PHILIP MORRIS INTERNATIONAL

WE ARE

Achieving our climate goals

PHILIP MORRIS INTERNATIONAL
LOW-CARBON TRANSITION PLAN

OCTOBER 2021

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Cover photo: An employee at PMI's Indonesian affiliate, Sampoerna, solar panel farm in Karawang, Indonesia

Concrete climate action aligned to decarbonization needs

Executive summary

As a major multinational corporation with thousands of stakeholders round the world, we at Philip Morris International (PMI) have been increasingly engaged with aspects of sustainability in our products and processes. Our company is transforming into a science- and technology-powered business with the aim of delivering a smoke-free future—a future without cigarettes.

We are focused on our most material impacts on society, including product health impacts. Addressing the environmental footprint of our operations is a critical component of this and of developing technologies and practices to decarbonize our business and safeguard the long-term interests of all our stakeholders. As the urgency of the climate crisis becomes more pressing, we are increasing the pace of our initiatives, bringing forward target dates for carbon neutrality. To achieve these targets, we have a detailed practical plan to decarbonize our value chain.

This executive summary is drawn from our 2021 Low-Carbon Transition Plan (LCTP). The LCTP provides technical details on how we are working within the company and with others to cut greenhouse gasses aggressively, especially carbon emissions, and achieve the climate goals we have set for our company.

We closely follow the guidelines of the Science-Based Targets initiative (SBTi) partnership to set meaningful emissions reduction targets. In 2020, the SBTi assessed and approved that our targets aligned with a 1.5°C global temperature scenario as outlined in the Paris Climate Agreement. To help us achieve this we are now introducing a new goal–for PMI critical suppliers to adopt science-based targets in line with the SBTs that the company has committed to, as aligned with the 1.5°C pathway necessary to meet the goals of the Paris Agreement. We are certain that by including and engaging with our supply partners we can accelerate the transition toward a net-zero sustainable economy. Supplier engagement will be essential for us to meet our new carbon neutrality target date of 2040 for scopes 1+2+3 (entire value chain). This advancement by 10 years reflects our commitment to combating climate change.

Decarbonizing fast to create long-term value for all

PMI is pursuing its business transformation to deliver a smoke-free future. We are targeting at least 50% of total net revenues to come from smoke-free products by 2025, compared to zero in 2015. We are equally ambitious in addressing the climate change crisis with our many initiatives tackling reduction of our GHG emissions, climate change mitigation, and adaptation measures. Driven by the imperative of sustainability, we are working to minimize carbon emissions from our products and processes. This is proving to be an important driver of opportunities for innovation, growth, and long-term value creation.

Our sustainability strategy is founded on the principle that companies today must deliver more than shareholder value. Long-term success requires creating value and sharing it through sustainable approaches and practices for the full diversity of stakeholders, including employees, customers, suppliers, and communities.

We have tightened our timelines for systematic decarbonization

Carbon emissions are a major contributor to the climate crisis and one of the principal threats to our planet. This is why reducing carbon emissions is a high priority for PMI. We have adopted international standards that enable us to benchmark against sustainability leaders and to identify areas for improvement. Hence, with third-party verification according to ISO standard 14064-3, we calculate our GHG footprint annually, accounting for all relevant emissions generated across the entire value chain.

Initially, in 2019, we had aimed to be carbon neutral on scopes 1+2 (direct emissions) by 2030, but in view of the growing urgency of climate change, we now expect to reach this target five years ahead of schedule—2025. For the more comprehensive scopes 1+2+3 (entire value chain), we are now targeting carbon neutrality by 2040. This restated date is 10 years earlier than originally planned in 2019, underlining PMI's firm ambitions. Our company is making progress to reach these targets, having already lowered emissions by more than half against the 2010 baseline. We forecast that in 2021 our direct emissions of CO_2e will be less than 400,000 tons.

Reduce consumption, switch to renewable energy, and compensate unavoidable emissions

For the practicalities of achieving our emissions targets, we have a threefold approach. We reduce energy consumption and optimize efficiency to cut emissions. We minimize the use of fossil fuels and promote switching to renewable energy. And, recognizing that some emissions will be unavoidable, we compensate for them by prioritizing insetting projects (nature-based solutions) and by purchasing high-quality carbon credits.

