



REDUCE POST-CONSUMER WASTE STRATEGY

SEPTEMBER 2022



PHILIP MORRIS INTERNATIONAL



Addressing the impacts of our products remains at the core of our strategy. Of course, this starts by focusing on their health impacts. Yet it does not stop there, as we remain committed to also addressing the environmental impact of our products and continue to embed eco-design and circularity principles in their development and their end-of-life management.

Reducing and appropriately managing post-consumer waste means we work towards purchasing, converting, and using fewer raw materials mindful that our planet has limited natural resources. Investing in the safe and responsible disposal of this kind of waste is the right thing to do, as we share society’s concerns regarding the impacts of litter—such as pollution and harm to wildlife – and we believe we have a role in working to protect and preserve natural environments.

We have developed and are implementing a comprehensive four-fold post-consumer waste management strategy which focuses on: packaging, cigarettes, smoke-free electronic devices, and smoke-free consumables. This guide provides a deeper look into this strategy, including our management approach, aspirations, and progress to date.

As you review and learn more about our work, I invite you to reach out as we continue to transform for good, learn, and discover better ways to develop solutions that have meaningful impact. We hope our transparency and willingness to engage will spark dialogue with those who can help accelerate the pace of change and allow us to continue making our company better and more sustainable.

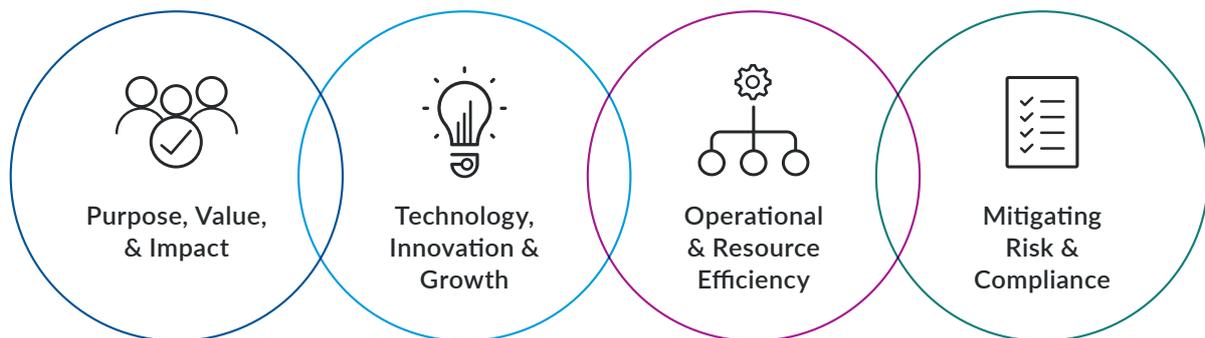
Jennifer Motles
Chief Sustainability Officer, PMI



Anchoring sustainability at the core of strategy

Embedding sustainability in all we do

For PMI, sustainability is more than just a means to minimize negative externalities and mitigate risks while maximizing operational efficiency and resource optimization. We see it as a fundamental opportunity for innovation, growth, and purpose-led, impact-driven, long-term value creation.



→ Read more about [PMI's sustainability efforts](#)

Sustainability materiality assessment

A robust sustainability materiality analysis allows us to identify, assess, and prioritize ESG topics on which we should focus. In line with the principle of double materiality, it consists of a fivefold approach.

