engagement with existing participants, and institute new exclusionary criteria for companies involved in certain high-risk sectors – including the production and manufacture of tobacco products, and nuclear, chemical, or biological weapons. Participating companies whose business involves manufacturing or producing tobacco products will be delisted effective 15 October 2017" Available at: https://ncdalliance.org/sites/default/files/Integrity%20Recommendation_Statement%20for%20Website_%2012%20September%202017.pdf.

110 see generally Handbook on Implementation of Art 5.3, GGTC, 2021 for resources

111 United Nations Global Compact. Can tobacco companies join the Global Compact? The UNGC previously announced that it "actively discourages tobacco companies from participation in the initiative and does not accept funding from tobacco companies" Available at:http://www.csrcentre-bd.org/index.php?option=com_content&view=article&id=88&Itemid=95.

112 UN Guidelines which provides that: "the UN will not engage with Business Sector entities that are complicit in human rights abuses, tolerate …the use of child labour, …, or that otherwise do not meet relevant obligations or responsibilities required by the United Nations." Source: Guidelines on Cooperation between the United Nations and the Business Sector. United Nations, November 20, 2009. Available at: https://www.un.org/en/ethics/assets/pdfs/Guidelines-on-Cooperation-with-the-Business-Sector.pdf

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113 Vera da Costa e Silva (11 July 2017). Engagement with tobacco industry conflicting with UN principles and values was adopted so that the UN system would ensure "a consistent and effective separation between its activities and those of the tobacco industry, to preserve its integrity and reputation and in promoting development" (emphasis supplied). Available at: https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_584090.pdf

114 "Engagement with the tobacco industry is contrary to the United Nations system's objectives, fundamental principles and values", the UN ECOSOC has adopted a resolution enjoining all UN agencies to adopt a model policy that, among others, requires the rejection of "partnerships, joint programs, non-binding or non-enforceable agreements and any other voluntary arrangements with the tobacco industry."
Source: Guerda Y. Combat against devastating effects of tobacco can only be won 'if the UN stands united' – UN health official. United Nations News, August 22, 2018. Available at: https://news.un.org/en/story/2018/08/1017582
See Also: United Nations Economic and Social Council. Resolution 20178, United Nations Inter-Agency Task Force on the Prevention and Control of Non-Communicable Diseases, E/RES/2017/8 (4 August 2017). Available at: https://digitallibrary.un.org/record/1298699?ln=en

115 "Previously secret internal tobacco company documents show that the tobacco industry launched an extensive multifaceted effort to influence the scientific debate about the harmful effects of secondhand smoke. Integral to the industry's campaign was an effort to derail the Environmental Protection Agency's (EPA) risk assessment on environmental tobacco smoke (ETS) by recruiting a network of journalists to generate news articles supporting the industry's position and pushing its public relations messages regarding the ETS issue."
Source: Muggli, M. E., Hurt, R. D., & Becker, L. B. (2004). Turning free speech into corporate speech: Philip Morris' efforts to influence U.S. and European journalists regarding the U.S. EPA report on secondhand smoke. Preventive medicine, 39(3), 568–580. Available at: https://doi.org/10.1016/j.ypmed.2004.02.014

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See also: Novotny TE, Lum K, Smith E, Wang V, and Barnes R. Cigarettes butts and the case for an environmental policy on hazardous cigarette waste. International Journal of Environmental Research and Public Health, May 20, 2009. Available at: https://www.mdpi.com/1660-4601/6/5/1691/htm

117 "Previous studies have shown that the industry has been concerned for decades that cigarette litter might increase the social unacceptability of smoking, inspire support for tobacco control, or result in legislation requiring them to take fiscal or practical responsibility for cigarette waste disposal. As a policy response, the industry has sponsored anti-littering groups, distributed portable ashtrays (frequently branded) and installed permanent ashtrays in downtown areas of numerous cities.24 None of these has solved the problem." "The tobacco industry has feared being held responsible for cigarette litter for more than 20 years. Their efforts to avoid this responsibility included developing biodegradable filters, creating anti-litter campaigns, and distributing portable and permanent ashtrays. They concluded that biodegradable filters would probably encourage littering and would not be marketable, and that smokers were defensive about discarding their tobacco butts and not amenable to anti-litter efforts."
Source: Smith, E., & Novotny, T. (2011). Whose butt is it? Tobacco industry research about smokers and cigarette butt waste. Tobacco control, 20 Suppl 1(1 SUPPL), i2-i9. Available at: http://dx.doi.org/10.1136/tc.2010.040105
See also: Smith, E., & McDaniel, A. (2011). Covering their butts: responses to the cigarette litter problem. Tobacco control, 20(2), 100–106. Available at: https://doi.org/10.1136/tc.2010.036491

