



PHILIP MORRIS INTERNATIONAL

**TASK FORCE ON CLIMATE-RELATED
FINANCIAL DISCLOSURES (TCFD) REPORT 2022**

we were

we are transforming for good

we will be

APRIL 2023





About PMI

Philip Morris International (PMI) is a leading international tobacco company working to deliver a smoke-free future and evolving its portfolio for the long term to include products outside of the tobacco and nicotine sector.

The company's current product portfolio primarily consists of cigarettes and smoke-free products. Since 2008, PMI has invested more than USD 10.5 billion to develop, scientifically substantiate and commercialize innovative smoke-free products for adults who would otherwise continue to smoke, with the goal of completely ending the sale of cigarettes. This includes the building of world-class scientific assessment capabilities, notably in the areas of pre-clinical systems toxicology, clinical and behavioral research, as well as post-market studies. In November 2022, PMI acquired Swedish Match – a leader in oral nicotine delivery – creating a global smoke-free champion led by the companies' IQOS and ZYN brands. The U.S. Food and Drug Administration (FDA) has authorized versions of PMI's IQOS Platform 1 devices and consumables and Swedish Match's General snus as Modified Risk Tobacco Products (MRTPs). As of December 31, 2022, PMI's smoke-free products were available for sale in 73 markets, and PMI estimates that approximately 17.8 million adults around the world had already switched to IQOS and stopped smoking. Smoke-free products accounted for approximately 32% of PMI's total full-year 2022 net revenues. With a strong foundation and significant expertise in life sciences, PMI announced in February 2021 its ambition to expand into wellness and healthcare areas and, through its Vectura Fertin Pharma subsidiary, aims to enhance life through the delivery of seamless health experiences.

→ For more information, please visit www.pmi.com and www.pmscience.com

About this report at a glance

We are pleased to present PMI's 2022 TCFD Report. We have aligned the structure of this report with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Contents of this report are shaped by a formal Climate Change Risk and Opportunity (CCRO) assessment conducted during 2022. We intend to periodically update this assessment and our TCFD report moving forward to seek further alignment with TCFD recommendations.

Unless otherwise indicated, the data contained herein cover our operations worldwide for the full calendar year 2022 or reflect the status as of December 31, 2022. Where not specified, data comes from PMI financials, nonfinancials, or estimates.

Climate-related figures presented in this report do not include GHG emissions from wellness and healthcare acquisitions made in 2021, which we have since consolidated into Vectura Fertin Pharma. These emissions represented 1.6 percent of PMI's scope 1+2 emissions and 2.1 percent of scope 3 emissions in 2022 and are calculated in line with PMI's methodology. They are currently excluded from the inventory as they are below our materiality threshold set at five percent for scope 1+2 and 10 percent for scope 3, and are therefore not considered material. GHG emissions from Vectura Fertin Pharma will continue to be calculated on an annual basis, and will be integrated into the inventory if they become material. The data and information in this report also do not incorporate PMI's acquisition of Swedish Match made at the end of 2022. We plan to fully integrate climate-related data in the near future. For more information on PMI's approach to GHG calculations and materiality thresholds, please refer to our ESG KPI Protocol 2022 [here](#) and carbon footprint methodology [here](#).

Complementary materials

This report is complemented by a set of publications:

- Our annual Integrated Report and related materials, including reporting indices mapping contents against internationally recognized standards and frameworks, annual ESG Highlights deck, and annual ESG KPI Protocol providing details on calculation methods, definitions, and the scope of key sustainability performance indicators are available for download on PMI.com.
- [Performance data](#) available for download, updated annually
- [External verification statements](#) for our EHS data and carbon neutrality certifications for manufacturing facilities
- Country-level [case studies and market stories](#) highlighting our work in priority sustainability areas
- [PMI's Low-Carbon Transition Plan \(2021\)](#)
- [PMI's Ambition on Biodiversity and Water \(2022\)](#)
- [PMI's Reduce Post-consumer Waste Strategy \(2022\)](#)
- [PMI's annual CDP Climate Change, Forest, and Water Security questionnaires](#)
- [PMI's Sustainability Materiality Report \(2021\)](#)
- [PMI's annual Proxy Statement](#)
- [PMI's annual report on Form 10-K](#)



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Governance

PMI's governance around climate-related risks and opportunities

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A. Describe the board's oversight of climate-related risks and opportunities.

The primary responsibility of the Board of Directors is to support the long-term success of our company.

The Board establishes broad corporate policies, sets strategic direction, and oversees Company Management—the individuals responsible for PMI's day-to-day operations—as defined [here](#). Read more in our annual Proxy Statement, available on the investor relations page of [PMI.com](#).

The role of the Board and its committees

Environmental, social, and governance (ESG) factors are part of the responsibility of certain committees of the Board, and considered in the evaluation of the annual performance of the company and its management. As part of their responsibilities, the Board and its committees review and approve PMI's annual budget based on the company's performance and targets. This includes those resources required to deploy carbon emission reduction initiatives to achieve our climate action targets.

While the Nominating and Corporate Governance Committee (NCGC) oversees the company's ESG and sustainability strategies and performance, and reports to the Board on sustainability matters including climate-related topics, several other committees are tasked with oversight responsibility for specific sustainability topics. For instance, the Audit Committee reviews with management, the internal and independent auditors, any sustainability information to be included in the Company's financial reporting framework and the internal controls and procedures related to sustainability disclosures, while the Compensation and Leadership Development Committee (CLDC) is responsible for executive compensation matters which consists of, among others, evaluating the Company's performance in relation to the PMI Sustainability Index. The

Product Innovation and Regulatory Affairs Committee and Consumer Relationships and Regulation Committee have oversight over product development and commercial practices, including from an ESG perspective.

PMI's Chief Sustainability Officer (CSO), a member of PMI's management, updates each of the CLDC, the NCGC and the full Board of Directors at least once per year on sustainability-related matters, including progress in priority areas and an overview of key initiatives.

PMI assigns ownership of each prioritized key risk area to a member of our Company Management. Furthermore, risk oversight is conducted by the full Board of Directors, as well as by Board committees in their respective areas of responsibility. Throughout the year, Company Management regularly updates the Board and its committees on the evolution of key risk areas. Our Enterprise Risk Management practices are designed to support Company Management and the Board in their respective roles and ultimately to ensure the adequacy of PMI's responses against each prioritized key risk area.

Climate-related risks and opportunities are considered within these oversight practices (read more [here](#)).

Governance mechanisms into which climate-related issues are integrated

- Reviewing and guiding strategy
- Reviewing and guiding major plans of action
- Reviewing and guiding risk management policies
- Reviewing and guiding annual budgets
- Reviewing and guiding business plans
- Setting performance objectives
- Monitoring implementation and performance of objectives
- Overseeing major capital expenditures, acquisitions and divestitures
- Monitoring and overseeing progress against goals and targets for addressing climate-related issues

Criteria used to assess the competence of Board member(s) on climate-related issues

PMI assesses the competence of the Board on sustainability-related issues, including climate change-related issues, based on its members' relevant professional experience, academic background, or other professional training on climate science, environmental science or engineering, sustainability, or other related subjects. Several members of PMI's Board have expertise in sustainability and ESG matters, including climate change. One of our Board Directors in particular brings a unique understanding of ESG strategy, as he has served as Chief Executive Officer (CEO) of the Global Adaptation Institute (a foundation dedicated to the understanding of climate change) and as Co-Chair of the World Economic Forum's Global Agenda Council on Climate Change. Professional biographies for each Board member are disclosed in our annual Proxy Statement available on [PMI.com](#).



B. Describe management's role in assessing and managing climate-related risks and opportunities.

Integrating sustainability into our company relies on a formal structure with clear accountabilities at different levels of the organization.

Company Management

PMI's Company Management primarily consists of our Chief Executive Officer, his direct reports leading our different business functions and regions, and other senior management, such as the Vice President of Treasury and Corporate Finance, the Vice President and Controller, and the Deputy Chief Financial Officer & Head of Finance Transformation. Our Company Management, which totals 25 employees as of March 11, 2023, of whom four are women, includes the 11 employees who are executive officers under Section 16 of the Securities Exchange Act 1934. A biography of each member of our Company Management can be found on [PMI.com](https://www.pmi.com).

As part of our risk management practices, PMI has established the Corporate Risk Governance Committee (CRGC), consisting of a subset of Company Management and other key leaders from the organization. The purpose of the CRGC is to identify and monitor developments in key risk areas and oversee the company's Governance, Risk Management, and Compliance (GRC) environment and strategy, including the establishment, maintenance, and enhancement of effective risk management and assurance capabilities within PMI.

The CRGC consists of senior executive officers, including the Chief Financial Officer, Senior Vice President and General Counsel, Chief Digital & Information Officer, Vice President & PMI Controller, Vice President of Risk & Assurance, Chief Information Security Officer, and Vice President and Chief Compliance Officer, among others. In addition, the Chief Executive Officer and Vice President & Corporate Secretary are informed of any risk management observations or insights shared with the CRGC and participate in these meetings. The CRGC receives updates related to the Company's risk management and internal controls practices at least once per quarter.

Anchoring our sustainability priorities with executive responsibilities and accountabilities helps embed our strategy into our daily operations. PMI's sustainability strategy is shaped by a formal sustainability materiality assessment, which was updated in 2021 (read more [here](#)), re-prioritizing the most relevant sustainability topics for PMI. Members of Company Management are responsible for driving progress and delivering on our sustainability targets within their respective functions (e.g., mitigate climate change and decarbonizing our value chain to SVP Operations).

Composed of members of Company Management, including our Chief Executive Officer, and chaired by our Chief Financial Officer (CFO), PMI's Sustainability Committee meets at least four times per year. In 2022, quarterly Sustainability Committee meetings focused on assessing PMI's performance on the Sustainability Index, receiving updates on various sustainability initiatives as well as external developments, reviewing the company's disclosures, and discussing efforts to further embed sustainability within PMI, effectively manage ESG risks, and enhance ESG data reliability.

Sustainability performance plays a role in executive remuneration (read more [here](#)).



Senior Vice President Operations

Reporting directly to the CEO, PMI's Senior Vice President Operations (SVP Operations), a member of Company Management, is strategically positioned within the company's structure to be able to effectively engage the Board and specific departments on climate issues. He periodically holds discussions with separate Board members on climate-related issues and risks.

PMI's SVP Operations is delegated with operational responsibility, including:

- Assessing and managing climate-related risks and opportunities in relation to the activities deployed by PMI's Operations function. The SVP Operations also periodically consults with the CRGC to highlight any significant climate-related risks.
- Addressing climate-related risks and opportunities—both physical and transition—across the company's activities that could impact PMI's ability to operate which are considered during the CCRO assessment process (read more [here](#)).
- Maintaining robust business resiliency, risk assessment processes aligned with corporate-wide risk management practices, and strategies to support business continuity.
- Ensuring that climate change risks and opportunities are assessed, managed, monitored, and integrated into long-range plan and budget review processes.
- Setting business direction, objectives and performance appraisal processes.