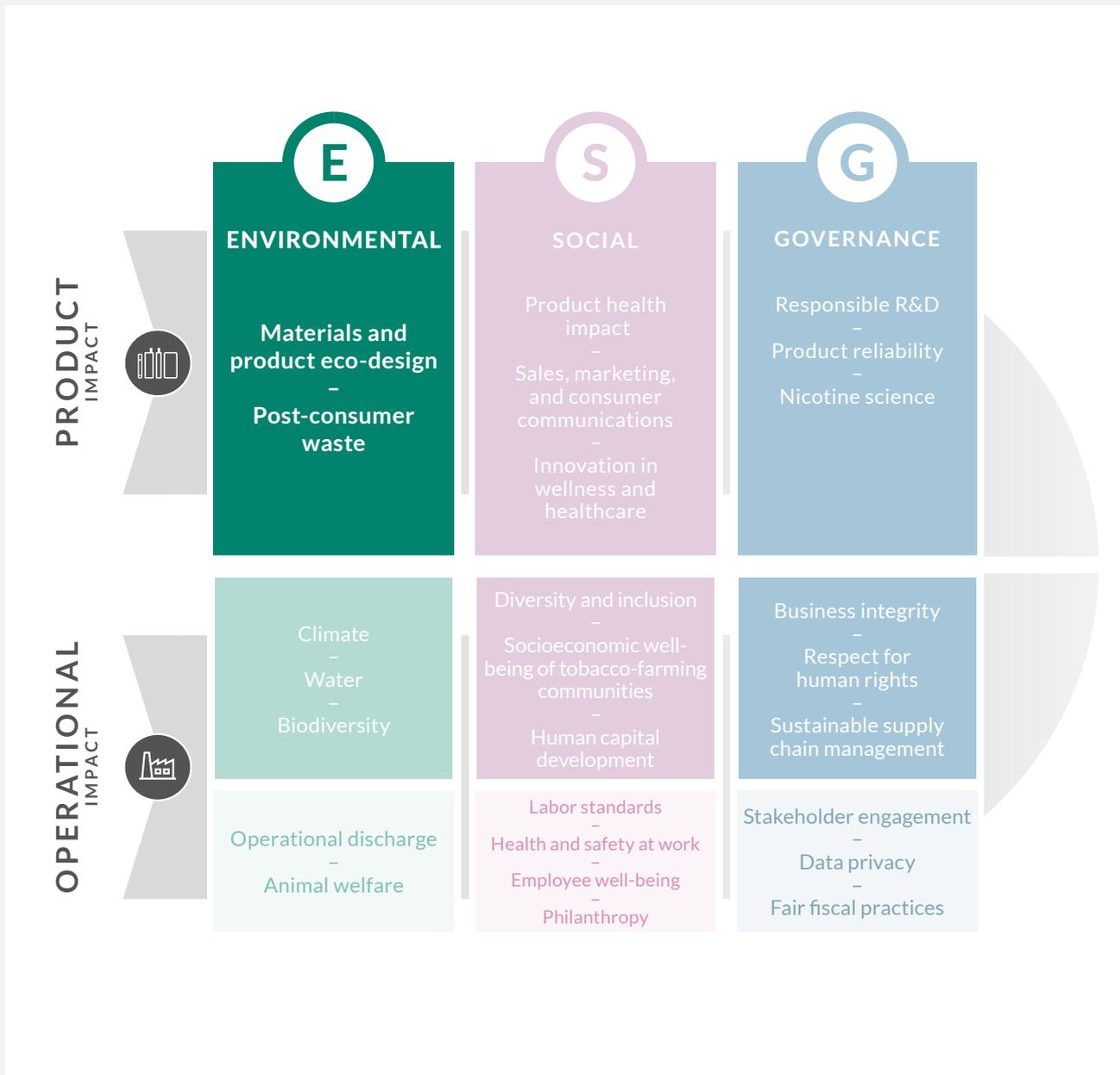


→ Learn more about our sustainability materiality assessment and how we identify our [ESG priorities](#)

→ Read PMI's [Sustainability Materiality Report](#)

