



Tobacco control playbook supplement

Tobacco industry harms the environment
while misrepresenting its sustainability



World Health
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About this update

The tobacco epidemic is one of the greatest public health threats and requires a comprehensive approach with robust tobacco control measures.

The WHO European Region has made remarkable progress in tobacco control over recent decades, driven by the adoption and implementation of the WHO Framework Convention on Tobacco Control (WHO FCTC). Yet, tobacco use and its devastating health consequences remain unacceptably high. The fight against tobacco is further complicated by the industry's relentless efforts to undermine effective policies – deploying increasingly aggressive and deceptive strategies.

To counter these tactics, policy-makers need clear, evidence-based arguments. In response to this need, the WHO Regional Office for Europe developed and published the Tobacco Control Playbook in 2019. This playbook serves as a resource for those engaged in tobacco control, providing insights into industry tactics and equipping governments and public health advocates with well-founded arguments to counter industry influence. It dismantles common industry myths and presents a compelling, evidence-driven narrative that directly challenges the opposition to effective tobacco control measures.

Since 2019, the landscape of tobacco control has continued to evolve. More countries have strengthened their policies and successfully countered industry interference, while market shifts have introduced new tobacco and nicotine products, increasingly targeting young people. These developments underscore the need to update the playbook with the latest evidence, experiences and good practices.

This document showing how the tobacco industry harms the environment while misrepresenting its sustainability is a new argument under the playbook umbrella. We hope it will serve as a valuable tool for policy-makers, advocates and the public, reinforcing tobacco control efforts across the Region and ultimately reducing tobacco-related harm.

➤ Key message

The tobacco industry portrays itself as environmentally responsible, with sustainability pledges, waste disposal schemes and new products that are misleadingly marketed as reducing environmental impact. These initiatives obscure the substantial environmental damage caused across the full product life cycle, from tobacco cultivation and manufacture to post-consumer waste. The industry's environmental messaging is greenwashing rather than genuine environmental stewardship.

What is the issue?

- ▶ The tobacco industry increasingly positions itself as an environmentally responsible business by claiming that it is reducing its ecological footprint through sustainability strategies, environmental reporting and voluntary environmental initiatives.
- ▶ Across corporate communications, the tobacco industry portrays itself as being aligned with global climate action and sustainable development goals, and claims to be making meaningful progress in reducing greenhouse gas emissions, water consumption, energy use and deforestation (1,2).
- ▶ Tobacco and related companies have asserted their concern about reducing litter from their products by sponsoring anti-litter campaigns, cigarette butt clean-ups and recycling programmes and by promoting product innovations such as biodegradable cigarette filters (3).
- ▶ The tobacco industry has framed new nicotine and tobacco products, such as e-cigarettes and heated tobacco products, as innovative or environmentally responsible alternatives to conventional cigarettes (4).

What is the evidence for concern?

- ▶ Greenwashing occurs when companies disseminate misinformation to present an image of environmental sustainability and divert attention away from their own environmentally damaging practices. Tobacco companies have been greenwashing since the early 2000s as part of a broader corporate social responsibility strategy to maintain legitimacy and avoid regulation (4).
- ▶ Tobacco companies participate in global sustainability initiatives such as the Carbon Disclosure Project and, prior to being expelled in 2017, the United Nations Global Compact (2). Internal industry documents show that tobacco companies joined the United Nations Global Compact to improve their reputation and gain proximity to the United Nations in order to weaken the influence of WHO (5).
- ▶ Tobacco and related companies have used environmental messaging to promote their products, for example, by marketing cigarettes with more environmentally friendly packaging (2) or e-cigarettes as environmentally conscious (6). They also use environmental initiatives to bypass marketing bans, for example, by setting up an e-cigarette recycling entity and then using this entity to indirectly promote e-cigarettes at youth events (7).
- ▶ Sustainability reporting is not standardized and lacks independent third-party verification, thus posing challenges for assessing the true environmental costs. Therefore, tobacco

companies can score well in environmental, social and governance metrics (8) and the European Union's Corporate Sustainability Reporting Directive (9), which tend to reward governance and disclosure processes more than the environmental impacts of a company's core product.