The SVP Operations leads the Operations Sustainability function headed by the VP Operations Sustainability, which drives environmental strategies and their full integration into the business, due to the strategic importance of environmental issues, including climate-related issues, within our operations. The SVP Operations receives updates on progress toward objectives and their achievement in monthly meetings with the Operations Management Team reporting to him.

Operational management and program delivery

Integrating ESG drivers into business strategy can significantly enhance both sustainability agendas and financial performance. Accordingly, our Chief Sustainability Officer (CSO) reports to PMI's CFO, a member of Company Management who heads the Sustainability, Finance, and Strategy functions—three essential components that work hand in hand to drive strong and coherent value creation and deliver long-term success. Our CSO leads the integration of sustainability across our business. She updates the Sustainability Committee on a quarterly basis and hosts the Sustainability Group—composed of functional leaders—quarterly.

The CSO heads PMI's Sustainability Team, which leads PMI's sustainability materiality analysis, defines strategy, manages reporting on performance, and coordinates strategy implementation across the different business functions and markets.

Program-specific working groups meet periodically to cross-functionally coordinate the strategy, targets, and performance of specific sustainability programs.

At the market level, dedicated sustainability coordinators help ensure that sustainability priorities are cascaded and programs are localized. Under central guidance, market coordinators meet monthly to ensure concerted effort and that progress is achieved and tracked in a consistent manner, including via KPIs derived from the PMI Sustainability Index.



Strategy

The actual and potential impacts of climate-related risks and opportunities on PMI's businesses, strategy, and financial planning

A	Describe the climate-related risks and opportunities PMI has identified over the short, medium, and long term.	09
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A Describe the climate-related risks and opportunities PMI has identified over the short, medium, and long term.

During 2022, PMI conducted its most recent CCRO assessment (read more about the process [here](#)).

Through this process, we have identified and classified a range of physical and transition risks and opportunities across our value chain which we summarize in this section. Read [here](#) to learn more about their potential impacts and [here](#) to understand how resilient PMI is to different future climate scenarios.

Time horizons

Short term (0–5 year)

Those risks and opportunities that may materialize within the next five years. Short-term risks are identified and assessed through a variety of internal processes including, among others:

- We evaluate short-term profits and losses as part of our quarterly financial reporting.
- Our annual long-range planning process is updated annually and reviews and sets business direction over a 3–to–5 year horizon.
- Our manufacturing environmental risk assessment is governed by our manufacturing facilities' ISO 14001 certification. It forms part of our broader environmental impact assessment and is updated every three years on average. It assesses, among other risks, climate change-related risks.
- Our insurable assets risk assessment is updated every 12–to–20 months according to factory size. It assesses vulnerability to natural hazards and provides an estimate of potential flood-related losses for extreme events with historical 100 and 500 year return period.
- Our Leaf water risk assessment in our tobacco supply chain is updated annually or according to the availability of data from the water risk model provider we use to inform it. It assesses current water-related risks (e.g., flooding, water stress, and drought) in PMI tobacco growing areas and projects them to 2030 under two diverse climate scenarios (RCP and SSP).

Medium term (5–10 years)

Those risks and opportunities that may materialize by the 2030 time horizon used for scenario analysis in our CCRO assessment. This time period aligns with PMI's external commitment of carbon emission reductions for scope 1+2+3 emissions as approved by the Science Based Targets initiative. It is also a reference date for most international policies and regulations (e.g., EU 2030 climate target plan).

Long term (>10 years)

Those risks and opportunities that may materialize until the 2040 time horizon used for scenario analysis in our CCRO assessment. This time period aligns with PMI's external commitment of net zero emissions as approved by the Science Based Targets initiative. It is also an intermediate step toward internationally agreed policy commitments to 2050 (e.g., EU climate law). Under this time-horizon, physical risks are more likely to occur because climate extremes are expected to intensify as climate change worsens.



Direct physical risks to assets

Physical risks for our assets

The CCRO assessment projected potential acute and chronic physical risks under 1.5°C, 2°C, and 3°C global warming scenarios until 2030 and 2040 for our factories. Figures represent projected potential cumulative losses and damages to 2030 and 2040 for physical risks absent additional mitigation actions. Read more about our identification process [here](#) and our glossary for terminology definitions [here](#).

Manufacturing

Climate change may present chronic and acute physical risks with direct impacts on our factories. **Cumulative potential losses due to persistent drought ranges from USD 12 million to USD 252 million** depending on the time horizon and climate scenario absent additional mitigation actions. **Cumulative potential losses due to extreme flood events ranges from USD 24 million to USD 138 million** depending on the time horizon and climate scenario absent additional mitigation actions.

Key

Projected cumulative damage and loss (USD millions)*



Likelihood



Velocity



* Absent impact of additional mitigation actions.

Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030		2040		Mitigation actions (current and potential)
								Cumulative damage and loss ¹	1.5°C	3°C	Cumulative damage and loss ¹	
Increased frequency and intensity of extreme droughts in manufacturing sites	Drought could lead to factory business interruption due to water scarcity	Chronic	Downtime due to water scarcity could result in high business interruption costs for factories at high drought risk	Potential losses due to business interruption for factories at high drought risk	Six factories across Africa, Europe, Latin America, and the Middle East	HIGH	LONG-TERM	<100	<100	<100	<100	<ul style="list-style-type: none"> Implementation of water efficiency and water recycling programs (where feasible) in PMI factories to reduce water demand in water stressed areas Alliance for Water Stewardship (AWS) certification
Increased frequency and intensity of extreme floods in manufacturing sites	Floods, heavy rains and storms could lead to losses and damages in manufacturing sites	Acute	Direct impact (factory) – Floods could damage buildings, equipment and inventory and lead business interruption costs	Potential damage to property, inventory, and losses due to business interruption for factories at high flood risk	Five factories across Asia Pacific, Latin America, and the Middle East	HIGH	LONG-TERM	<100	<100	<100	<100	<ul style="list-style-type: none"> Implementation of drainage systems and flood protection barriers could reduce the risk of losses and damage Alliance for Water Stewardship (AWS) certification

¹ We assume that the factory value exposed is constant and have not projected future factory values.



Indirect physical risks to assets

The CCRO assessment projected potential acute and chronic physical risks under 1.5°C, 2°C, and 3°C global warming scenarios until 2030 and 2040 for assets in our supply chain and logistics. Relative exposed value at risk is based on the total value of those assets exposed to the risks defined in each table absent additional mitigation actions, as opposed to projections on potential damages and losses, for these indirect risks. We have classified risks as “Low,” “Mid,” and “High” relative to other prioritized indirect physical risks to assets. Read more about our identification process [here](#) and our glossary for terminology definitions [here](#).

Tobacco supply chain

Climate change may present chronic and acute physical risks with indirect impacts in our tobacco sourcing activities. **Cumulative potential losses due to extreme flood events ranges from USD 68 million to USD 162 million** depending on the time horizon and climate scenario absent additional mitigation actions.¹ Relative exposed value at risk depicted in the table is projected absent the impacts of additional mitigation actions.

Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030		2040		Mitigation actions (current and potential)
								Cumulative relative value at stake	1.5°C	3°C	Cumulative relative value at stake	
Increased frequency and intensity of extreme droughts in tobacco growing areas¹	Drought could lead to crop yield losses in tobacco growing areas	Chronic	Increasing yield losses for PMI tobacco suppliers could result in increased tobacco price in local markets or scarcity of alternative volumes with the same quality of tobacco, leading to increased procurement costs for PMI	Value of tobacco supplied to PMI by suppliers facing high drought risk	16 sourcing areas across Africa, Europe, and Latin America	High	High	Low	Low	Low	Low	<ul style="list-style-type: none"> Better spread purchases around the globe, thus reducing over-dependency and minimizing impacts potentially caused by extreme weather events Re-assess the risks based on the new footprints Produce a study about the effects of droughts on aquifers in each of the the tobacco-growing regions potentially subject to drought and plan an efficient irrigation strategy where possible and needed In conjunction with irrigation strategies, farmers must minimize tillage operations to conserve soil structure and maintain ground cover by mulch to reduce water runoff and increase soil infiltration
Increased frequency and intensity of extreme floods in tobacco growing areas	Floods, heavy rains and storms could lead to crop yield losses in tobacco growing areas	Acute	Increasing yield losses for PMI tobacco suppliers could result in increased tobacco price in local markets or scarcity of alternative volumes with the same quality of tobacco, leading to increased procurement costs for PMI	Value of tobacco supplied to PMI by suppliers facing high flood risk	11 sourcing areas across Latin America and Asia Pacific	High	High	Low	High	Low	Low	<ul style="list-style-type: none"> Leaf Resilience Strategy—spread purchases over northern and southern hemispheres and around the globe, avoiding over-dependencies Where needed, minimize tillage to conserve soil structure and/or mulching to reduce water runoff and increase soil infiltration

¹ At the time of this assessment no data was available on losses within PMI's tobacco supply due to extreme drought. Losses and damage are therefore not projected in this report.

Broader supply chain

Climate change may present chronic and acute physical risks with indirect impacts in our sourcing activities, namely in our electronics supply chain and pulp and paper-based supply chain, which includes acetate tow. Relative exposed value at risk depicted in the table is projected absent the impacts of additional mitigation actions.

Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030		2040		Mitigation actions (current and potential)
								Cumulative relative value at stake	1.5°C	3°C	Cumulative relative value at stake	
Increased frequency and intensity of extreme droughts in pulp and paper and electronics supply regions	Drought could undermine the capacity of PMI suppliers to provide materials/products	Chronic	Increased downtime and reduced supplier productivity due to water scarcity could result in increased procurement costs and business interruption for PMI	Value of assets at risk with suppliers facing high drought risks	Pulp and paper: 16 suppliers across the Americas and Europe	High	High	Pulp and paper	Pulp and paper	Pulp and paper	Pulp and paper	<ul style="list-style-type: none"> Multiple sourcing strategy options Engagement with suppliers to improve their resilience
					Electronics: Eight suppliers across Asia Pacific and Europe			Electronics	Electronics	Electronics	Electronics	
Increased frequency and intensity of extreme floods in supply region	Floods, heavy rains and storms could undermine the capacity of PMI suppliers to provide materials/products	Acute	Increased downtime and damage to suppliers' sites due to extreme flood events could result in increased procurement costs and business interruption for PMI	Value of assets at risk with suppliers facing high flood risks	Pulp and paper: Eight suppliers across Asia Pacific, Europe, and Latin America	High	High	Pulp and paper	Pulp and paper	Pulp and paper	Pulp and paper	
					Electronics: 12 suppliers across Asia Pacific			Electronics	Electronics	Electronics	Electronics	

Key



* Absent impact of additional mitigation actions.