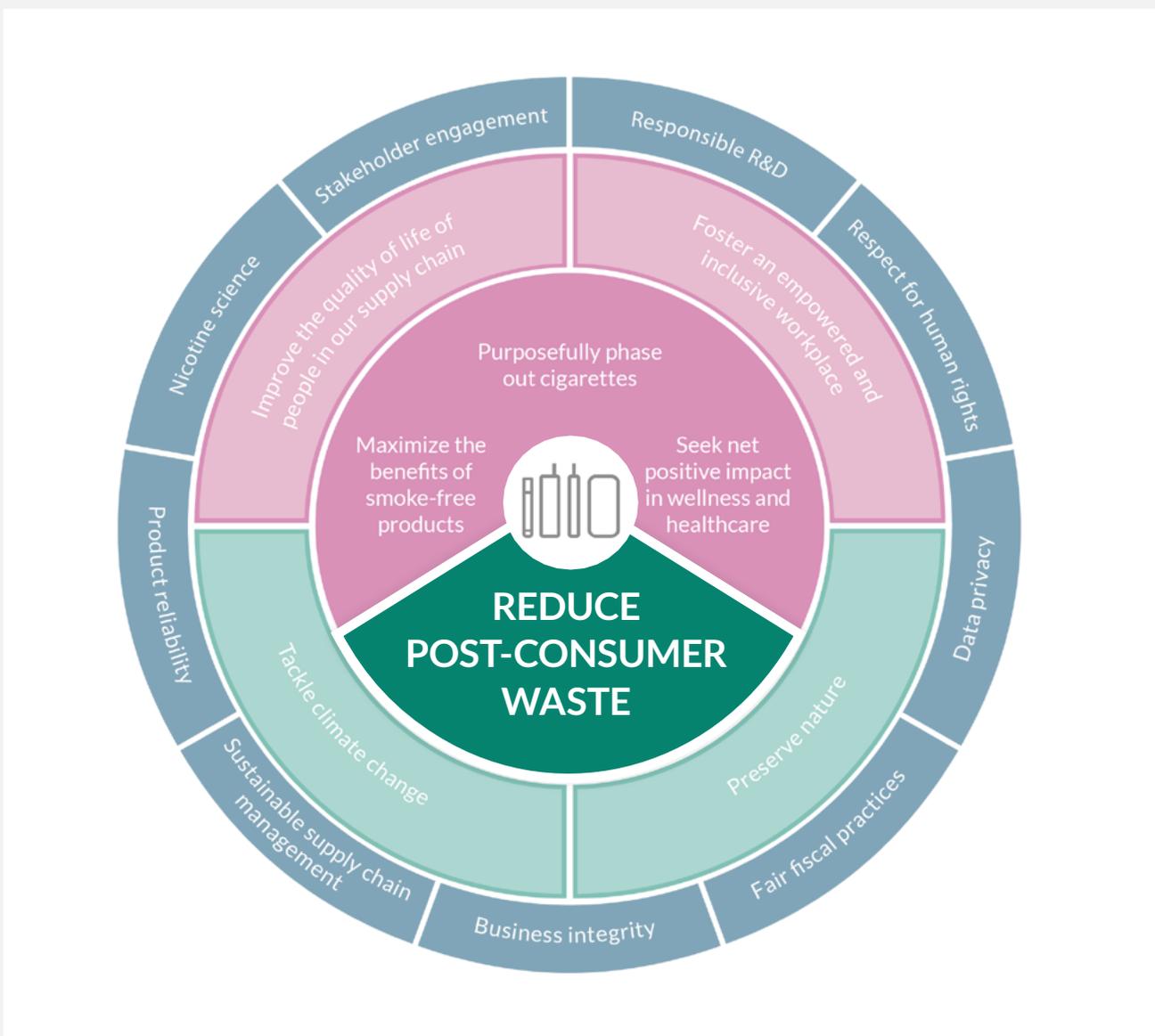
ESG Framework

Our ESG framework showcases these priority ESG topics. This framework recognizes two distinct forms of issues: those that relate to our products (what we produce) and those related to our business operations (how we produce).



Our sustainability strategy

- Impact-driven approach to sustainability
- Separate identification of environmental and social impacts
- Distinct forms of social and environmental impacts—
 - **PRODUCT IMPACT:** those impacts generated by our products (what we produce)
 - **OPERATIONAL IMPACT:** those impacts generated by our business operations (how we produce)
- 8 impact-driven strategies: 4 on product impacts + 4 on operational impacts
- 9 governance-related topics define our ability to successfully address environmental and social issues



2025 Roadmap

11 headline goals connected to 8 strategies. Our roadmap outlines our key commitments and informs the route of our long-term plan.

	Goals	Priority ESG topics and primary SDGs	Progress in 2021
PRODUCT IMPACT	Purposefully phase out cigarettes  <ol style="list-style-type: none"> Intentionally work toward phasing out cigarettes by ensuring that smoke-free products represent at least 30% of our shipment volumes and more than half of our net revenues by 2025 while continuing to reduce our combustible shipment volume 	Product health impact 3 GOOD HEALTH AND WELL-BEING 	
	Maximize the benefits of smoke-free products  <ol style="list-style-type: none"> Develop and commercialize science-based smoke-free alternatives, making them available in 100 markets (of which at least half in low- and middle-income markets) and continuing to increase the total number of users Deploy robust youth access prevention programs in indirect retail channels and ensure that sales of our products abide by our Marketing Codes 	Product health impact; Sales, marketing, and consumer communications 3 GOOD HEALTH AND WELL-BEING 	 
	Seek net positive impact in wellness and healthcare  <ol style="list-style-type: none"> Leverage scientific and development capabilities to generate at least USD 1 billion in annual net revenues from products in wellness and healthcare 	Innovation in wellness and healthcare 3 GOOD HEALTH AND WELL-BEING 8 DECENT WORK AND ECONOMIC GROWTH  	
	Reduce post-consumer waste  <ol style="list-style-type: none"> Reduce post-consumer waste and prevent littering by implementing comprehensive programs covering all our consumables Follow eco-design and circularity principles for all smoke-free electronic devices 	Materials and product eco-design; Post-consumer waste 8 DECENT WORK AND ECONOMIC GROWTH 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  	 
OPERATIONAL IMPACT	Foster an empowered and inclusive workplace  <ol style="list-style-type: none"> Nurture a more diverse culture that promotes equity and inclusion by providing access to lifelong learning to all our employees and improving gender and local representation in management globally 	Diversity and inclusion; Human capital development 4 QUALITY EDUCATION 5 GENDER EQUALITY 8 DECENT WORK AND ECONOMIC GROWTH 10 REDUCED INEQUALITIES    	
	Improve the quality of life of people in our supply chain  <ol style="list-style-type: none"> Eradicate systemic child labor in our tobacco supply chain Ensure all contracted tobacco farmers make a living income, and partner with our direct suppliers to promote a living wage for their workers 	Socioeconomic well-being of tobacco-farming communities 1 NO POVERTY 8 DECENT WORK AND ECONOMIC GROWTH  	 
	Tackle climate change  <ol style="list-style-type: none"> Achieve carbon neutrality in our operations and accelerate our decarbonization toward net zero across our value chain 	Climate 13 CLIMATE ACTION 15 LIFE ON LAND  	
	Preserve nature  <ol style="list-style-type: none"> Promote biodiversity, address critical water challenges, ensure no conversion of natural ecosystems, and halt deforestation in both our tobacco and pulp and paper supply chains 	Biodiversity; Water 6 CLEAN WATER AND SANITATION 15 LIFE ON LAND  	

Our Sustainability Index

Progress on our Roadmap measured by a set of key performance indicators that collectively form our Sustainability Index, which links executive compensation and ESG performance.