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119 "Several tobacco companies developed anti-litter campaigns,76 77 deciding that the solution was 'education(,) not materials science'.78 However, industry research suggested that such a campaign had to be formulated carefully." "Their efforts—anti-litter campaigns and handheld and permanent ashtrays—did not substantially affect smokers' entrenched 'butt flicking' behaviours.…These findings suggest that tobacco control programmes should not attempt to solve the problem by providing ashtrays or enhancing antilittering laws. Attempts to change the behaviour of smokers should focus on cessation." "More to the point, tobacco control should place the burden of cigarette waste on the industry. For more than 30 years the tobacco companies have feared the establishment of legislation or regulation compelling them to take responsibility for cigarette butt waste."
Source: Smith, E., & Novotny, T. (2011). Whose butt is it? Tobacco industry research about smokers and cigarette butt waste. Tobacco control, 20 Suppl 1(1 SUPPL), i2-i9. Available at: http://dx.doi.org/10.1136/tc.2010.040105

120 "Tobacco industry analysis of smokers' attitudes revealed that smokers disliked cigarette butts whether in ashtrays or discarded, and were unenthusiastic about eco-friendly cigarettes, anti-litter campaigns, and portable or permanent ashtrays, leading industry analysts to the conclusion that the 'complex psychology of butt littering made difficult identifying any message that might change the behaviour.'" Source: Smith EA, Novotny TE. Whose butt is it? Tobacco industry research about smokers and cigarette butt waste. Tobacco Control, 2011, May 20. Available at: https://doi.org/10.1136%2Ftc.2010.040105
See also: Wallbank, L. A., MacKenzie, R., & Beggs, P. J. (2017). Environmental impacts of tobacco product waste: International and Australian policy responses. Ambio, 46(3), 361–370. Available at: https://doi.org/10.1007/s13280-016-0851-0

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Source: Wallbank, L. A., MacKenzie, R., & Beggs, P. J. (2017). Environmental impacts of tobacco product waste: International and Australian policy responses. Ambio, 46(3), 361–370. Available at: https://doi.org/10.1007/s13280-016-0851-0

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Source: TerraCycle Recycles Millions of Cigarette Butts Nationwide. Waste360, July 30, 2018. Available at: https://www.waste360.com/waste-reduction/terracycle-recycles-millions-cigarette-butts-nationwide

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Source: Litter Recycling. TerraCycle. Available at: https://www.terracycle.com/en-CA/pages/litter-prevention-solutions

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Source: Keep America Beautiful. Available at: https://www.keeppabeautiful.org/programs/cigarette-litter-prevention/

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149 "Harmonisation is especially important in federal and quasi federal government systems that form a common or unified market. Ideally, reporting requirements and criteria should be harmonised, whilst exact monetary fees may differ according to national or local context (Wiesmeth and Häckl, 2017[34]). Furthermore, standardised reporting and efficient IT tools can minimise reporting burdens for firms, whilst improving comparability and compatibility of data across regions and countries. Harmonising DfE incentives is particularly relevant for complex products such as EEE, batteries, or automobiles that are produced for the global market. If criteria can be aligned across multiple EPR systems, the 'pooled' incentive for design change can possibly influence design beyond the geographic coverage of the respective EPR systems. Here, global initiatives could aim to coordinate criteria, such as in the G7 or the G20. The EU Commission is currently working to establish harmonised legal criteria that guide Member States to a coordinated and uniform implementation (EXPRA, 2019[31])."
Source: Laubinger F, Brown A, Dubois M, and Börkey P. Modulated fees for Extended Producer Responsibility schemes (EPR). Organisation for Economic Co-operation and Development, October 28, 2021. Available at: https://www.researchgate.net/publication/356041531_Modulated_fees_for_Extended_Producer_Responsibility_schemes_EPR

150 "Fee modulation can change firms' incentives for R&D investment and may come at the cost of innovations of other product characteristics. Examples of trade-offs may include losses in projected gains to functionality, lay-out, technical quality or durability. For instance, DfE for lighter, more recyclable food packaging or incentives to avoid food packaging, may increase food losses."
Source: Ibid.