Indirect physical risks to assets continued

Logistics

Climate change may present chronic and acute physical risks with indirect impacts on third-party logistics. Relative exposed value at risk depicted in the table is projected absent the impacts of additional mitigation actions.

Key



* Absent impact of additional mitigation actions.

Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030		2040		Mitigation actions (current and potential)
								Cumulative relative value at stake		Cumulative relative value at stake		
								1.5°C	3°C	1.5°C	3°C	
Increased frequency and intensity of extreme floods in ports	Floods, heavy rains and storms could limit port operations	Acute	Increased downtime and damages to port infrastructure could undermine shipping/storage activities resulting in increased logistics costs for PMI and supply chain disruption	Value of PMI containers in ports exposed to future high flood risks	Six ports across Asia, Latin America, and the Middle East	HIGH	MID-TERM	MEDIUM	HIGH	LOW	HIGH	<ul style="list-style-type: none"> Multiple-logistics strategy options
Sea level rise in port locations	Sea level rise could limit port operations	Chronic	Increased downtime and damages to port infrastructure could undermine shipping/storage activities resulting in increased logistics costs for PMI and supply chain disruption	Value of PMI containers in ports exposed to fastest sea level rise	Five ports across Asia Pacific	HIGH	LONG-TERM	HIGH	HIGH	HIGH	HIGH	<ul style="list-style-type: none"> Multiple-logistics strategy options



Physical risks for occupational health

Climate change may present chronic and acute physical risks for our workers and workers in our supply chain. This table includes direct and indirect impacts as described in the "Impact" column. Relative impact on the workforce depicted in the table is projected absent the impacts of additional mitigation actions.

Key

2030 relative impact on workforce*

LOW MEDIUM HIGH

2040 relative impact on workforce*

LOW MEDIUM HIGH

Likelihood

LOW MEDIUM HIGH

Velocity

LONG-TERM MID-TERM SHORT-TERM

* Absent impact of additional mitigation actions.



Risk	Description	Value Chain Segments	Impact	Indicator	Geographies	Likelihood	Velocity	Cumulative relative impact on workforce ¹		Cumulative relative impact on workforce ¹		Mitigation actions (current and potential)
								1.5°C	3°C	1.5°C	3°C	
Increased frequency and intensity of extreme heatwaves in tobacco growing areas	Heat stress could impact the well-being of workers, especially those who spend most of their activities outdoors, leading to occupational health-related issues and putting at risk compliance with minimum working labor standards	Tobacco supply chain	Indirect impact (supply chain) – extreme temperature could affect the productivity and incomes of suppliers due to increasing fatigue and illnesses of workers exposed to high temperatures	Exposed workers to heat stress	Seven sourcing areas across Asia Pacific	HIGH	LONG-TERM	LOW	MEDIUM	LOW	HIGH	<ul style="list-style-type: none"> Train farmers and farmworkers on heat related illnesses (HRI) Update GAP requirements with heat protection clothing Farmworkers to have easy access to water for proper hydration and take work breaks in shaded areas to avoid heat stress
Increased frequency and intensity of extreme heatwaves in factory locations	Heat stress could impact the well-being of workers, leading to occupational health-related issues and putting at risk compliance with minimum working labor standards	Manufacturing	Direct impact (factory) – extreme temperature could affect the productivity of factories due to increasing fatigue and illnesses of workers exposed to high temperatures	Exposed workers to heat stress and percentage of total workforce	Six factories across Asia Pacific	HIGH	LONG-TERM	LOW	MEDIUM	LOW	MEDIUM	<ul style="list-style-type: none"> Implementation of building insulation and ventilation systems where necessary to ensure acceptable working conditions in factories
Increased frequency and intensity of extreme heatwaves in supply regions	Heat stress could impact the well-being of workers, leading to occupational health-related issues and putting at risk compliance with minimum working labor standards	Broader supply chain	Indirect impact (supply chain) – extreme temperature could affect the productivity of suppliers due to increasing fatigue and illnesses of workers exposed to high temperatures	Exposed workers to heat stress and percentage of total workforce	Pulp and paper: Five suppliers across Asia Pacific, Europe, and Latin America Electronics: Nine suppliers across Asia Pacific and Europe	HIGH	LONG-TERM	Pulp and paper ² LOW	Pulp and paper ² MEDIUM	Pulp and paper ² LOW	Pulp and paper ² MEDIUM	<ul style="list-style-type: none"> Engagement with suppliers to improve their resilience

¹ We assume a constant worker population based on 2021 data for forward-looking assessment.
² Suppliers in our pulp and paper supply chain do not provide precise, facility-level figures, preventing us from properly assessing impacts tied to specific facilities.



Transition risks

The CCRO assessment projected transition risks under 1.5°C, 2°C, and 3°C global warming scenarios until 2030 and 2040. Their cumulative financial impacts were reassessed under two global warming scenarios. The 3°C global warming scenario appears more favorable from a transition risk perspective because it assumes no further policy instruments (i.e., carbon pricing, energy taxes) will be introduced, resulting in less potential financial risk related to growing energy and carbon prices. The value at stake (VaS) represents the difference between the business as usual and the climate scenarios. Read more about our identification process [here](#) and our glossary for terminology definitions [here](#).

Manufacturing

Climate change may present transition risks with direct impacts on our factories. Exposed value at stake depicted in the table is projected absent the impacts of additional mitigation actions.

Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030		2040		Mitigation actions (current and potential)
								Cumulative value at stake ¹		Cumulative value at stake ¹		
								1.5°C	3°C	1.5°C	3°C	
Growing energy prices	Increased energy prices could lead to increased energy costs in manufacturing	Market	Increased prices of energy sources in manufacturing sites could result in increased energy procurement costs for PMI	Energy costs for manufacturing	Most PMI's sites in countries across Asia Pacific, Europe, Latin America, and the Middle East	HIGH	MID-TERM	350-700	350-700	100-1200	100-1200	<ul style="list-style-type: none"> Installation of technology to trigger in-house production and storage of green energy Implementation of energy saving and efficiency programs
Growing carbon prices and taxation	Increased carbon prices on manufacturing sites could lead to increased costs of manufacturing emissions	Policy and legal	Increased carbon prices and carbon taxation could result in higher costs for manufacturing emissions	Carbon price and taxation costs for manufacturing	Countries covering 90% of PMI activities across Asia Pacific, Europe, Latin America, and the Middle East	HIGH	MID-TERM	350-700	350-700	100-1200	100-1200	<ul style="list-style-type: none"> Implementation of low carbon transition plan's programs to achieve decarbonization targets (scope 1+2) Implement energy saving technology and efficiency programs to bring our factories below the installed capacity threshold of the emissions trading schemes (ETS) to be exempt from scheme requirements Implement mitigation actions to be exempt from local carbon taxes

¹ We assume that the factory value exposed is constant and have not projected future factory values.

Tobacco supply chain

Climate change may present transition risks with indirect supply chain impacts in our tobacco sourcing activities. Exposed value at stake depicted in the table is projected absent the impacts of additional mitigation actions.

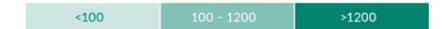
Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030		2040		Mitigation actions (current and potential)
								Cumulative value at stake		Cumulative value at stake		
								1.5°C	3°C	1.5°C	3°C	
Growing energy prices	Increased energy (fuel) prices could lead to increased procurement costs for tobacco	Market	Increased prices for fuels used in curing barns could result in increased costs for PMI's suppliers and consequently higher procurement costs for PMI	Energy costs for curing	Africa, Asia Pacific, and Latin America were considered (excluding firewood self-collected)	HIGH	MID-TERM	350-700	350-700	100-1200	100-1200	<ul style="list-style-type: none"> Continue curing barns efficiency program Leverage PMI procurement strategy in energy for farmers Farmer self-sufficient energy production where feasible
Growing energy prices	Increased energy prices in fertilizer production could lead to increased procurement costs (assuming that overheads are passed to PMI)	Market	Increased price of natural gas used in fertilizer products could result in increased production cost for PMI's suppliers and consequently higher procurement costs for PMI	Natural gas costs for fertilizer suppliers	Nitrogen fertilizer: 20 countries across Africa, the Americas, Asia Pacific, Europe, and the Middle East Potassium and phosphate fertilizer: global approach	HIGH	MID-TERM	350-700	350-700	100-1200	100-1200	<ul style="list-style-type: none"> Improve fertilization efficiency Foster integrated nutrient management (e.g., crop residues, green manure)
Carbon Border Adjustment Mechanism (EU - CBAM)	Carbon Border Adjustment tax applicable to imported fertilizer into the EU could lead to increased procurement costs	Policy and legal	CBAM tax on imported fertilizers could result in increased fertilizer procurement costs for PMI in EU markets	CBAM on purchased fertilizers	Countries considered for CBAM rates as largest fertilizer exporters to European tobacco growing areas: countries across Africa, the Americas, Asia Pacific, and the Middle East	HIGH	MID-TERM	350-700	350-700	100-1200	100-1200	<ul style="list-style-type: none"> Multiple sourcing strategy

Key

2030 cumulative value at stake (USD millions)*



2040 cumulative value at stake (USD millions)*



Likelihood



Velocity



* Absent impact of additional mitigation actions.



Broader supply chain

Climate change may present chronic and acute risks with indirect impacts in our sourcing activities in our broader supply chain, including pulp and paper materials and electronics. Exposed value at stake depicted in the table is projected absent the impacts of additional mitigation actions.

Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030 Cumulative value at stake		2040 Cumulative value at stake		Mitigation actions (current and potential)
								1.5°C	3°C	1.5°C	3°C	
Growing carbon prices and taxation	Increased carbon prices and taxation on pulp and paper suppliers could lead to higher costs of suppliers' emissions and consequently increased procurement costs for PMI (assuming that all costs are passed through to PMI)	Policy and legal	Increased carbon prices could result in higher costs for suppliers' emissions and consequently increased procurement costs for PMI	Carbon price and taxation costs for pulp and paper suppliers	Regions covering 90% of PMI's pulp and paper suppliers across the Americas, Asia Pacific, and Europe	MEDIUM	LONG-TERM	<350	350-700	<100	>1200	<ul style="list-style-type: none"> Engaging with suppliers: guidance and support to reduce supplier carbon footprint as part of scope 3 strategy for direct materials procurement PMI's Responsible Sourcing Principles (RSP)

Key

2030 cumulative value at stake (USD millions)*

<350	350-700	>700
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2040 cumulative value at stake (USD millions)*

<100	100 - 1200	>1200
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Likelihood

LOW	MEDIUM	HIGH
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Velocity

LONG-TERM	MID-TERM	SHORT-TERM
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* Absent impact of additional mitigation actions.