PRODUCT IMPACT



Key performance indicators		2021 performance	2025 aspirations	KPI weight	Contribution to total index score		
	① Smoke-free product shipment ratio (smoke-free/total)	12.8%	>30%	85%			
	② Smoke-free product adjusted net revenue ratio (smoke-free/total)	29.1%	>50%				
	③ Number of markets where PMI smoke-free products are available for sale	71	100				
	④ Proportion of markets where PMI smoke-free products are available for sale that are low- and middle-income markets	43%	>50%				
	⑤ Total number of users of PMI's smoke-free products (in millions) ¹	21.7					
	⑥ Proportion of shipment volume covered by markets with youth access prevention programs in place in indirect retail channels.	91%	>90%				
	⑦ Annual net revenue from wellness and healthcare products (in billions USD)	0.1	≥1				
	⑧ Proportion of shipment volume covered by markets with anti-littering programs in place for combustible cigarettes	n/a	≥80%			15%	
	⑨ Proportion of shipment volume covered by markets with end-of-life take-back programs in place for smoke-free consumables	9 pilots	≥80%				
	⑩ Proportion of PMI smoke-free devices with eco-design certification	n/a	100%				
	⑪ Cumulative number of smoke-free electronic devices refreshed or repaired since 2021 (in thousands)	62	1,000				

Product Sustainability 100% 67%

OPERATIONAL IMPACT



	⑫ Proportion of women in senior roles	31.1%	35%	50%	
	⑬ Proportion of PMI employees who have access to structured lifelong learning offers	n/a	70%		
	⑭ Cumulative number of human rights impact assessments conducted since 2018, with findings addressed	5	10		
	⑮ Prevalence of child labor among contracted farmers supplying tobacco to PMI	1.8%	0%		
	⑯ Proportion of contracted farmers supplying tobacco to PMI who make a living income	67%	100%		
	⑰ Net carbon emissions in scope 1+2 (in thousands of metric tons)	357	0		
	⑱ Absolute carbon emissions reduction in scope 3 versus 2019 baseline (in line with science-based target)	17%	25%	50%	
	⑲ Proportion of tobacco purchased at no risk of deforestation of managed natural forest and no conversion of natural ecosystems	37%	100%		

Operational Sustainability 100% 33%

SUSTAINABILITY INDEX 100%

¹ During 2022, we intend to develop a new 2025 aspiration related to the total number of users of PMI smoke-free products.

→ Read more about the mechanics of the Sustainability Index and the definitions and methods underlying its constituent KPIs in [PMI's ESG KPI Protocol](#).

Reduce post-consumer waste strategy



The right thing to do

At PMI, we believe we can and should play a role in reducing waste from our products and addressing the issue of littering by helping develop and scale up innovative solutions. Reducing and appropriately managing post-consumer waste means we can extract, convert, and use fewer raw materials from a planet with limited natural resources. Moreover, committing to the safe and responsible disposal of this waste is the right thing to do, as we share society's concerns regarding the impacts of litter—such as pollution and harm to wildlife. We recognize our role in working to preserve natural environments.

The business case

Beyond ecological considerations, inadequate post-consumer waste management and litter carries societal and financial impacts ranging from cleanup costs to perceptions of untidiness and reduced safety in areas with high litter prevalence. Appropriately addressing post-consumer waste helps us enhance our brand equity and company reputation and meet consumer expectations. It also allows us to mitigate implications for our bottom line, as producers increasingly are asked to participate in cleanup costs, for instance. Finally, it motivates us to innovate in a way that can drive competitive advantage by devising more circular value chains. These value chains are linked not only to less waste and less litter but also to better use of materials and higher operational efficiency—all of which are good for our triple bottom line.



OUR ASPIRATIONS

(SI) Sustainability Index

	Devices	Consumables	Packaging
2022			100% recyclable inner liners by year-end ¹
2023	70% effective recycling rate of our IQOS devices ²		
2025	<p>≥1 million (SI) smoke-free electronic devices refreshed or repaired (cumulative since 2021)</p> <p>100% (SI) of smoke-free electronic devices introduced on the market as of the end of 2025 that have eco-design certification</p> <p>100% of PMI smoke-free product users have access to collection and recovery of devices</p> <p>80% effective recycling rate of our IQOS devices²</p>	<p>≥80% (SI) of shipment volumes covered by markets with anti-littering programs in place for combustible cigarettes</p> <p>≥80% (SI) of shipment volume covered by markets with end-of-life take-back programs in place for smoke-free consumables</p>	<p>100% of packaging made with recyclable materials</p> <p>95% of packaging materials coming from renewable sources</p> <p>15% reduction of packaging materials weight versus 2018 baseline</p>

1 For all markets where possible in compliance with local regulatory requirements.
 2 Effective recycling rate is calculated based on the proportion of device sales volume covered by the CIRCLE hubs program multiplied by the recycling rate of devices at the CIRCLE hubs (weighted average).

Our management approach

Our intention is to preserve resources, reduce waste, and prevent inappropriate disposal, including littering.

We do this by designing our products with the principles of circularity and waste reduction in mind, accounting for the products' environmental impact at the early stages of development and offering consumers solutions to play their part and dispose of end-of-life products appropriately.

To reduce post-consumer waste across our portfolio, we seek to design and implement impactful strategies tailored to our various products and packaging and tied to specific targets.