151 "The magnitude of modulation (i.e. the difference in fee costs) relative to the product price determines the economic incentive for DfE. Where the ratio of the fee magnitude to product price is small, the incentive for DfE to lower their fee liability is low. Reversely, the higher the ratio of a fee magnitude relative to a product's price, the higher the incentive for the intended design change."
Source: Ibid.

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154 "These include different types of product fees and taxes commonly called 'advance recycling fees' (ARFs), product take-back mandates, virgin material taxes, and combinations of these instruments. EPR instruments are contrasted with non-EPR policies such as 'pay-as-you-throw' waste collection charges, landfill bans, and others. It is argued that a cost-effective instrument will be one that exploits all the possible avenues for waste reduction – i.e., source reduction, recycling, material substitution, and product design changes – and not just a single method. This means that policy options such as a combined ARF/recycling subsidy work better than an instrument that just targets, say, recycling. The take-back option is difficult to evaluate conceptually since much depends on how it is implemented in practice. All systems operate with producer responsibility organizations (PROs), and the financing mechanism that the PRO uses is a critical determinant of the option's cost-effectiveness."
Source: Walls M. EPR Policies and Product Design: Economic Theory and Selected Case Studies. Organisation for Economic Co-operation and Development, Feberuary 28, 2006. Available at: https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=env/epoc/wgwpr(2005)9/final

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157 "The presence of hazardous substances can significantly increase the costs of recycling, lower the value of recycled material and cause substantial environmental damage in case of improper disposal. Fees can be modulated to incentivise the phase-out of hazardous substances (Table 5)."
Source: Ibid.

158 "Awareness is one of several criteria for bonus/malus in the French EPR for packaging (CITEO):
The bonuses include:
• Awareness bonuses on-pack, ranging from 5-8%; and
• Awareness bonuses off-pack (awareness adverts on TV, radio, displays, etc.) of 4%;
The penalties include:
• 100% penalty for packaging included in national sorting instructions but without an existing recycling channel."
"CITEO is reviewing its system of bonus fee adjustments for awareness raising due to regulatory changes that require most packaging to be marked with sorting instructions from 2022 (Article L541-9-3). As well, two further updates to the French anti-waste law for circular economy (AGEC) will impact malus payments for on-pack marking that may lead to confusion of sorting rules (including the green dot). The order of 30 November 2020 and the appendix to the decree of 25 December 2020 require a 100% penalty be applied to targeted packaging as of April 2021, with exceptions provided until 2022 for products with a marking set in obligation by another EU Member state."
Source: Ibid.

159 "The success of EPR schemes depends on the participation and sorting by consumers. Awareness campaigns about appropriate end-of-life disposal of products can greatly improve recycling rates. In most EPRs, there is an obligation to collectively engage in consumer awareness and the PRO usually holds campaigns (sometimes jointly with local authorities) that provide coherent messages across the country. EPR fees could be modulated to incentivise producers to do additional efforts to communicate about sorting instructions. For example, the French EPR scheme for packaging rewards such activities (Table 6).5 Clearly, the modulation should incentivise communication that is consistent with the general messaging of the PRO and/or local authority to avoid confusion."
Source: Ibid.

160 "Modulating EPR fees based on recycled content aims at further strengthening the demand for secondary materials and at fostering recycling efforts in the targeted material. In such schemes, products that verifiably meet thresholds for recycled content receive a bonus or lowered fee. The likely effectiveness and applicability of this criterion for EPR is contested. Some stakeholders argue that the measure is a flexible means to increase demand for recycled material and to reward producers that innovate with circular design. However, other stakeholders argue that recycled content can give mixed signals with respect to other design priorities such as lightweighting (recycled materials sometimes need a higher weight for the same strength)"
Source:Ibid.