Logistics

Climate change may present chronic and acute risks with direct impacts on PMI's own logistics and indirect impacts on third-party logistics. Exposed value at stake depicted in the table is projected absent the impacts of additional mitigation actions.

Risk	Description	Type	Impact	Indicator	Geographies	Likelihood	Velocity	2030 Cumulative value at stake		2040 Cumulative value at stake		Mitigation actions (current and potential)
								1.5°C	3°C	1.5°C	3°C	
Growing energy prices	Increased energy prices for PMI owned and third-party logistics could lead to increased logistics costs (assuming that all costs are passed through to PMI)	Market	Increased price in energy sources for transportation could result in higher logistics costs for PMI	Energy costs for logistics	Global approach	HIGH	SHORT-TERM	PMI owned	PMI owned	PMI owned	PMI owned	<ul style="list-style-type: none"> Electrification of PMI fleet vehicles (hybrid and electric cars) Engagement with third-party logistics suppliers to improve efficiency of fleet Regional sourcing strategy (source close to factory) to optimize material/product transportation distance
Growing carbon prices and taxation	Increased carbon prices and taxation for PMI owned and third-party logistics emissions could lead to increased logistics costs (assuming that all costs are passed through to PMI)	Policy and legal	Increased carbon prices could result in higher costs for logistics emissions for PMI	Carbon price and taxation costs for logistics	Global approach	HIGH	SHORT-TERM	PMI owned	PMI owned	PMI owned	PMI owned	<ul style="list-style-type: none"> Electrification of PMI fleet vehicles (hybrid and electric cars) Selection of lower-carbon transportation carriers and transport routes Regional sourcing strategy (source close to factory) to optimize material/product transportation distance Engagement with third-party logistics suppliers to reduce carbon footprint



B. Describe the impact of climate-related risks and opportunities on PMI's businesses, strategy, and financial planning.

This section provides a concise overview of some of the potential impacts of climate-related risks identified as part of our CCRO assessment on PMI's strategic and financial planning. Learn more about our most recent updates and specific examples of actions and initiatives we have taken to mitigate climate-related risks in the "Tackle climate change" section of our annual Integrated Report available on [PMI.com](https://www.pmi.com).

Strategy

Climate-related risks and opportunities have influenced our strategy in a number of categories including products and services, supply chain, R&D allocation, and operations.

Supply chain and logistics

Physical climate change risks could affect our own operations and those of our suppliers globally. Changes in precipitation patterns and extreme variability in weather patterns could affect the yield, quality, and availability of key crops, such as tobacco leaves and cloves, changing our purchasing patterns and increasing operational costs. Increased drought or flooding could disturb the tobacco crop life cycle stages in several of our sourcing countries, driving strategy interventions in impacted areas. Flooding may require pumping of excess water; similarly, extreme droughts may require long-term irrigation, increasing energy consumption and production costs.

The financial implications of these risks vary depending on the impacted asset. For example, different tobacco growing areas have different levels of exposure to potential supply chain disruptions, with varying financial impacts based on geographies and related crop volumes. To prevent these impacts from materializing, PMI has adapted its management strategy at the short-to-medium term. We consider risks in the strategic decision and annual planning of our tobacco leaf inventories which can help mitigate short-to-medium term impacts.

To support addressing these risks, we have embedded environmental sustainability considerations in our Good Agricultural Practices (GAP) and Responsible Sourcing Principles (RSP) since 2002 and 2017, respectively, and require our suppliers to comply with them. We actively engage with our suppliers, and we plan to embed the elements of our carbon neutrality strategy in the programs with our suppliers as we move to the achievements of our targets for 2030. In the strategic decision and annual planning of our tobacco leaf inventories we include consideration on the impact that GAP-related initiatives have had since the program's implementation to mitigate those risks and its increasing influence over time in the short to medium term. For example, we have invested in previous years to support farmers in Brazil, the Philippines, and Indonesia with more efficient technologies (e.g., drip irrigation) contributing to climate change mitigation efforts. In the long term, our business strategy focuses on physical adaptation and long-term emissions reduction in accordance with our approved Science-Based Targets, based on 1.5°C pathway, to reduce our value chain absolute carbon footprint.

Manufacturing

Climate change can threaten business continuity, particularly where businesses involve agricultural supply chains. For PMI, raw material costs such as tobacco leaf and cloves may rise, and consumers and our employees are becoming increasingly sensitized to the environmental impact of corporate actions. Upfront investments with longer-term returns are required as consequences of climate risk could expose investors to changes in corporate stock value. PMI's efforts to reduce GHG emissions, such as through increasing energy efficiency, could alleviate potential costs and create competitive advantage by meeting or exceeding stakeholder expectations.

Our most recent sustainability materiality assessment conducted in 2021 confirmed that our ambitious decarbonization targets are aligned with societal expectations (learn more about our climate-related targets [here](#)).



Our climate change strategy plays a key role over the medium and long term to enable efficiencies in our operations, increase our resilience, and deliver against our reduction targets, thereby better positioning us when our stakeholders—including consumers and investors—assess our performance versus competitors.

Our business strategy focuses on physical adaptation and long-term emissions reduction including long-term sourcing strategies integrating CCRO assessment considerations and customer and supplier sustainability strategies aligned with ours to ensure progress against our objectives.

Our strategy and decisions are influenced by our ability to understand and adapt to potential future climate change issues and to minimize our environmental impact. We integrate climate-related physical and transition risks and opportunities related to regulatory, reputational, and market risks by implementing carbon emission reduction projects with longer payback period in our facilities, voluntarily sourcing green electricity to decrease our dependence on fossil fuels and reduce our carbon footprint, among others.

Products and services

For PMI, sustainability means creating long-term value while minimizing the negative externalities associated with our products. For example, we utilize life cycle assessments (LCAs) and develop new product and packaging design using circularity principles.

Periodically applying updated CCRO assessments enables us to account for our company's progress in responsibly transitioning from a cigarette to a world-leading smoke-free business, and the evolving environmental impact of our expanding portfolio (along with the necessary trade-offs stemming from this transition). We seek to design and deploy tailored programs based on the specificities of each product category and disclose our approach in our annual Integrated Report available on [PMI.com](https://www.pmi.com).

By applying a more in-depth CCRO assessment aligned with the TCFD recommendations, we were better able to evaluate climate-related risks and opportunities in relation to our products and services, such as shifts in supply and demand and downstream market risks associated with shifting consumer demands for lower-carbon products.

We also periodically conduct surveys with our product adult users to gather insights into their perspectives on sustainability-related matters. In 2021, we conducted surveys with our product users in four key smoke-free product markets. Results provided valuable insights on consumer views, with over 90% expressing positive perceptions of PMI's efforts in sustainability as a progressive and innovative brand and their appreciation for our end-of-life take-back programs and other post-consumer waste initiatives and programs. This feedback enabled PMI to integrate these programs into the design of our smoke-free product roadmap.

Climate change influences the setting of short- and medium-term sustainability targets for our products and services. To control environmental and social impacts across the life cycle of our smoke-free products, we have set 2025 eco-design and circularity ambitions, which extend to electronic devices, accessories, consumables, and packaging (read more in the "Reduce post-consumer waste" section of our annual Integrated Report available on [PMI.com](https://www.pmi.com)). Potential benefits include energy savings, reduced use of natural resources, waste reduction, and a longer product lifespan.

Investment in R&D

Product eco-design and circularity is now an integral part of our R&D work and embedded in our long-term strategy to support our smoke-free future vision. With respect to our smoke-free products, our 2025 eco-design and circularity ambitions extend to electronic devices, accessories, consumables, and packaging. In the area of product innovation, we aim to have all our new electronic devices commercialized as of end 2025 certified to validated standards for eco-design. We are also working toward the inclusion of recycled content in our product packaging. In our operations, eco-design principles inform how we use LCA to assess the comparative carbon footprint of our products, from tobacco sourcing to end-of-life impacts. We have analyzed IQOS devices, heated tobacco units, and packaging. We are working to close the carbon emissions intensity gap between combustible tobacco products and smoke-free products through intensive R&D in improved manufacturing processes, extending the usable life of our electronic devices, and decreasing the total carbon footprint through innovative material selection guided by the application of LCAs and eco-design principles.



Over the past several years, we have reduced the overall carbon impact of our smoke-free products through improvements in manufacturing processes and in our tobacco supply chain.

Financial planning

Climate-related regulations are expanding and becoming more stringent. Compliance with such regulations are core to the way PMI operates. While new legislation may trigger additional costs when implementing new programs and initiatives, it can also provide us with the opportunity to reduce energy consumption, carbon emissions, and operational costs. We have adapted our financial planning to address climate risks and seize opportunities related to direct and indirect costs, capital expenditure and allocation, and assets over the short-, medium-, and long-term time horizons.

Some examples of how financial planning has been influenced by climate-related risks and opportunities include:

- Renewable energy generation subsidies are factored into our cost-benefit analyses to improve return on investment
- The expansion of schemes such as the EU Emission Trading Scheme (EU ETS) to include EU accession countries where PMI has facilities has influenced our investments with energy saving initiatives, our Drive4Zero Program, and our portfolio of zero-carbon technologies (learn more about these initiatives in the “Tackle climate change” section of our annual Integrated Report available on [PMI.com](https://www.pmi.com))
- Energy taxes have incentivized us to implement an Energy Management Program according to ISO 50001, contributing to savings from energy tax reductions

PMI’s supply chain and its purchases of tobacco leaf are influenced by the cost of production for farmers. If the overall cost of producing raw tobacco at directly contracted farms and third-party leaf suppliers increases, it would lead to an indirect increase in procurement costs as the price of tobacco would respond to upward pressure on the cost of production.

Since 2002, we have been implementing the Good Agricultural Practices (GAP) program. GAP is a program with mandatory requirements for our tobacco suppliers and their contracted farmers, which provides specific guidance on initiatives to mitigate tobacco growing risks and impacts related to climate change such as transition market risks related to fuel price increases. A set annual budget is allocated to initiatives to promote the adoption of improved and innovative practices by the farmers in our supply chain lowering fuel consumption, dependency on fuel and overall production costs.

Based on our financial planning PMI allocates an annual budget to investments in climate risk mitigation practices under the GAP program worldwide, which is expected to continue over the next decade. We have increased the annual budget to support farmers in our supply chain to improve their resiliency and seize opportunities in the low carbon economy over the past several years. Strategic initiatives include improving efficiency and reducing mechanized activities at field stage, improving tobacco curing efficiency, and switching to low-carbon energies, thus making tobacco suppliers, their farmers, and PMI more resilient to price increments on diesel and diesel products, for instance.