- Cigarettes:** We aim to reduce cigarette butt littering by encouraging behavior change through impactful awareness-raising campaigns and by empowering consumers to dispose of cigarette butts appropriately. We also intend to tackle the issue at the source, continuously working to replace the plastic in filters with better, more sustainable alternatives.
- Smoke-free consumables:** As we grow our smoke-free business, we seek to ensure that the consumables used with our electronic devices are disposed of responsibly at their end of life and that users have access to take-back and recycling schemes that have an environmental benefit, are economically viable, and are valued by consumers. Further, we strive to design new generations of consumables with waste reduction and recyclability in mind.
- Smoke-free electronic devices:** To reduce the depletion of finite resources, we aim to integrate sustainability into our product design, drive circularity by improving recyclability, and increase opportunities to refresh and repair used devices.
- Packaging:** We strive to minimize packaging materials and improve their circularity by increasing their recyclability and promoting the use of materials made from renewable resources.

Our strategies and related initiatives are guided by a set of policies and principles, including our [Environmental Commitment](#), [Anti-Littering Policy](#), and [Sustainable Design Framework](#), complemented by specific internal guidelines.

In 2021, to accelerate the delivery of a smoke-free future, PMI established a new category management structure for its smoke-free and combustible cigarettes businesses. Our President, Smoke-Free Products Category & Chief Consumer Officer, and our President, Combustibles Category & Global Combustibles Marketing, are responsible for driving our agenda on post-consumer waste management for their respective categories. Additional efforts are steered cross-functionally. With regard to our smoke-free products, we set up a dedicated cross-functional governance board in 2021 which oversees strategies and progress related to our device life extension and consumables end-of-life programs.

Addressing cigarette butt littering



Our approach

Around one million tons of cigarette filters are produced annually across the tobacco industry. Although most are disposed of properly post-consumption, too many are casually littered into the environment.

To tackle cigarette butt littering, we apply a three-pronged approach:

- 1. Design for circularity:** Invest in R&D toward filters made of more sustainable, plastic-free alternatives that allow faster biodegrading, resolving the issue of plastic litter altogether.
- 2. Encourage behavioral change:** Inspire change in consumer habits through impactful anti-littering awareness programs and initiatives to empower consumers to dispose of cigarette butts properly. These initiatives include communications campaigns and cleanup activities to raise awareness,

partnerships, portable disposal solutions, and improvement of public equipment solutions.

3. Reduce litter on the ground through efficient and cost-effective collection schemes:

In the EU, cigarette manufacturers will be required to contribute to the costs of collecting and cleaning up cigarette butt litter. The Single-Use Plastics (SUP) Directive requires that producers participate in industry-wide Extended Producer Responsibility (EPR) schemes. EPR is an established governance scheme for circular waste management; it is now being used for the first time in the EU to address the problem of littering. We support the concept of an industry-wide EPR, provided such schemes are managed in a cost-efficient, proportionate, and transparent way that addresses the objectives of reducing litter and changing consumer behavior.

WHAT ARE CIGARETTE FILTERS MADE OF?

The main constituent of cigarette filters is cellulose acetate (CA), a bioplastic made from wood-based cellulose. Contrary to common belief, CA does biodegrade over several months or years (depending on the surrounding conditions) and does not accumulate in the environment over time. In contrast, conventional plastics made from petrochemicals take hundreds of years to degrade, often breaking down to form microplastics.

Encouraging behavior change

While many consumers dispose of their waste properly, too much waste ends up in the environment. We seek to help change behaviors to prevent cigarette butt littering and encourage proper waste disposal. To that end, we run global and local awareness and anti-littering campaigns.

Tackling the issues of cigarette butt littering locally

Smoking habits, environmental awareness, and disposal practices vary by country, so combating cigarette butt littering requires tailored approaches. Accordingly, our affiliates follow a global methodology while also focusing on impactful, context-based strategies appropriate for their respective markets. These local anti-littering campaigns are run by our affiliates, with central support and guidance. In 2021, we had active campaigns in 46 countries.

Raising awareness globally

As in previous years, we had the opportunity in 2021 to join the annual World Cleanup Day (where COVID-19 conditions allowed it). Our affiliates' participation in this global action—the world's largest litter cleanup event—is part of our public sensitization efforts and signals our broader commitment to tackle the issue of cigarette butt littering. While the pandemic limited many of the events we had planned, around 3,150 volunteers across 53 countries (including PMI employees and their friends and family members) actively contributed to picking up around 17 tons of litter.

We added a global challenge element to the activity through a partnership with Litterati, whereby participants could download a mobile app allowing them to log, tally, and share how much litter they collected.

OUR WORLD IS NOT AN ASHTRAY

We also further developed [Our World Is Not an Ashtray](#), a web-based corporate platform to educate, inspire, and engage the public on the issue of littering. Through this campaign, we share facts and figures, testimonials, and calls to action.





Behavior change through design with Mindshift

[Philip Morris Nordics](#) commissioned [Mindshift](#) to carry out a study on the effects of nudging behavior of adult smokers. Mindshift, who specialize in the use of research, data, and design to create behavioral change, designed innovative, attention-grabbing refuse installations to reduce the number of cigarette butts on the ground and encourage adult smokers to dispose of their butts safely. The result? A 208% increase in smokers using cigarette disposal bins.