- ▶ Tobacco companies report data in a way that obscures the true scale of impact, for example by adjusting emissions by revenue (2), and selectively report and set targets. For example, one tobacco company acknowledged that 90% of its total carbon footprint was from supply-chain emissions. However, tobacco companies did not set targets for reducing emissions in the supply chain, focusing instead on reducing emissions in their direct operations such as manufacturing facilities, company fleets and purchased electricity, which represent only a small fraction of their total footprint (10).
- ▶ Tobacco companies set voluntary targets to avoid regulation (11). However, when they are subjected to regulation or scrutiny for their environmental practices, they shift their operations elsewhere rather than adjusting these practices (4). Most tobacco cultivation and manufacturing is now conducted in low- and middle-income countries, where companies are subjected to fewer environmental restrictions (10,12,13).
- ▶ According to the United Nations Environment Programme, major industries, including the tobacco industry, would not be profitable if they were forced to pay for the environmental impact of their business (14). In the tobacco industry, corporate social responsibility programmes only cover a small fraction of the environmental costs of tobacco (15), and the industry continues to profit from environmentally destructive practices. For example, tobacco companies save more than US\$ 64 million annually in the costs that would be incurred by avoiding tobacco-related deforestation (16).
- ▶ Tobacco companies place the responsibility of reducing cigarette butt litter onto consumers and local governments, while their clean-ups, recycling and education initiatives address only a small fraction of global waste (17). According to internal tobacco industry documents, the companies launched these initiatives to avoid being held responsible for cigarette butt litter and to maintain the social acceptability of smoking (18,19).

What is the reality?

- ▶ Tobacco production is highly water intensive and contributes significantly to fresh-water depletion and pollution. Each cigarette has an estimated water footprint of 3.7 litres, reflecting the water required for cultivation and processing; globally, around 22 billion cubic metres of water are polluted and depleted each year to produce tobacco. In addition, tobacco cultivation and waste contribute to fresh-water contamination through pesticide run-off, soil erosion and toxic leachates (20).

- ▶ For an average smoker, the environmental footprint of their smoking is around 5.1 tonnes of carbon dioxide, 1355 cubic metres of water, and 1.3 tonnes of oil equivalent of fossil fuels. This is equivalent to 62 years of water supply for three people and 15 years of electricity for an average household in India. Offsetting the carbon dioxide footprint would require 132 tree saplings to be grown over 10 years (21).
- ▶ With around 5 trillion cigarette sticks consumed globally each year (22,23), the tobacco industry has an annual carbon footprint of around 70 million tonnes (20). This is higher than the annual carbon footprint of entire countries such as Greece (53 million tonnes) and Portugal (36 million tonnes) (24).
- ▶ While second-hand smoke is toxic to human and animal health, it also harms environmental health because cigarettes release significant quantities of carbon dioxide, methane and nitrous oxides into the air. The small particulate matter pollution created by three cigarettes is estimated to be up to 10 times higher than that of idling a diesel car engine for 30 minutes (2).
- ▶ Around 50 million trees are cut down each year to clear land for tobacco crops and source wood for curing tobacco leaves (10), causing deforestation and loss of biodiversity. In Malawi, where tobacco is the main cash crop, forest cover decreased from 66% to 46% in just 25 years (25).
- ▶ Tobacco is a resource-intensive crop: it is usually grown as a monocrop, rendering it vulnerable to pests and diseases, and requires large amounts of the soil nutrients nitrogen, potassium and phosphorus (15). Tobacco cultivation is also linked to food insecurity: it is more erosive (i.e. causes more topsoil loss) than most other crops, including cotton, grapes and groundnut (26), and require large volumes of pesticides, growth regulators and other chemicals that contaminate soil and water supplies (4).
- ▶ Heated tobacco products generate environmental harm across their entire life cycle, from tobacco cultivation and manufacture to the disposal of tobacco sticks, plastic components and electronic devices – all of which release harmful chemical residues into the environment (27).
- ▶ Cigarette butts are the most littered item on earth, with around 4.5 trillion discarded into the environment each year (4). Cigarette-specific toxicants, such as nicotine and cotinine, are widely detected in the environment (28). Cigarette filters are made from cellulose acetate. This non-biodegradable plastic fragments into microplastics and leaches over 7000 toxic chemicals from cigarette smoke, such as arsenic, heavy metals, nicotine and carcinogens, into the environment, thereby harming land and aquatic life (19,29). Experiments showed that toxins released by soaking a single smoked cigarette butt for 24 hours in a litre of water killed 50% of test populations of salt-water and fresh-water fish (30).
- ▶ Overall, 90% of cigarette filters are non-biodegradable; however, even biodegradable filters harm the environment by leaching toxic chemicals into the environment for several months after they are discarded (17).