We also use carbon pricing mechanisms and revise our internal carbon prices annually. Carbon pricing helps us to identify where to act by comparing and ranking relevant GHG reduction projects globally based on their cost-effectiveness in reducing emissions and drive the expenditures needed for prioritizing our list of initiatives (read more [here](#)).

We have an extensive risk control program whereby locations with values exceeding USD 30 million are surveyed by engineers from our property insurer including physical risks. We have several locations that do have natural catastrophe exposures including flood risk. This is addressed through risk improvement recommendations for physical mitigation solutions or the implementation and reinforcement of management controls such as protecting openings, raising equipment, and implementing Flood Emergency Response Plans. Information on our exposure and responses is reviewed regularly. It enables risk and opportunity identification and management at the company and asset level.

Based on the results of our most recent CCRO assessment, revenues and access to capital are currently not impacted by climate change, and acquisitions and divestments are not expected to materially impact PMI.



C. Describe the resilience of PMI's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Physical risks

Scenario analysis is based on the most frequently used Representative Concentration Pathways (RCP), ranging from RCP2.6 to RCP8.5. Starting from the RCP scenarios, climate data are assessed to analyze the impact on the PMI areas of interest at specific global warming levels with scenarios in line with the successful achievement of the Paris Agreement's goal (1.5°C and 2.0°C warming compared to preindustrial level), and another scenario shaped on its failure (3°C warming). The database used is based on the analysis of multiple outputs from seven Regional Circulation Models (site-specific climate variables) and 23 General Circulation Models (regional climate variables) participating in the Climate Model Intercomparison Project (CMIP). Read more about the identification process [here](#).

Manufacturing

We are continuing our efforts to certify all our priority factories to the Alliance for Water Stewardship (AWS) standard by 2025. This certification supports local stakeholder engagement activities in water catchment areas that in turn can help mitigate water scarcity risks. Several factories are implementing water saving and recycling programs as part of our Drive4Zero initiative and are also piloting projects to reduce their water consumption rates (read more in the "Preserve nature" section of our annual Integrated Report available on [PMI.com](#)).

PMI aims to ensure that its manufacturing sites are adequately designed, built, and protected in an effective way. Programs include an external risk assessment of PMI insurable manufacturing sites performed on average once per year to evaluate the potential exposure of factories to floods and their preparedness, estimating the risk of potential losses and damage and business interruption.

All PMI factories are equipped with air conditioning systems to limit heat-stress due to long heatwave periods and allow for good working conditions.

Tobacco supply chain

PMI farmers and suppliers in tobacco growing areas already adopt several adaptation measures to reduce exposure to longer and more frequent droughts that are forecasted by climate models. All our tobacco suppliers commit to PMI's Good Agriculture Practice (GAP) program that includes farming practices to conserve soil moisture and nutrients. Moreover, the implementation of irrigation systems in drought-prone areas such as the Brazilian Northeast region halves the exposed value of yield losses at risk due to extreme events. Periodic local water risk assessments help determine critical hotspots in our tobacco supply chain calling for adaptation measures and helping to validate conditions when potential alternative supply regions are identified, supporting the long-term stability of our sourcing strategy. Tobacco suppliers are reporting soaring crop losses due to heavy rains and floods; vulnerable tobacco sourcing areas are implementing GAP practices to enhance their resilience to such events, including subsoiling and cover crops to reduce soil compaction and improve water infiltration. In some key supply regions, such as Brazil for instance, tobacco farmers have access to insurance schemes that protect them against hailstorms and floods.

Broader supply chain

PMI actively engages with its suppliers to support their transition toward a more resilient and sustainable business model, as covered in PMI's Responsible Sourcing Principles (RSP). PMI's Sourcing Risk Management framework facilitates the identification of mid- and long-term business disruption risks—including climate-related ones—and supports the supplier selection process. PMI adopts a multiple-sourcing strategy to diversify risk across different suppliers and geographies to guarantee the stability of its supply chain, thus reducing the likelihood of business interruption and increased procurement costs.



Logistics

Seaports are essential for PMI's global trade. PMI periodically updates the business continuity plans (BCP) and recovery strategies of the critical nodes in its transport networks to minimize the risks of supply chain disruption and increased procurement costs. Risk identification and assessment include flood and sea level rise risks.

Transition risks

Transition risks have been assessed under two mitigation pathways consistent with the 1.5°C Paris Agreement target and beyond (+3°C). The results of the climate scenarios have been compared with a business-as-usual scenario (BAU, representing a future in which no extra international efforts are made to adapt to or mitigate climate-related impacts) to estimate the value at stake. Two Network of Central Banks and Supervisors for Greening the Financial System (NGFS) climate scenarios have been used to represent the potential impacts of global warming 1.5°C and 3°C pathways. NGFS climate scenarios provide a common reference point for understanding how climate change and climate policy and technology trends could evolve in different future scenarios:

- The Net Zero 2050 scenario, aligned to SSP2-1.9 (1.5°C), is an ambitious scenario that limits global warming to 1.5°C through stringent climate policies and innovation, reaching net zero CO₂ emissions around 2050
- The Current Policies scenario, aligned to SSP2-4.5 (3°C), assumes that only currently implemented policies are preserved but they are not sufficient to achieve official climate commitments, emissions grow until 2080 leading to about 3°C of warming by 2100 and severe physical risks

These scenarios are built on the Integrated Assessment Models which form the basis of the Intergovernmental Panel on Climate Change (IPCC) reports and are considered best practice globally. The benefits of the scenarios are that they are annually updated to incorporate countries' commitments to reach net zero emissions and have been enriched with an expanded set of macroeconomic variables, and country-level granularity. Read more about the identification process [here](#).

Manufacturing

In direct operations, PMI is reducing its exposure to energy and carbon price increases through the implementation of two programs to increase efficiency and cut emissions: Drive4Zero and Zero Carbon Technology. PMI will further increase the share of renewables in its energy matrix through the deployment of technologies to self-produce and store renewable energy. Read more about these initiatives and progress in the "Tackle climate change" section of our annual Integrated Report available on [PMI.com](#).

Tobacco supply chain

PMI actively supports farmers in its supply chain to improve resiliency and seize opportunities in the low-carbon economy. Strategic initiatives include improving tobacco curing barn efficiency and switching to low-carbon energy sources, such as wood and biomass pellets produced from agricultural residues, making tobacco suppliers more resilient to price increments on fossil fuel which are energy sources used in the curing process (read more in the "Preserve nature" section of our annual Integrated Report available on [PMI.com](#)). As a part of its GAP program, PMI fosters the implementation of sustainable agricultural practices to optimize the use of chemical fertilizers in its tobacco sourcing areas, thus reducing the exposure to fertilizer price volatility and increased procurement costs.

Broader supply chain

PMI launched a new car fleet policy in 2021 to foster the electrification of its own fleet, progressively phase out fossil fuel vehicles, and reduce fleet emissions. PMI logistics prioritizes lower-carbon transportation carriers and routes, reducing air shipments as much as possible. Moreover, PMI's regional sourcing strategy contributes to minimizing raw material and product transportation distances between suppliers and factories, reducing fuel consumption. Since our largest share of emissions tied to logistics comes from third-party logistics, PMI is actively engaging with suppliers to support their transition to more efficient and lower-carbon fleets. All of this will result in a lower exposure to the direct and indirect risks due to growing energy and carbon prices in PMI owned and third-party logistics.



Risk Management

The processes used by PMI to identify, assess, and manage climate-related risks

A	Describe PMI's processes for identifying and assessing climate-related risks.	22
B	Describe PMI's processes for managing climate-related risks.	24
C	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into PMI's overall risk management.	24



A. Describe PMI's processes for identifying and assessing climate-related risks.

As part of PMI's various risk management practices, the identification and assessment of climate-related risks is primarily achieved through:

- Integration into our corporate-wide Enterprise Risk Management (ERM) practices (read more [here](#));
- Consideration as part of a Climate Change Risk and Opportunity (CCRO) assessment (read more in this section); and
- Consideration as part of an Environmental Risk Analysis (ERA) (read more in this section's feature box).

CCRO assessment

We periodically carry out a CCRO assessment to understand our company's exposure to climate-related physical and transition risks over time under different climate scenarios and time horizons, following the recommendations of the TCFD. In 2022, PMI conducted a CCRO assessment to identify and assess physical and transition risks across multiple climate scenarios and time horizons. The assessment covered specific areas within PMI's Operations function, namely Leaf (i.e., tobacco and clove growing areas), PMI Manufacturing (i.e., factories and warehouses), Procurement (i.e., paper and pulp-based supply chain, which includes acetate tow, and electronics supply chain) and Logistics (i.e., ports and key distribution centers).

Identification and assessment of physical risks and opportunities

The CCRO assessment projected acute and chronic physical risks under 1.5°C, 2°C and 3°C global warming scenarios until 2030 and 2040. These scenarios are compatible with the targets set by the Paris Agreement. The assessment covered around 600 assets (such as tobacco crops, factories, warehouses) and geographies of interest around the world with a spatially explicit approach (30 km² resolution). The risk assessment was based on the Intergovernmental Panel on Climate Change (IPCC) definition of climate risk that brings together climate hazards, exposure (i.e., assets that could be impacted) and vulnerability (i.e., likelihood of assets being negatively affected by the hazards).

Climate variables and extremes were simulated by using multiple outputs from 30 different climate models participating in the Climate Model Intercomparison Project (CMIP5) for the time window 2010–2040. These variables were used to assess the exposure of each site to climate hazards including drought, heatwave, and flooding. By comparing against baseline conditions (1980–2010), we estimated the change in frequency and intensity (moderate, severe, extreme) of climate-related physical hazards for each location and their projected trends over time until 2040. A final hazard risk index was calculated to score risk exposure for each asset and identify hotspots.

We considered that acute risks arise from site-specific extreme events (e.g., increased occurrence of floods and heatwaves), while chronic risks are linked to the incremental shift in temperature and rainfall leading to increased droughts. This reflects the characteristics of climate variables used to calculate drought, heatwave, and flood indicators of the CMIP5 models. We also assessed the exposure of ports to sea level rise, which was considered as a long-term, chronic risk.



The exposed financial value for each asset was calculated with a focus on the main hotspots subject to the highest risks. The total value at stake was reduced whenever adaptation measures were in place (e.g., irrigation systems in tobacco growing area that would mitigate the risk of crop yield failure due to droughts). Adaptation measures were considered as an opportunity to avoid costs (losses).