CASE STUDY

Partnering up to tackle the littering problem through innovation in Mexico

We also partner with civil society organizations on cigarette butt collection projects as part of our wider awareness-raising efforts and with a view to developing viable recycling solutions for cigarette butts. For example, our affiliate in Mexico developed a comprehensive communication campaign that engages adult smokers and other citizens in helping to solve the problem of waste management. The initiative has created a nationwide network of volunteer ambassadors who bring communities together to collect cigarette butts, with more than 400 collection points nationwide. The team has also partnered with Ecofilter, an organization that has developed an innovative biotechnological treatment that regenerates cellulose acetate into cellulose pulp.

→ [Read more on our case study here.](#)



Smoke-free consumables

We seek to minimize the environmental impact of the consumables used in our smoke-free category. These include the heated tobacco units (HTUs) used with our heat-not-burn products (including the *HEETS* brand used with *IQOS 3 DUO* and previous generations, the *TEREA* sticks used with the new *IQOS ILUMA*, and the *Fiit* sticks used with *lil* devices), as well as the *VEEV* pods used with our e-vapor device.

With each product launch, we will evaluate the need for a consumables take-back program based on environmental impact, consumer need, and market feasibility.

Long term, we aim to reduce our post-consumer waste by design and explore low-carbon, recyclable, and biodegradable alternatives to the materials currently used in our smoke-free consumables. In the interim, we are focused on establishing services to help our adult consumers reduce the end-of-life impact of our products.



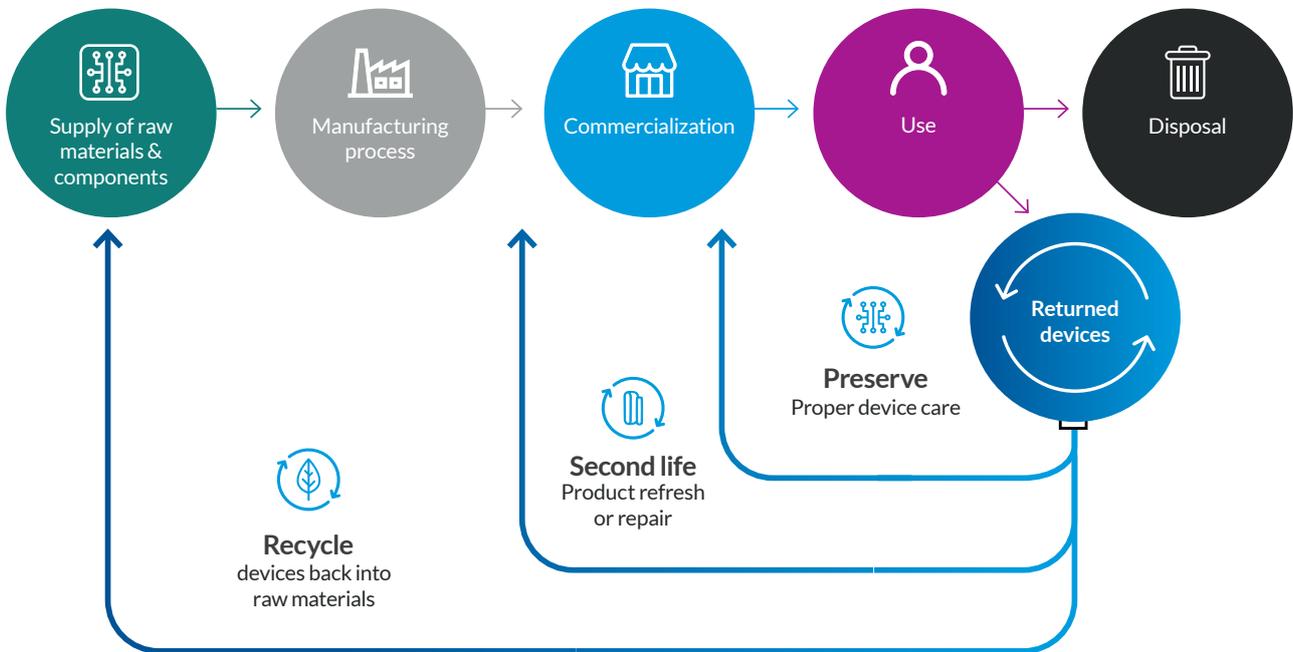
Deploying anti-littering and take-back programs

To further mitigate the risk of littering, we have set an ambition as part of our revamped 2025 Roadmap to implement context-based, impactful anti-littering programs to collect and manage post-consumer waste from our smoke-free consumables in markets representing at least 80 percent of our smoke-free shipment volume by the end of 2025.

We will report our progress annually against this new KPI. The programs align with global requirements to ensure consistency and comparability over time but are adapted to

deployment realities in each market. In 2021, we piloted such programs in nine markets—allowing us to gather valuable insights for a global rollout.

As these pilots unfold, we will continue to monitor their progress and share learnings globally. The insights and improvement opportunities will fuel the rollout of consumables take-back and recycling programs globally by 2025.



Smoke-free electronic devices

By integrating sustainability considerations into our product design—from development to end of use—we can reduce environmental impacts as well as associated costs.

With respect to our smoke-free product devices, our 2025 eco-design and circularity ambitions are as follows:

- Provide access to device collection and recovery to all IQOS users.
- Continue to reduce the carbon footprint of our smoke-free products in line with our science-based targets.
- Achieve eco-certification for all PMI smoke-free electronic devices introduced on the market as of the end of 2025.
- Pursue improvements in areas such as durability, design for repair, and recycling.