- ▶ E-cigarette litter may present an even graver threat to the environment than conventional cigarettes, through both resource-intensive manufacturing and the growing scale of e-cigarette waste. Although research on their full environmental footprint remains limited, the plastics, metals, cartridges, lithium-ion batteries and nicotine solutions used in e-cigarettes require more environmentally intensive production processes (31). Discarded e-cigarettes also contain hard plastics, metal heating coils, electronic circuit boards and e-liquids that leach heavy metals, battery acid, nicotine and other toxic chemicals into the environment. Leaching tests have shown that the lead content of e-cigarette waste is up to 10 times the legal limit for hazardous waste (32). E-cigarette waste represents a choking hazard for wildlife and young children and also contains materials that can puncture, explode or burn (33).

Key arguments

- ▶ The most effective way to reduce the environmental impact of tobacco and nicotine products is to reduce consumption via measures consistent with the WHO FCTC (34). Environmental harms are inherent to tobacco production and cannot be eliminated through product redesign or waste management schemes alone. The recognition of tobacco as an important environmental problem is also consistent with WHO FCTC Articles 17 and 18 on protecting the environment, and with Sustainable Development Goals 14 and 15 on protecting life below water and on land (34–36).
- ▶ Environmental framing provides an additional and complementary rationale for strong tobacco control policies, but should not be allowed to shift responsibility from the industry to consumers.
- ▶ In a growing number of countries, cigarette filters and disposable e-cigarettes are regulated as single-use plastics. In 2024 Santa Cruz County in California (United States of America) became the first jurisdiction to pass a sales ban on all filtered cigarettes and cigars (37). Belgium, France and the United Kingdom of Great Britain and Northern Ireland have banned the sale of disposable e-cigarettes, and the European Union's Single-Use Plastics Directive 2019/904 (38) holds manufacturers responsible for the costs of eliminating cigarette butt waste (39).
- ▶ Extended producer responsibility schemes should be binding regulatory measures, not voluntary industry initiatives (40). In line with WHO FCTC Articles 2.1, 5.3, 17 and 18, manufacturers should be required to finance the full costs of waste management and environmental damage through taxes or levies administered by public authorities. The tobacco industry should be excluded from the design of such schemes because tobacco companies have repeatedly used environmental clean-up and recycling programmes as corporate social responsibility tools to avoid accountability and maintain legitimacy (4).

Case study: integrating tobacco control and environmental initiatives in Spain

Spain has one of the best-integrated tobacco–environment regulatory frameworks in the WHO European Region. Spain’s Law No. 7/2022 on Waste and Contaminated Soils for a Circular Economy also covers tobacco filters and imposes extended producer responsibility schemes that require manufacturers to finance 100% of cigarette butt collection, treatment and preventive measures (41). Subsequent implementation through Royal Decree No. 1093/2024 on Regulating the Management of Waste from Tobacco Products with Filters and Filters Marketed for Use with Single-Use Tobacco Products Containing Plastic operationalized the system (42). Thus, Spain has translated its obligations under the European Union’s Single-Use Plastics Directive into a binding national accountability regime rather than relying on voluntary industry initiatives.

Spain has also integrated tobacco control into initiatives for marine protection and coastal litter reduction. National marine litter strategies and beach monitoring have repeatedly identified cigarette filters as among the most common pollutants, which has reinforced policy attention to land-based tobacco waste entering coastal ecosystems. Building on this environmental framing, Law No. 7/2022 empowered municipalities to regulate smoking on beaches as part of its ecological transition policy, with fines of up to €2000 for violations. Major cities and regions, such as Barcelona and the Balearic Islands, introduced smoke-free beach rules that were partly justified by marine litter reduction, with bans extending across sand and shoreline areas and accompanied by visible signage and enforcement (43,44). According to Nofumadores, a Spanish nongovernmental organization that monitors national progress in implementing smoke-free beaches, the number of smoke-free beaches in Spain grew from 15 in 2014 to 897 by 2025, and now comprises around 30% of all beaches in Spain (45).

The experience of Spain shows that integrating tobacco control within environmental and waste governance can create enforceable accountability, particularly through extended producer responsibility schemes, and that environmental messaging can be a powerful driver for other measures that reduce or denormalize tobacco use, notably smoke-free legislation. Spain’s approach demonstrates how environmental regulation can reinforce, rather than replace, comprehensive tobacco control.

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