Cumulative increment in losses and damages due to soaring drought and flood instances have been projected to 2030 and 2040 for PMI manufacturing sites (resulting in damages to property, inventory, and business interruption) and tobacco growing areas (resulting in losses in crop yield). This analysis has been driven by the availability of data on observed losses and damages for those asset categories. Worker population exposed to heat stress has also been estimated for each site.

Identification and assessment of transition risks and opportunities

Risks and opportunities were determined by desktop research, internal stakeholder consultations, and a review of the main findings from past CCRO assessments. Risks and opportunities across PMI's Operations function were categorized into the TCFD sub-categories as follow:

- 14 policy and legal risks
- One technology risk
- Eight market risks
- Two market opportunities
- Two resource efficiency opportunities
- Two energy source opportunities

Risks and opportunities were prioritized according to materiality, velocity, and likelihood criteria in order to define a final ranking.

The top 10 risks and opportunities were validated internally. Their financial impacts were reassessed under two climate scenarios aligned to the SSP2-1.9 and SSP2-4.5: the NGFS net zero 2050 scenario (1.5°C) and the Current Policy scenario (3°C). Mitigation actions are considered as cost avoidance opportunities. The value at stake (VaS) represents the difference between the business as usual and the climate scenarios.

Environmental Risk Analysis (ERA)

While the CCRO assessment is a stand-alone project conducted on a periodical basis to identify climate-related risks, the ERA is PMI's main process to identify and manage substantial, short-term environmental risks and opportunities at the operational level on a more frequent basis. The ERA builds on the CCRO assessment to further analyze operational implications from the identified risks and opportunities.



B. Describe PMI's processes for managing climate-related risks.

As part of PMI's various risk management practices, the overall management of climate-related risks is primarily achieved through:

- Integrating climate-related risk observations into our corporate-wide Enterprise Risk Management (ERM) practices (read more to the right);
- Following up on identified and assessed climate-related risks as part of a Climate Change Risk and Opportunity (CCRO) assessment (read more in this section); and
- Following up on identified and assessed climate-related risks as part of an Environmental Risk Analysis (ERA) (read more in this section's feature box).

CCRO assessment

As a result of the CCRO assessment, we identify and assess climate-related transition risks and opportunities relevant to our business operations, prioritizing them according to their velocity, likelihood, and materiality. In depth-assessments are carried out for the most relevant risks across the different PMI business functions in order to provide a detailed quantification of the potential value at stake and inform risk mitigation actions.

We developed a risk control program as a response to the identified and assessed physical risks resulting from climate change. Locations exceeding USD 30 million in asset value are surveyed by engineers from our property insurer, who provide risk management recommendations. Vulnerable hotspots to climate hazards are mapped and assessed in-depth to understand existing weakness and proactively define adaptation measures—or strengthen existing ones—to enhance their resilience in the long term.

Environmental Risk Analysis (ERA)

Results from the ERA (described [here](#)) are used by PMI's business functions to develop programs, roadmaps, action plans, targets, and budgets to either prevent substantial risks from materializing, or to seize opportunities. Results are monitored by each of PMI's relevant departments and communicated to the relevant stakeholders to trigger follow-up actions.

C. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into PMI's overall risk management.

As highlighted in our description of specific climate-related risk management activities, climate-related risks are integrated into PMI's overall Enterprise Risk Management (ERM) practices.

We designed our risk management and internal control practices to address significant or emerging strategic, external, inherent process, and project deployment risks that could undermine our ability to achieve our strategic business objectives and create value over time. Within this context, ESG-related risks and opportunities are considered as part of our risk management practices.

Our enterprise risk management approach utilizes an interconnected three-step assessment process to identify, assess, manage, and respond to risks that can have a substantive impact on our strategic priorities and business objectives. Management has identified and prioritized key enterprise risks based on four risk dimensions: (1) the impact a risk could have on the organization if it occurs; (2) the likelihood a risk will occur; (3) the velocity with which a risk would affect the organization if it occurs; and (4) the interconnectivity of a risk with other risks.

Furthermore, management distinguishes its risks into either strategic or operational (critical) risks. Strategic risks have a direct influence and bearing over the Company's strategic priorities, business objectives and the long-term direction the Company is pursuing. Management's operational (critical) risks are significant in terms of their immediate, short- or medium-term business disruptive effect. Strategic risks and critical operational risks that are deemed significant are communicated by management to the Board or respective Board committee exercising subject matter oversight as appropriate.



Enterprise risk management is facilitated by PMI's corporate risk management function "Risk & Controls" through periodic alignment with "first line" business, other "second line" risk management and assurance, and "third line" internal audit (Corporate Audit) functions. We assign ownership of each prioritized key risk area to a member of our Company's Management. In parallel, risk oversight is conducted by the full Board of Directors, as well as by the Committees of the Board with respect to their areas of responsibility. Read more about Board oversight [here](#) and management's role [here](#).

ESG-related risks and opportunities are considered within our enterprise-wide risk assessment, which also leverages the company's sustainability materiality assessment process. More specifically, the priority ESG topics identified by the latest sustainability materiality assessment determine which ESG risks and opportunities are considered in the enterprise-wide risk assessment. Moreover, we also progressively consider, among others, risks and opportunities that could have an impact on PMI's sustainability strategy and the achievement of performance targets linked to KPIs defined as part of the Sustainability Index.

In this context, our enterprise risk landscape addresses climate-related risks in two key risk areas, namely "Environmental, Social, and Governance (ESG)" risk and "Business Disruption" risk. The key risk area "ESG" informs about the risk of being unable to implement an effective sustainability strategy prioritizing relevant ESG-related risks, progress against set aspirations, and report results. The key risk area "Business Disruption" refers to the risk of potential disruption of our supply chains and logistics as well as the inability to operate due to, among others, an inadequate climate-proofing strategy along the value chain. The key risk area "Business Disruption" is owned by our Senior Vice President Operations, whereas the key risk area "ESG" is owned by our Chief Financial Officer.

To complement our continuous enterprise-wide risk assessment efforts and regular sustainability materiality analyses, we have various risk evaluation mechanisms in place to support the development of tailored strategies and responses for our priority ESG issues along our value chain. The specialized risk management processes, as outlined [here](#) and [here](#), are deployed to identify, assess, and manage climate-related risks in PMI.

We are working to further integrate these processes and their outcomes into our wider enterprise-wide risk management practices by incorporating specific climate-related risk observations into the enterprise risk landscape for aggregation into relevant key risk areas. Moreover, we are working to build synergies between both our specialized climate-related and our enterprise-wide risk management practices by aligning their terminology, processes, methodologies, and building capabilities within functions to strengthen the level of integration.

Finally, we disclose PMI's material risk factors in our 10-K and 10-Q submissions to the U.S. Securities and Exchange Commission. Our latest submissions are available on [PMI.com](https://www.pmi.com).



Metrics & Targets

The metrics and targets used by PMI to assess and manage relevant climate-related risks and opportunities

A	Disclose the metrics used by PMI to assess climate-related risks and opportunities in line with its strategy and risk management process.	27
B	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	31
C	Describe the targets used by PMI to manage climate-related risks and opportunities and performance against targets.	33



A. Disclose the metrics used by PMI to assess climate-related risks and opportunities in line with its strategy and risk management process.

Performance indicators allow us to measure progress and evaluate our efforts. We track progress against a range of climate-related environmental metrics, price carbon, and incorporate forward-looking targets into our executive compensation program.

Tracking progress against environmental metrics

Beyond our carbon footprint data, we consider energy consumption in our direct operations as well as metrics related to forestry, water, biodiversity, waste, and environmental management due to the interdependent nature between these capitals and climate-related risk.

A selection of our indicators related to environmental health and safety (EHS) of our operations are externally assured each year. You can find our most recent verification statements on [PMI.com](https://www.pmi.com).

You can find updated progress against KPIs in the "Performance metrics" page available on [PMI.com](https://www.pmi.com) and progress against our aspirations in our annual [Integrated Report](#).

Tackle climate change



	2019	2020	2021	2022	Goals	
Energy Consumption in PMI direct operations	Total energy consumption in PMI factories, offices and fleet (gigajoules)	9,456,576	7,909,157	7,721,166	7,657,899	
	Proportion of total energy consumed that is from renewable sources	27%	29%	33%	35%	
	Energy intensity (gigajoules per million cigarettes equivalent) ¹	11.95	10.83	10.37	10.14	
	Fuel consumption from non-renewable sources (gigajoules)	5,819,072	4,733,193	4,541,721	4,487,522	
	Fuel consumption from renewable sources (gigajoules)	128,967	91,680	123,033	95,236	
	Total electricity consumed (MWh) ²	959,723	832,292	865,166	861,434	
	Total electricity consumed that is from renewable sources (MWh)	623,940	621,620	674,903	727,283	

¹ Intensity is measured per million cigarette equivalent sold.

² Excludes electricity consumption from fleet.



Preserve nature



	Scope	2020	2021	2022	Goals	
Forest	Proportion of tobacco purchased at no risk of gross deforestation of primary and protected forests ¹	100%	100%	100%	maintain 100%	
	Proportion of tobacco purchased at no risk of net deforestation of managed natural forest and no conversion of natural ecosystems ¹	n/a	37%	55%	100% by 2025 (S)	
	Total hectares of forest grown	n/a	355	389		
	<ul style="list-style-type: none"> • Due to restoration of at-risk forest • Contribution to forest positive 	n/a	165	199		
		n/a	190	190		
	Proportion of flue-cured tobacco purchased that is cured with renewable fuel sources (self-sufficient firewood and biomass adoption)		67%	75%	74%	maintain > 70%
	Approximate total number of curing barns upgraded since 2014 (cumulative)		82,519	93,700	102,806	
	CDP Forest rating	PMI value chain	A	A	A	
Proportion of paper, board, and pulp-based purchased at no risk of gross deforestation of primary and protected forests ¹		n/a	n/a	64%	100% by 2025	
Water	Cubic meters of water optimized in our tobacco-growing areas (cumulative since 2019) (million m ³) ²	0.01	0.44	4.94	≥10 million cubic meters by 2030	
	Proportion of tobacco-growing areas which are covered by Local Water Risk Assessments (cumulative, since 2018)	PMI tobacco supply chain	57%	66%	81%	100% by 2025
	Quantity of blue water used per ton of tobacco produced ³		307	339	263	
	Total amount of water used ('000 m ³)		115,009	133,674	107,720	
	Total amount of water consumed (withdrawn minus discharged) ('000 m ³)		1,619	1,481	1,547	
	Total amount of water withdrawn ('000 m ³)		3,375	3,120	3,089	
	Total amount of freshwater withdrawn ('000 m ³) ⁴		2,215	2,088	2,137	
	Water ratio (water withdrawn in m ³ per million units of cigarettes sold) ⁵	PMI factories	3.5	2.6	2.5	maintain <3.1
Proportion of PMI factories certified to AWS standard ⁶		30%	43%	51%	100% by 2025	
CDP Water rating	PMI value chain	A	A	A		
Biodiversity	Proportion of tobacco purchased without detection of residues attributable to the use of highly hazardous pesticides (HHPs), as defined by FAO and WHO guidelines in 2016	PMI tobacco supply chain	97%	100%	100%	maintain 100%
	Proportion of tobacco purchased without detection of residues attributable to the use of WHO TOX1 group of crop protection agents		100%	100%	100%	maintain 100%