161 "In France, EPR fees for packaging include a: 1. 10% fee reduction for cardboard and graphic paper (in publications) with > 50% recycled content, 2. 5% fee increase for using primary fibres from forests without eco-management labels,
In Germany, the 2019 Packaging Ordinance requires PROs to provide incentives for sustainable packaging design and to modulate EPR fees accordingly. PROs are required to design fees that include differentiating fees along criteria of among others recyclability (given existing technologies) and recycled content and content of renewable materials (BMJV Germany, 2019[17]) .
In Quebec, this involves a 20% bonus for producers who entirely manufacture packaging with recycled content and who use at least 50% to 80% of recycled content for printed materials (e.g. magazines and other publications) (EEQ, 2020[18]).
United States (California) State law establishing EPR for carpets requires a difference in fees for the presence of post-consumer recycled content (California Legislative Information, 2020[19]).
Chile, collective management systems for packaging must modulate fees with bonus or malus based on recycled content, if the secondary material is derived from waste generated in Chile (Ministerio del Medio Ambiente Chile, 2021[13])."
Source: Ibid.

162 "A non-profit PRO owned by constituent member firms is subject to an accreditation process before the Commission Consultative d'Agrément (CCA) which sets the rules and recovery targets, for the PRO (Monier et al., 2014[42]). The accreditation process occurs every six years and serves as a forum for regulators and stakeholders to discuss the goals and functioning of the EPR system. PROs can become a forum for stakeholder engagement and can foster collaboration between recyclers and producers."
"In Italy, the non-profit PRO, CONAI, is responsible for collective implementation of EPR for packaging. CONAI has established fee schedules that account for differences in actual EoL costs within some of the material groups, for example in plastics. In 2018, the PRO initiated different price levels for "product groups", which were based on the assessment of a plastic consortium and the involvement of stakeholders (CONAI, 2020[11])."
Source: Laubinger F, Brown A, Dubois M, and Börkey P. Modulated fees for Extended Producer Responsibility schemes (EPR). Organisation for Economic Co-operation and Development, October 28, 2021. Available at https://www.researchgate.net/publication/356041531_Modulated_fees_for_Extended_Producer_Responsibility_schemes_EPR

163 Position of French advocacy group CNCT

164 Six municipalities are experimenting with an awareness plan against the throwing of cigarette butts. Environment Magazine France, March 10, 2022. Available at: https://www.environnement-magazine.fr/pollutions/article/2022/03/10/138580/six-communes-experimentent-plan-sensibilisation-contre-les-jets-megots
See also: Tobacco REP: six municipalities will experiment with tools to fight abandoned cigarette butts. ACTU Environment, March 10, 2022. Available at: https://www.actu-environnement.com/ae/news/REP-tabac-communes-experimentation-outils-lutte-megots-abandonnes-39238.php4

165 The organization is a key partner of Butt-Out Aus Pty which is a supplier of cigarette ashtrays, bins and receptacles including to the government https://buttoutaustralia.com.au/our-partners/

166 Links to KAB national, Keep Australia Beautiful linked to Keep America Beautiful which is linked to the tobacco companies: http://www.herinst.org/envcrisis/fronts/examples/kab.html; https://www.kabc.wa.gov.au/library/file/Litter%20Toolkit/Litter-Toolkit-090216-FINAL-digital.pdf

167 "Around the world, there is growing momentum for product stewardship and extended producer responsibility schemes for cigarette butts and tobacco products. Across Europe, as well as in California, The Netherlands, and Canada, programs of varying degrees are already being implemented. New Zealand announced their Smokefree Aotearoa 2025 Action Plan on 9th December 2021. UK is in the middle of a consultation period to remove plastic filters. The EU has implemented mandatory labels to alert consumers that filters contain plastic, whereas San Francisco has a history of collecting litter taxes from retailers, along with charging tobacco companies for the cost of cleaning up."
Source: Igniting a new scheme: Nomination of cigarette butts for the minister's product stewardship list of priority products. No More Butts, January 2022. Available at: https://treasury.gov.au/sites/default/files/2022-03/258735_no_more_butts_supporting_document.pdf