Meeting these goals relies on a systematic approach that considers sustainability from the start of the product development process. Our work is guided by our [Sustainable Design Framework](#), which accounts for impacts related to materials selection and sourcing, components production and product manufacturing, distribution, use, and product end of life.

EMBEDDING ECO-DESIGN PRINCIPLES INTO OUR PRODUCTS

Each product generation we launch incorporates improvements in quality, ease of use, durability, or performance.



Extending smoke-free product life cycle

We strive for our products to last and increasingly aim to refresh and repair them so they stay in use as long as possible. Achieving this starts with imposing high standards of quality and reliability ([read more here](#)) and extends to proper care, steps to refresh, repair, and refurbish devices, and recycling. In other words, we are evolving from a collection-for-recycling model to a collection-for-recovery one. This means we need to develop criteria to facilitate the product triage needed to expand our refresh and repair capabilities.

In this context, we have identified the following key dimensions to be addressed:

- (1) collection and triage of devices, distinguishing between those to be recycled and those to be refreshed or repaired;
- (2) refresh and repair capabilities that meet quality requirements; and
- (3) re-marketing of products.

Packaging

We strive to minimize packaging materials and improve their circularity by increasing their recyclability and promoting the use of materials made from renewable resources.

Reducing and improving packaging

Our approach to packaging contributes significantly to our efforts to preserve and protect the planet's resources.

We use packaging for all our products, including cigarettes and smoke-free electronic devices, consumables, and accessories.

We aim to develop solutions that minimize packaging materials and improve their circularity without compromising protection and convenience. We are driving our approach through ambitious commitments.

We aim to achieve:

- 100 percent recyclable inner liners by the end of 2022
- 100 percent of packaging made with recyclable materials by 2025
- 95 percent of packaging materials made from renewable sources by 2025
- 15 percent reduction in packaging weight by 2025 (versus 2018 baseline)

Reduce packaging

Our first ambition is to decrease the volume of materials used in our packaging. We focus first on board, the primary material used in our packaging. In 2021, we estimate that over 70

percent of the volume of board and paper we sourced for our packaging came from suppliers with Chain of Custody (CoC) certified according to the Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC), or Sustainable Forest Initiative (SFI) standards.

Working with our major suppliers, we continued to roll out the replacement of the packaging board used in our HTU and cigarette packaging with a 10 percent lighter alternative. By the end of 2021, we completed some of the projects within our board weight reduction program, enabling us to save an estimated 8,500 tons of board without compromising pack quality.



Our affiliate in **Canada** launched its smoke-free recycling program at the end of 2021, partnering with TerraCycle and inviting consumers to return their used heated tobacco units, VEEV devices, and any branded vape pod (including VEEV) at more than 120 convenient locations.

In **Switzerland**, at the end of 2021, we launched a pilot take-back and recycling program for heated tobacco units. Adult users of our smoke-free products can now collect HTUs in special bags and return them to our IQOS branded stores in person or via mail. We then send the collected HTUs to our recycling partner, TerraCycle.

For the launch of VEEV in **Finland** in 2021, we took into account the consumer expectation of convenient recycling solutions for pods. Collection points have been established in 470 locations around the country. We also provide reusable collection pouches to consumers for greater convenience.



In March 2021, our affiliate in **Mexico** launched its take-back program for HTUs, with special collection bags made available to adult users at IQOS stores. The heated tobacco units are then processed by our partner Ecofilter using an innovative biotechnological treatment that regenerates cellulose acetate into cellulose pulp. Read more in the case study available [here](#). By year-end, more than one in 10 adult users was returning their used consumables to the stores.

In **Guatemala**, we provide cornstarch resealable bags in which consumers can place their used HTUs and return them to collection points across the country. Meanwhile, in **Costa Rica**, consumables have been collected since December 2021 and used for ongoing research by the Chemical Registry of the University of Costa Rica. Various alternatives for recycling are currently under evaluation, including the production of biochar, a soil improvement solution.



Tackling littering and working to develop products that further integrate eco-design principles, driving significant waste reduction and addressing the issue at the source is our key focus when it comes to addressing the environmental impact of our products. We are also taking the necessary steps to commercialize second-life devices. We plan to expand the collection of used devices and further test first-level triage processes to improve the recovery process and



our repair and refresh capabilities. As these capabilities strengthen over time, the new product generations will be more repairable by design, and we expect an increasing number of devices to be sorted for recovery and second life.

Stefano Volpetti, President, Smoke-Free Products Category & Chief Consumer Officer



As we continue to embed sustainable design principles in our next generation products, we will continue to systematically implement throughout our product development. Research will continue to identify technologies and materials that can enhance the overall environmental profile of our smoke-free product portfolio. As we move along in our eco-design certification ambition, we are engaging with eco-labeling organizations to support product category definitions for electronics and translate the insights into our product development process.