A

B

C

(S) Indicators included in PMI Sustainability Index



Preserve nature continued



	Scope	2020	2021	2022	Goals	
Waste	Proportion of PMI factories with virtually zero waste to landfill	69%	79%	97%	100% by 2022	
	Total amount of waste generated (in metric tons)	119,750	114,043	119,192	maintain 85%	
	• Recycled	85.5%	87.3%	86.9%		
	• Incinerated with energy recovery	11.4%	11.4%	12.0%		
	• Incinerated without energy recovery	PMI	0.3%	0.3%	0.3%	<1%
	• Disposed to landfill ⁷	operations	2.8%	1.1%	0.8%	
	Amount of hazardous waste generated (in metric tons)		1,266	1,057	1,698	
• Incinerated with energy recovery		42.6%	57.3%	67.4%		
• Recycled		37.6%	20.9%	16.7%		
• Incinerated without energy recovery		12.7%	13.5%	13.4%		
• Disposed to landfill		7.1%	8.2%	2.5%		
Environmental management	Proportion of manufacturing facilities certified to ISO 14001 ⁸	100%	100%	100%	maintain 100%	
	Number of environmental fines (and approximate amount in USD) ⁹	PMI factories	1 (32,000)	2 (48,000)	0	

¹ For definitions, please see PMI's [Zero Deforestation Manifesto](#) and [PMI's ESG KPI Protocol 2022](#).

² Indicator is based on the World Resources Institute's volumetric benefit accounting methodology and is verified by an external third party.

³ Blue water refers to water used for irrigation, excluding rainfall.

⁴ Refers to amount of freshwater withdrawn from municipal sources.

⁵ Water intensity is measured in cubic meters per million cigarettes produced equivalent. In 2021, we updated our methodology to account for the conversion factor of heated tobacco units to conventional cigarettes of 5:1 and have restated historical data accordingly.

⁶ Aspiration pertains to priority manufacturing facilities identified based on site overall risk in relation to the watershed, water withdrawal, water consumption, product portfolio, and other strategic considerations.

⁷ Disposal to landfill includes sanitary waste, canteen waste, and waste mandated by authorities to be disposed of in landfill.

⁸ Scope: Manufacturing facilities producing more than three billion cigarette equivalents annually.

⁹ Fines above USD 10,000 (or equivalent in converted currency).

Pricing carbon

Assigning a price—and hence a theoretical cost—to carbon emissions makes the intangible tangible and further incentivizes action to reduce the emissions that contribute to global warming. PMI has used two complementary internal carbon pricing instruments since 2020: a shadow price and a carbon levy.

We revise our shadow price and carbon levy annually to reflect changes in our risks and emission profile. In 2022, we also conducted a carbon pricing benchmark assessment, and evaluated external factors, such as inflation rates and developments in emissions trading schemes.

Most recently, we adjusted our shadow price from USD 65 to USD 105 per ton of CO₂e and increased our carbon levy from USD 8 to USD 11 per ton of CO₂e in the last quarter of 2022.

We integrate our shadow carbon price into the preparation and financial evaluation of business proposals aimed at structurally reducing our carbon emissions, supporting the approval of carbon emission reduction projects, including projects under our Zero Carbon Technology (ZCT) program.

We also used our carbon levy to help determine investments required to compensate our emissions through offsetting or insetting initiatives. The levy is designed to internalize costs and support behavioral change by setting a virtual internal tax on selected business units for their GHG emissions. This helps us determine a budget for the Portfolio of Climate Investments.

You can read more about carbon pricing and our Portfolio of Climate Investments (PCI) in the "Tackle climate change" section of our annual Integrated Report available on [PMI.com](#).



Incorporating climate-related performance metrics into executive remuneration

Our executive compensation and benefits program supports our business, financial, and strategic objectives and is explained in detail in PMI's 2023 Proxy Statement. The three components of our executive officers' total direct compensation are base salary, annual performance-based incentive compensation awards, and long-term variable equity awards. Our long-term executive compensation program reflects our commitment to putting sustainability at the core of our corporate strategy.

In 2022, annual incentive awards were assessed on six growth measures, including a 20 percent weight for our heat-not-burn shipment volume and a 15 percent weight on strategic initiatives. Those measures are heavily focused on our transformation to smoke-free products and include the drive for material and measurable progress in priority sustainability areas, alongside transparent and clear sustainability reporting and disclosure.

For 2023, we continued the practice of incorporating measures focused on our smoke-free product transformation and sustainability priorities into our annual incentive and long-term equity performance goals for executives.

For more information, please refer to PMI's [2023 Proxy Statement](#).

PMI's Sustainability Index

In 2021, we developed PMI's Sustainability Index to measure and communicate progress rigorously and quantitatively against our aspirations, using a set of clearly defined and verifiable metrics. To better align with shareholder and other stakeholder interests, the Compensation and Leadership Development Committee of PMI's Board of Directors has used the index to enhance the company's practices, explicitly linking compensation to sustainability and strengthening the link between long-term compensation and ESG performance.

PMI's Sustainability Index comprises 19 KPIs directly linked to our 11 Roadmap goals. As with our Roadmap, each KPI is aligned with one of two drivers: "Product Sustainability" (11 KPIs) or "Operational Sustainability" (8 KPIs).

Using predefined target ranges, we assess and award a score to each KPI annually. Thereafter, using a weight assigned to each KPI (informed by the results of our sustainability materiality assessment), we calculate the total Sustainability Index score. Performance results from the fiscal year 2022 are summarized on the following page.

You can read more about the weights of the Sustainability Index metrics, including climate change-related indicators, in our ESG KPI Protocol and annual Integrated Report, both available on [PMI.com](https://www.pmi.com).



B. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

To deliver on our climate ambition, we rely on robust carbon footprint accounting, analysis of climate change-related risks and opportunities, ambitious mitigation targets, implementation of adaptation measures, clear management and governance structures, and key enablers such as our internal carbon pricing.

Our value chain GHG inventory and a selection of our GHG emissions data are externally assured each year. You can find our most recent verification statements on [PMI.com](https://www.pmi.com).

Read more about our progress and approach in the “Tackle climate change” section of our annual Integrated Report available on [PMI.com](https://www.pmi.com) and a description of transition risk and opportunities associated with our carbon emissions [here](#).

You can find updated progress against our KPIs in the “Performance metrics” page available on [PMI.com](https://www.pmi.com).

Tackle climate change



	2019	2020	2021	2022	Goals	
Total GHG emissions Scope 1 + 2	Absolute CO ₂ e scope 1 (metric tons) ¹	397,210	322,633	308,822	297,602	
	Absolute CO ₂ e scope 2 (metric tons) ¹	158,672	90,366	64,217	42,482	
	Absolute CO ₂ e scope 1+2 (metric tons) ¹	555,882	412,999	373,040	340,084	
	• Absolute reduction versus 2019 baseline	n/a	26%	33%	39%	50% by 2030 (SBT)
	Carbon offsetting certificates (metric tons) ²	1,242	3,297	16,128	42,848	
	Net CO ₂ e scope 1+2 (metric tons) ¹	554,640	409,703	356,911	297,236	Carbon neutrality by 2025 (SI)
CO ₂ e scope 1+2 intensity (kg per million cigarettes equivalent) ³	702	556	501	450		
Scope 1 & 2 Manufacturing	Absolute CO ₂ e scope 1+2 (metric tons) from manufacturing	394,447	305,381	267,783	242,392	
	Proportion of electricity used and purchased that is from renewable sources	72%	78%	81%	87%	100% by 2025
	Proportion of carbon-neutral factories	3%	5%	13%	35%	100% by 2025
Scope 1 & 2 PMI Fleet	Absolute CO ₂ e scope 1 from fleet (metric tons)	111,400	79,457	78,018	79,543	
	• Absolute reduction versus 2019 baseline	n/a	29%	30%	29%	
	CO ₂ e emissions from fleet (kg CO ₂ e per km driven)	222	216	200	191	
Proportion of hybrid or electrical vehicles in our fleet	—%	5%	10%	19%		

(SI) Indicators included in [PMI Sustainability Index](#)



Tackle climate change continued



	2019	2020	2021	2022	Goals	
Scope 3 Total	Absolute CO ₂ e scope 3 ('000 metric tons) ⁴	4,621	3,854	3,749	4,257	25% by 2025, 50% by 2030 (SBT) (SI)
	• Absolute reduction versus 2019 baseline	n/a	17%	19%	8%	
	CO ₂ e scope 3 biogenic emissions ('000 metric tons)	2,598	2,312	2,386	2,331	
Scope 3 Tobacco Supply Chain	Absolute CO ₂ e scope 3 ('000 metric tons) from tobacco supply chain		909	804	888	35% by 2025, 50% by 2030
	• Absolute reduction versus 2019 baseline	n/a	28%	36%	30%	
	CO ₂ e intensity reduction in tobacco curing versus 2019 baseline	n/a	44%	64%	57%	
	Proportion of Virginia tobacco purchased cured with coal	16%	11%	3%	6%	0% by 2023
Total PMI Value Chain	Absolute CO ₂ e scope 1+2+3 ('000 metric tons)	5,177	4,267	4,122	4,597	Net zero by 2040
	• Absolute reduction versus 2019 baseline	n/a	18%	20%	11%	
	CO ₂ e scope 1+2+3 intensity (kg per million cigarettes equivalent) ¹	6,542	5,844	5,535	6,085	
	• Reduction versus 2019 baseline	n/a	11%	15%	7%	
	CDP Climate Change rating	A	A	A	A	

Note: Our inventory of GHG emissions (scope 1, 2, and 3) in 2022 is subject to external verification by SGS (see the External Verification Statement for scope 1+2 [here](#), for scope 3 [here](#), and a list of the individual metrics verified [here](#)).