168 "Most initiatives are legislated by Government and implemented by NGOs, with limited leadership and support from Tobacco companies. Under the WHO FCTC, there are potential restrictions from Governments engaging with Tobacco collaboratively on projects. No More Butts should be considered as a strong option to lead the design and implementation of programs."
Source: Igniting a new scheme: Nomination of cigarette butts for the minister's product stewardship list of priority products. No More Butts, January 2022. Available at: https://treasury.gov.au/sites/default/files/2022-03/258735_no_more_butts_supporting_document.pdf

169 "Initial Meeting
Facilitation
- Chair
- An independent person from a group such as the CoE
- Secretariat services - No More Butts
Required participants
- Minister / Asst. Minister
- Philip Morris
- Imperial Brands
- BATA
- National Plastics Plan / Department of AWE
- Australian Local Government Association
- 1 x EPA or similar peak body
- 1 x Environmental NGO
- A national Waste & Recycling company"
Source: Igniting a new scheme: Nomination of cigarette butts for the minister's product stewardship list of priority products. No More Butts, January 2022. Available at: https://treasury.gov.au/sites/default/files/2022-03/258735_no_more_butts_supporting_document.pdf

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170 "Optional participants Given the nature of purchasing habits by Australians and the current revenues, it should be considered to have additional representation, at least in part from the following groups. - Retail & wholesale trade industry - APCO - Health Department - Indigenous affairs - Treasury"
Source: Ibid.

171 "Legislation around Plain Packaging for tobacco is a potential barrier to implementation of environmental labelling. However, with the right advocacy and support from the Commonwealth government, this should be achievable"
"Alignment with the Commonwealth Health Department to enable changes to legislation to include labelling to highlight the adverse environmental impacts of filtered cigarettes would be required, whilst reviewing the ultimate need for removal of plastic filters from cigarettes."
Source: Ibid.

172 Ibid.

173 "Proposed Agenda
• Introductions
• Context - National Plastics Plan
• Current state of play
o Litter rates
o Landfill rates
o Environmental impact
o Profile of Australian smokers
o Sales and market share of tobacco products
o Revenue generation
o National & global initiatives
• Agree on scope and objectives of a Product Stewardship Scheme
• Agree high level principles
• Draft Terms of Reference
• Develop an implementation plan for an effective product stewardship program
• Propose Governance model
• Meeting Cadence
• Next Steps"
"Draft Terms of Reference should be agreed upon to set out the objectives for the a Product Stewardship Scheme.
Finally, funding sources and Governance models need to be discussed, including consideration of allocation of Government Taxation Revenue, or the introduction of an Extended Producer Responsibility (EPR) scheme and how these funds would be managed, including any consultation with Treasury"
Source: Ibid

174 "Initiatives and activities for discussion by the task force. Naturally, the agreed principles and outcomes of the task force will drive the implementation plan of TIPSS, however some considerations are listed below:
• Research into alternative materials for cigarette butt filters - Design for Environment (DfE)
• Design and deploy a national smokers survey, to understand behavioural triggers, awareness of cigarette contents and environmental impacts (behavioural)
• National awareness campaigns on the contents of cigarette butt filters and the impact to the environment (similar to the Grim Reaper AIDS campaign, or the TAC Drink Drive campaign)
• Implementation of smoke-free zones (beaches) and designated smoking areas
• Implementation of 'smoke-safe' permits for building and construction sites
• Standardisation of littering fines nationally
• Empowerment of more officers, including parking inspectors, to implement fines
• Availability of recyclable 'butt pockets' at all points of purchase
• Inclusion of a recycled and re-usable 'butt pocket' at the tobacco company factory to ensure 100% coverage of a solution for smokers
• Standardisation of approach to infrastructure
• Investigation into IoT and AI for data collection within infrastructure
• Research funding via grants to advance research into recycling methods and uses for recycled products"
Source: Ibid.