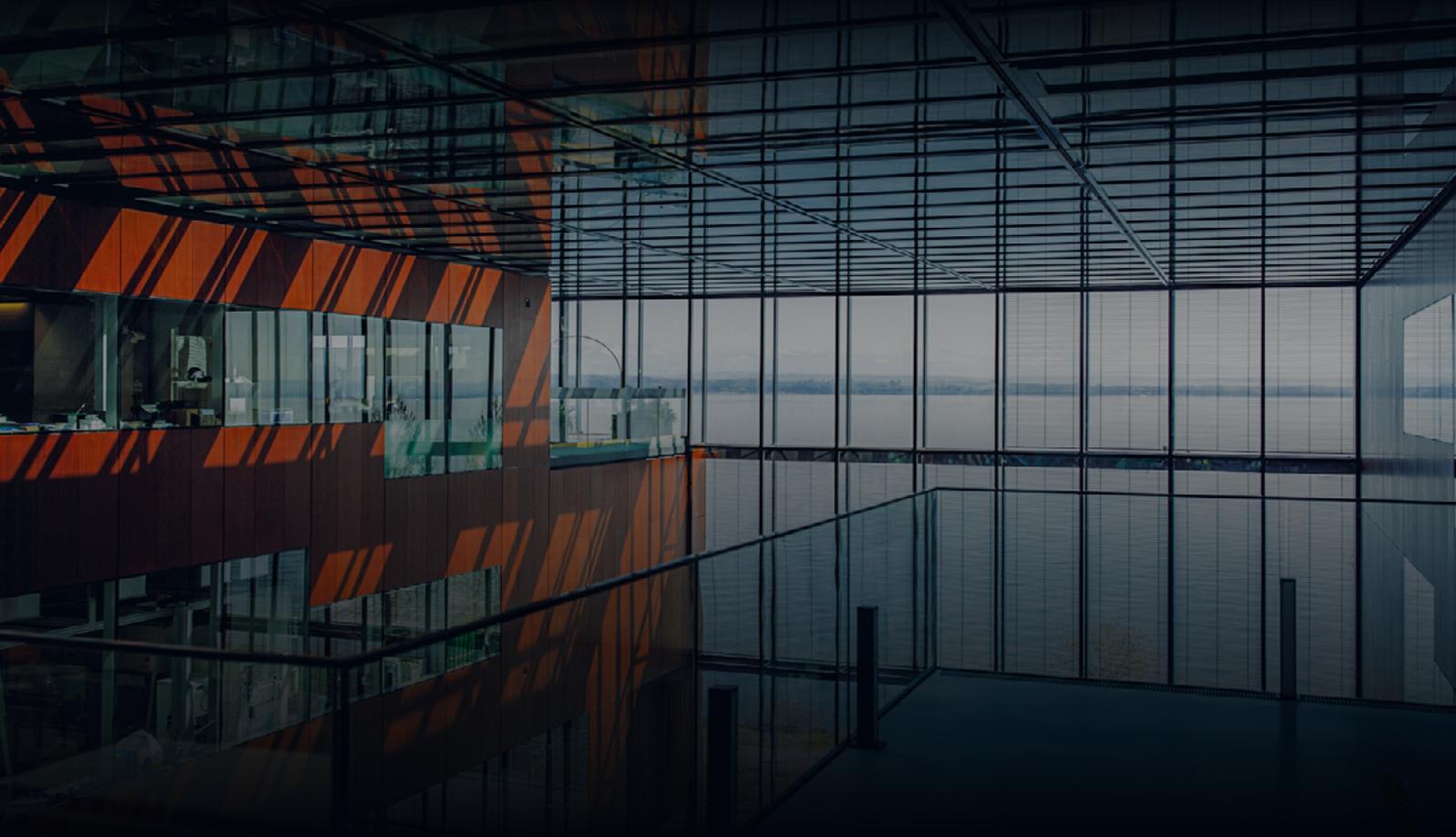
Bin Li, Chief Product Officer



Anti-littering Programs are an important part of our strategy and will continue to be deployed and expanded across the countries in which we operate, in coordination with key stakeholders and partners. We will intensify our efforts to research and apply effective solutions to increase awareness of the littering issue among adult smokers, and we will continue to use our brands as carriers of those messages when possible.

Meanwhile, we continue investing in R&D to find solutions that can successfully help us remove plastic from the filters of our combustible products, by exploring and assessing alternative filtering materials that can have less negative impact on the environment and completely replace cellulose acetate.

Werner Barth, President, Combustibles Category & Global Combustibles Marketing



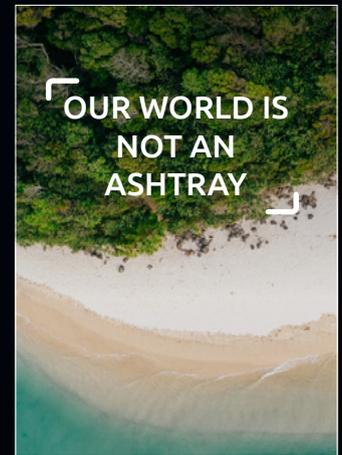
Additional resources



→ [Philip Morris Integrated Report 2021](#)



→ [Philip Morris Low Carbon Transition Plan](#)



→ [Our World Is Not an Ashtray](#)

Find out more on our [Post-Consumer Waste Strategy](#)

Discover more [additional resources](#)



Read more on <https://www.pmi.com/sustainability>



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