- 1 Emissions from PMI-operated IQOS stores are partially excluded from scope 1+2 emissions, as de minimis. In 2022, a portion of PMI's retail stores (representing approx. 10% of total retail surface area) have been included in the scope 1+2 emissions.
- 2 2022 figure includes carbon offsetting certificates purchased in our factories in Czech Republic, Lithuania, Mexico, Portugal, Switzerland, and our 2022 figure includes carbon credit certificates retired in the name of our factories in Argentina, Brazil, Czech Republic, Greece, Indonesia (three sites, differentiated between six reporting entities for certification purposes), Lithuania, Mexico, Pakistan, Portugal, Senegal, and Switzerland—in total 13 manufacturing sites—as well as our Operations Center in Switzerland and the Mexico market.
- 3 Intensity is measured per million cigarette equivalent sold.
- 4 For further details on scope 3 calculation please refer to the [PMI Value Chain Methodology](#). In 2022, we further improved our carbon footprint model and data accuracy; improvements relate to, for example, increased coverage of primary data collected from direct materials suppliers and integration of emissions related to fleet purchase. This led to previous years being restated accordingly.

(SI) Indicators included in [PMI Sustainability Index](#)



C. Describe the targets used by PMI to manage climate-related risks and opportunities and performance against targets.

Performance indicators that allow us to measure progress and evaluate our efforts are oftentimes attached to targets and aspirations to drive improvement and provide clarity on desired outcomes. Our most recent climate-related targets are included below and include metrics directly related to energy and emissions as well as metrics related to our work to preserve nature that demonstrate mitigation and adaptation to climate change.

You can find updated progress against our aspirations in the “Performance metrics” page available on [PMI.com](https://www.pmi.com).

Tackle climate change

2023	Zero coal used as curing fuel for the tobacco we source		
2025	Carbon neutrality in our direct operations (scope 1+2) ^(S1)	100% of our manufacturing facilities certified carbon neutral	25% reduction in absolute scope 3 GHG emissions versus 2019 baseline ^(S1)
	35% reduction in absolute greenhouse gas (GHG) emissions in our tobacco supply chain versus 2019 baseline	100% of electricity used and purchased in our factories derived from renewable sources	15% of suppliers by spend (covering purchased goods and services) will have science-based targets (SBT)
2030	50% reduction in absolute scope 1+2 GHG emissions versus 2019 baseline (SBT)	50% reduction in absolute scope 3 GHG emissions versus 2019 baseline (SBT)	50% reduction in absolute GHG emissions in our tobacco supply chain versus 2019 baseline
2040	Net zero GHG emissions in our value chain (scope 1+2+3) (SBT)		

Preserve nature

Maintain	Zero gross deforestation of primary and protected forests associated with our tobacco supply chain	>70% of flue-cured tobacco purchased cured with renewable fuel sources (self-sufficient firewood or biomass)	100% of tobacco purchased without detection of residues attributable to the use of highly hazardous pesticides	≤3.1 Water ratio in our manufacturing facilities (water withdrawn in cubic meters per million cigarettes equivalent)	Virtually zero waste to landfill in manufacturing sites
2025	Zero net deforestation of managed natural forest and no conversion of natural ecosystems in our tobacco supply chain ^(S1)	100% of our tobacco-growing areas covered by local water risk assessments (cumulative since 2018)	Net positive impact on forests associated with our tobacco supply chain	Zero gross deforestation of primary and protected forest associated with our supply of paper and pulp-based materials	
			100% of our manufacturing facilities certified to the Alliance for Water Stewardship (AWS) standard ¹		
2030	≥10 million cubic meters of water optimized in our tobacco-growing areas (cumulative since 2019)		Net zero deforestation of managed natural forest and no conversion of natural ecosystems in the paper and pulp-based products supply chain		
2033	No net loss on ecosystems connected to PMI's value chain		Scale solutions toward a positive impact on water resources, measured as volume of water optimized and restored		
2050	Contribute toward a net positive impact on nature		Contribute toward a positive impact on water resources		

¹ Aspiration pertains to priority manufacturing facilities identified based on-site overall risk in relation to the watershed, water withdrawal, water consumption, product portfolio, and other strategic considerations.

^(S1) Indicators included in [PMI Sustainability Index](#)



Appendix

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Glossary of terms and acronyms

3TGs – Tin, tantalum, tungsten, and gold

AWS – Alliance for Water Stewardship

CCRO assessment – Climate Change Risk and Opportunity assessment

Company Management – The term we use to refer to the senior management of the company, as presented on our www.PMI.com site (also referred to as “our leadership team” or “senior management team”)

Downstream supply chain – Those stages in the supply chain in which materials (mostly in the form of finished products) flow away from the organization to the customers/consumers

EHS – Environmental, Health, and Safety

ERM – Enterprise Risk Management

ESG – Environmental, Social, and Governance

GAP – Good Agricultural Practices

GHG – Greenhouse gas

Insetting – The act of generating a carbon credit within the corporate’s sphere of influence and retiring the unit on behalf of 1 ton of carbon that has been emitted by the corporate (source: International Carbon Reduction and Offset Alliance)

IQOS heat-not-burn devices – Precisely controlled heating devices into which specially designed and proprietary tobacco units are inserted and heated to generate an aerosol

KPIs – Key performance indicators

LCA – Life-cycle analysis

LCTP – Low-Carbon Transition Plan

NCGC – Nominating and Corporate Governance Committee of PMI’s Board of Directors

NGOs – Non-governmental organizations

No Net Loss – The point at which business-related impacts on biodiversity are balanced by measures from the mitigation hierarchy, to leave no degradation on natural ecosystems at end balance

Offsetting – The act of purchasing a carbon credit generated outside the corporate’s sphere of influence and retiring the unit on behalf of 1 ton of carbon that has been emitted by the corporate (source: International Carbon Reduction and Offset Alliance)

PCI – Portfolio of Climate Investments

Physical risk – Physical risks are those associated with the impacts from climate change. Source: U.S. Environmental Protection Agency (EPA)

- **Acute physical risk** – Acute physical risks refer to those that are event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes, heat or cold waves, or floods.

- **Chronic physical risk** – Chronic physical risks refer to longer-term shifts in climate patterns (e.g., sustained higher temperatures, sea level rise, changing precipitation patterns) that may cause sea level rise or chronic heatwaves.

R&D – Research and development

RSP – Responsible Sourcing Principles

SBT – Science-based target

SBTi – Science Based Targets initiative

TCFD – Task Force on Climate-related Financial Disclosures

TGA – Tobacco-growing area

Transition risk – Transition risks are those associated with the pace and extent at which an organization manages and adapts to the internal and external pace of change to reduce greenhouse gas emissions and transition to renewable energy. Transitioning requires policy and legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. Source: U.S. Environmental Protection Agency (EPA)

Upstream supply chain – Those operations in which the materials flow into the organization (i.e., it mainly refers to procurement activities and inbound logistics)

ZDM – Zero Deforestation Manifesto



Forward-looking and cautionary statements

This report and related materials contain projections of future results and goals and other forward-looking statements, including statements regarding business plans and strategies. Achievement of future results is subject to risks, uncertainties and inaccurate assumptions. In the event that risks or uncertainties materialize, or underlying assumptions prove inaccurate, actual results could vary materially from those contained in such forward-looking statements. Pursuant to the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, PMI is identifying important factors that, individually or in the aggregate, could cause actual results and outcomes to differ materially from those contained in any forward-looking statements made by PMI.

PMI’s business risks include: excise tax increases and discriminatory tax structures; increasing marketing and regulatory restrictions that could reduce our competitiveness, eliminate our ability to communicate with adult consumers, or ban certain of our products in certain markets or countries; health concerns relating to the use of tobacco and other nicotine-containing products and exposure to environmental tobacco smoke; litigation related to tobacco use and intellectual property; intense competition; the effects of global and individual country economic, regulatory and political developments, natural disasters and conflicts; the impact and consequences of Russia’s invasion of Ukraine; changes in adult smoker behavior; the impact of COVID-19 on PMI’s business; lost revenues as a result of counterfeiting, contraband and cross-border purchases; governmental investigations; unfavorable currency exchange rates and currency devaluations, and limitations on the ability to repatriate funds; adverse changes in applicable corporate tax laws; adverse changes in the cost, availability, and quality of tobacco and other agricultural products and raw materials, as well as components and materials for our electronic devices; and the integrity of its information systems and effectiveness of its data privacy policies.

PMI’s future profitability may also be adversely affected should it be unsuccessful in its attempts to produce and commercialize reduced-risk products or if regulation or taxation do not differentiate between such products and cigarettes; if it is unable to successfully introduce new products, promote brand equity, enter new markets or improve its margins through increased prices and productivity gains; if it is unable to expand its brand portfolio internally or through acquisitions and the development of strategic business relationships; if it is unable to attract and retain the best global talent, including women or diverse candidates; or if it is unable to successfully integrate and realize the expected benefits from recent transactions and acquisitions. Future results are also subject to the lower predictability of our reduced-risk product category’s performance.

PMI is further subject to other risks detailed from time to time in its publicly filed documents, including PMI’s Annual Report on Form 10-K for the fourth quarter and year ended December 31, 2022. PMI cautions that the foregoing list of important factors is not a complete discussion of all potential risks and uncertainties. PMI does not undertake to update any forward-looking statement that it may make from time to time, except in the normal course of its public disclosure obligations.



Notes

In this report, “PMI,” “we,” “us,” and “our” refer to Philip Morris International Inc. and its subsidiaries.

In this report and in related communications, the term “materiality,” “material,” and similar terms, when used in the context of economic, environmental, and social topics, are defined in the referenced sustainability standards, and are not meant to correspond to the concept of materiality under the U.S. securities laws and/or disclosures required by the U.S. Securities and Exchange Commission. Additionally, in this report and in related communications, “climate-related risks,” “risks,” and similar terms, when used in the context of the Climate Change Risk and Opportunity assessment (“CCRO assessment”) are aligned with the recommendations of the Task Force on Climate-related Financial Disclosures, represent forward-looking projections based on uncertain future climate scenarios, and are not meant to correspond to the concept of material risk factors contemplated by U.S. securities laws and/or disclosures required by the U.S. Securities and Exchange Commission.

This report contains references and links to websites operated by third parties. These references are provided as a convenience to you and as an additional avenue of access to the information contained in those sources; they should not be viewed as an endorsement by us of the content of these references and linked sites or opinions of their authors.

Unless otherwise stated, all references to *IQOS* are to our *IQOS* heat-not-burn devices and consumables.

Trademarks and service marks in this report are the registered property of, or licensed by, the subsidiaries of *Philip Morris International Inc.*, and are italicized or shown in their logo form.

Estimates for total industry volume and market share in certain geographies reflect limitations on the availability and accuracy of industry data during pandemic-related restrictions.

Aspirational targets and goals do not constitute financial projections, and achievement of future results is subject to risks, uncertainties, and inaccurate assumptions, as outlined in our forward-looking and cautionary statements on page 36 of this report.



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