175 Ibid.

176 "Filterless cigarettes are an option worth considering. The key consideration and action is based around the awareness, reduction in littering, diversion from landfill, and scaling abilities for the re-use of plastic cigarette butt filters as a composite."
Source: Ibid.

177 Liability Roadmap. Available at: https://liabilityroadmap.org

178 Josefson D. US flight attendants win settlement over passive smoking. BMJ 1997; 315 :967 doi:10.1136/bmj.315.7114.967c. Available at: https://www.bmj.com/content/315/7114/967.4

179 "Recommendation: 'Parties could consider, while bearing in mind Article 26.2 of the WHO FCTC, and in accordance with national law, dedicating revenue to tobacco-control programmes, such as those covering awareness raising, health promotion and disease prevention, cessation services, economically viable alternative activities, and financing of appropriate structures for tobacco control.'"
Source: WHO Framework Convention on Tobacco Control, Conference of the Parties to the WHO Framework Convention on Tobacco Control, sixth session. (2014). DECISION: Guidelines for implementation of Article 6 of the WHO FCTC (Price and tax measures to reduce the demand for tobacco). Available at: https://apps.who.int/iris/handle/10665/145110

180 Note that taxation on its own has not been viewed by advocates as a complete solution in the context of climate justice because polluters could be encouraged to continue polluting as long as taxes are paid

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184 "Scientists and specialists from environmental organisations who have thoroughly studied the issue recently outlined an international plastic treaty in the leading journal Science. Plastic pollution is well past the stage of only being a problem for the ocean but manifests itself on land and in the air too. It now affects human health. They thus believe that a plastics treaty needs to incorporate the entire plastic chain and go beyond only waste and recycling to include production and reuse. They have identified three starting points.
• Absolute reduction in the production of new virgin plastic, with measurable goals (such as in the Paris Agreement and the Montreal Protocol) and the elimination of the single use plastics for which there are sustainable alternatives.
• Safe recycling. Hazardous additives, that are currently being used to give plastic the desired qualities, will be banned. The treaty should contain regulations and standards that will ensure that plastic is only produced if it can be safely and optimally recycled.
• Remove plastic from the environment and prevent it entering the environment. These goals will be worked out in national legislation. Existing legislation, such as extended producer responsibility, will be modified."
Source: Who decides what is in an international plastics treaty? Plastic Soup Foundation, July 30, 2021. Available at: https://www.plasticsoupfoundation.org/en/2021/07/who-decides-what-is-in-an-international-plastics-treaty/

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187 Emma Schmaltz, Emily C. Melvin, Zoie Diana, Ella F. Gunady, Daniel Rittschof, Jason A. Somarelli, John Virdin, Meagan M. Dunphy-Daly, Plastic pollution solutions: emerging technologies to prevent and collectmarineplastic pollution, Environment International, Volume 144, 2020, 106067, ISSN 0160-4120. Available at: https://doi.org/10.1016/j.envint.2020.106067

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190 Ibid.

191 The treaty provision qualifies this "in respect of tobacco cultivation and manufacture" but can be viewed in conjunction with broader health and environment health in line with Art 2.1 which encourages Parties to go beyond the treaty provisions to achieve treaty objectives

192 Roadmap for the UN Environment Programme Governing Bodies. United Nations Environment Programme, August 24, 2018. Available at: https://www.unep.org/resources/other-evaluation-reportsdocuments/roadmap-un-environment-programme-governing-bodies

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195 "Alternatively, a tax can be used to achieve the same incentive. For example, Sweden initiated a tax program on flame retardants used in electronic goods (Xuan, 2017[44]). · As a third alternative, regulatory measures can be used to set limits for concentration of harmful chemicals in products or can ban the presence of certain substances in products entirely. An example is the EU's Restriction of Hazardous Substances Directive 2002/95/EC."
Source: Laubinger F, Brown A, Dubois M, and Börkey P. Modulated fees for Extended Producer Responsibility schemes (EPR). Organisation for Economic Co-operation and Development, October 28, 2021. Available at: https://www.researchgate.net/publication/356041531_Modulated_fees_for_Extended_Producer_Responsibility_schemes_EPR

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197 Even in studies that view recycling with optimism, collection of littered cigarette waste is identified as the most significant challenge. Because of its small size, butt tends to remain on coastal waters even after clean-up activities e.g. in Cyprus.

198 Studies that sum up the immense environmental harm of CBs, also recognized the costs of collections and the technical inadequacy to deal with the toxic cigarette waste; and thus have suggested "producing cigarettes with degradable filters, reducing the rate of smoking in the world, reducing the toxic and chemical substances in the process of plant growth, processing and production of cigarettes, training people to discard CBs properly, putting legal and financial pressures on cigarettes production, and the last but not least, providing effective solutions for collecting CBs."
Source: Javad Torkashvand, Mahdi Farzadkia, Hamid Reza Sobhi, Ali Esrafili, Littered cigarette butt as a well-known hazardous waste: A comprehensive systematic review, Journal of Hazardous Materials, Volume 383, 2020, 121242, ISSN 0304-3894. Available at: https://doi.org/10.1016/j.jhazmat.2019.121242

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Treat the Cigarette Butts - a new bill will deal with the environmental consequences of the cigarette industry. Hebrew Environment, Science & Policy Network, June 25, 2018. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3254943

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Source: Novotny, T. E., Bialous, S. A., Burt, L., Curtis, C., da Costa, V. L., Iqtidar, S. U., Liu, Y., Pujari, S., & Tursan d'Espaignet, E. (2015). The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption. Bulletin of the World Health Organization, 93(12), 877–880. Available at: https://doi.org/10.2471/BLT.15.152744

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220 Article 18, the underlying tenet of the FCTC, to challenge the tobacco industry and its vested interests can be used to support prohibition of single-use filters; litigation and economic interventions aimed at recovery of costs of industry misconduct and environmental damages; and to "innovate, improve and enforce new and existing environmental regulations and agreements" that apply to all stages of tobacco production and post-consumption waste."
Source: Novotny, T. E., Bialous, S. A., Burt, L., Curtis, C., da Costa, V. L., Iqtidar, S. U., Liu, Y., Pujari, S., & Tursan d'Espaignet, E. (2015). The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption. Bulletin of the World Health Organization, 93(12), 877–880. Available at: https://doi.org/10.2471/BLT.15.152744

221 "These real, just solutions to address climate change are within reach, and have been led and practiced by communities on the front lines of the climate crisis for decades. Implementing these solutions requires economic resources. This is a debt that is already owed by corporations—and the executives behind them—to these communities, and its distribution must be accountable to them as they seek to restore balance with nature.
The industries that have fueled the climate crisis, funded climate denial, and blocked just climate progress for decades must pay for the damage they have caused. Holding them liable means ensuring that they are held criminally and financially responsible, and that they are made to end the practices that have driven this crisis in the first place."
Source: Sign the call. Make Big Polluters Pay. Available at: https://makebigpolluterspay.org
See also: Liability Roadmap. Available at: https://liabilityroadmap.org

222 Article 5.3 further recommend that Parties should reject partnerships with the tobacco industry and prevent it from interfering in policymaking or from being part of a body involved in developing or implementing tobacco control measures, such as smoke-free environments, advertising bans, packaging, tobacco taxation, illicit trade of tobacco, and tobacco industry liability.

223 "The tobacco industry conducts activities described as socially responsible to distance its image from the lethal nature of the product it produces and sells or to interfere with the setting and implementation of public health policies. Activities that are described as "socially responsible" by thetobacco industry, aiming at the promotion of tobacco consumption, is a marketing as well as a public relations strategy that falls within the Convention's definition of advertising, promotion and sponsorship.
The corporate social responsibility of the tobacco industry is, according to WHO,1 an inherent contradiction, as industry's core functions are in conflict with the goals of public health policies with respect to tobacco control.
Recommendations
6.1 Parties should ensure that all branches of government and the public are informed and made aware of the true purpose and scope of activities described as socially responsible performed by the tobacco industry.
6.2 Parties should not endorse, support, form partnerships with or participate in activities of the tobacco industry described as socially responsible.
6.3 Parties should not allow public disclosure by the tobacco industry or any other person acting on its behalf of activities described as socially responsible or of the expenditures made for these activities, except when legally required to report on such expenditures, such as in an annual report.2
6.4 Parties should not allow acceptance by any branch of government or the public sector of political, social, financial, educational, community or other contributions from the tobacco industry or from those working to further its interests, except for compensations due to legal settlements or mandated by law or legally binding and enforceable agreements."
Source: WHO Framework Convention on Tobacco Control Guidelines for Implementation. World Health Organization, 2011. Available at: https://apps.who.int/iris/bitstream/handle/10665/75218/9789241501316_eng.pdf
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225 WWF estimates that 4% of 302 million metric tonnes of plastic is leaked into the ocean in 2016 (all plastics). See: World Wide Fund For Nature (Formerly World Wildlife Fund), September 2021. Available at: https://media.wwf.no/assets/attachments/Plastics-the-cost-to-society-the-environment-and-the-economy-WWF-report.pdf; WEF study reveals that a staggering 32% of 78 million tonnes of plastic packaging escapes collection, such plastic typically has a short first use cycle (single use plastics). This refers to those that "either it is not collected at all, or it is collected but then illegally dumped or mismanaged. "See: The New Plastics Economy: Rethinking the future of plastics. World Economic Forum, January 2016. Available at: https://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf

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Source: From Pollution to Solution: A global assessment of marine litter and plastic pollution. United Nations Environment Programme, 2021. Available at: https://wedocs.unep.org/20.500.11822/36963

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Source: Soós R, Whiteman A, Gavgas G. The cost of preventing ocean plastic pollution. Organisation for Economic Co-operation and Development, OECD Environment Working Papers No. 190, March 04, 2022. Available at: https://www.oecd.org/publications/the-cost-of-preventing-ocean-plastic-pollution-5c41963b-en.htm
Beaumont "recommend a systematic global research agenda for the recording and reporting of marine plastic research, especially relating to the most vulnerable and valuable ecosystem services, and on the potential contamination of the human food chain."
Source: Beaumont, N. J., Aanesen, M., Austen, M. C., Börger, T., Clark, J. R., Cole, M., Hooper, T., Lindeque, P. K., Pascoe, C., & Wyles, K. J. Global ecological, social and economic impacts of marine plastic, Marine Pollution Bulletin, Volume 142, 2019, Pages 189-195, ISSN 0025-326X. Available at: https://doi.org/10.1016/j.marpolbul.2019.03.022

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234 "Plastic "mismanagement" typically encompasses several waste management outcomes, including uncontrolled landfills, waste dumping, open burning, littering, and eventual leakage into ecosystems (Jambeck et al., 2015; Kaza et al., 2018). Three of the most prominent studies of plastic mismanagement are Jambeck et al. (2015), Lebreton and Andrady (2019), and Borrelle et al. (2020). Jambeck et al.'s seminal paper focused on coastal populations, estimating 2010 inputs of plastic into the ocean between 4.8 and 12.7 million metric tonnes (mt). Borrelle et al. estimated plastic inputs into all aquatic ecosystems of 19 to 23 million mt in 2016 or about 11% of global plastic production. Lebreton and Andrady estimated plastic generation and mismanagement at fine resolutions (~1 km). These studies exhibit key methodological differences (Supplementary Fig. 1)… All studies applied a minimum value of 1-2% representing littering. The different primary data sources used to estimate mismanagement rates lead to temporal variation among the three studies… These variations are caused by differences in underlying data sources (e.g., government reports versus expert input, temporality, etc.), data categorizations (assumptions regarding collection rates and implications of income level for proportional mismanagement), and imputation for countries with no waste management data."
Source: Micaela Edelson, Daniel Håbesland, Rebecca Traldi, Uncertainties in global estimates of plastic waste highlight the need for monitoring frameworks, Marine Pollution Bulletin, Volume 171, 2021, 112720, ISSN 0025-326X. Available at: https://doi.org/10.1016/j.marpolbul.2021.112720.

235 "All three studies state that the underlying data, including plastic waste disposal and mismanagement data, are not reported consistently across countries and are therefore unreliable."
Source: Ibid.