In our operations, we are reducing emissions and increasing efficiency with two main programs: Zero Carbon Technology (ZCT) and Drive4Zero (D4Zero). ZCT involves initiatives such as biomass burners combined with thermal storage and solar photovoltaics for carbon emissions reduction and carbon capture and storage.

With D4Zero, every worker in operations looks out for points in processes where energy, water, or materials are being lost. Workers are empowered to recommend and implement solutions and to promote efficiency improvements not only across the factories but also throughout the company. D4Zero is one of the ways that the company encourages workers, suppliers, farmers, and new employees at every level to be actively engaged in more sustainable actions in line with the company's climate action targets.

To provide a financial lever for climate action, both governments and businesses think that carbon pricing can be an effective incentive to reduce carbon emissions and purposefully allocate resources.

Accordingly, in 2020 we adopted a shadow carbon price of USD 65 per ton of CO_2e and a carbon levy of USD 8 per ton of CO_2e. Our shadow carbon price is a theoretical cost that must be integrated into the financial evaluation and preparation of business cases and decisions to ensure that environmental costs are internalized and given due consideration. This functions as a powerful tool to build stronger internal alignment on climate action. The carbon levy is an internal tax that is virtually charged to a selection of our business units as an incentive to reduce emissions and to fund compensation solutions for unavoidable emissions.

To guide this, we have created a Portfolio of Climate Investments guided by an advisory committee that is responsible for managing and allocating budget along three main lines. First comes short-term investments that involve "offsetting" unavoidable emissions through the purchase of high-quality carbon credits. Alongside this, our longer-term net-zero ambitions require investment in "insetting" projects throughout the value chain to remove CO_2 from the atmosphere while (re-) establishing natural carbon sinks and generating positive impacts on biodiversity and people's livelihoods in our local communities. Thirdly are investments in innovative technologies to permanently remove carbon from the atmosphere with solutions that can be progressively scaled up to the magnitude needed to halt climate change.

We believe that our sustainability strategy must be reflected in the company at senior and executive levels, which is why, since October 2020, our Chief Sustainability Officer has reported directly to our Chief Financial Officer. The company's executive compensation program reflects commitments to put sustainability at the core of our corporate strategy. Additionally, in 2020, the company's Board of Directors released a Statement of Purpose that reaffirms PMI's commitment to deliver a smoke-free future and lays out our unique business model and value proposition: To relentlessly focus our resources to replace cigarettes with better alternatives. The statement explains how we are disrupting our business from the inside, leading our industry toward a future without cigarettes, acknowledging our stakeholders, and ensuring the long-term success of our company.

Appreciation of our transparency, recognition of our progress

What we describe here are the first steps on what is likely to be a long road ahead. The more we work on climate mitigation and climate adaptation measures, the more we realize that we don't have all the answers and the more we value working with peers and partners. Nevertheless, we are encouraged by external recognition that indicates we are on the right track. For the first time, our score in the 2020 S&P Global Corporate Sustainability Assessment earned our company inclusion in the Dow Jones Sustainability Index (DJSI) North America. We achieved the highest score of 100 in the climate strategy, environmental reporting, and environmental policy and management systems categories. With CDP, a not-for-profit charity that runs the global environmental disclosure system, we achieved a "triple A" score for environmental sustainability leadership in 2020. We also maintained our position on the A List for Climate Change for the seventh year in a row. CDP also placed PMI on its Supplier Engagement Leaderboard for the fourth consecutive year.

We are making every effort to ensure that our environmental performance reporting in years to come will contain still more encouraging information to share with our stakeholders, our peers, and the wider world.

"We believe that our sustainability strategy must be reflected in the company at senior and executive levels."

Climate action is built with strategy, transparency, and engagement

Our world is under threat and facing one of the biggest environmental challenges in our history. We are the first generation to be conscious and aware of the destruction we are waging on our planet and its ecosystems, and, at the same time, the last one that can do anything about it.

As a millennial, I often think about the fact that I will only be a middle-aged person in 2050, and the overwhelming complexity and sheer magnitude of climate change becomes paralyzing. What can one individual do to create change that can alter the seeming inevitability of the path humanity is on? As a society, we have protested, raised awareness, talked openly about its consequences, and many have pledged and committed to align with lofty goals that promise a change that would hopefully see our planet warm up at a slower pace. Sadly, making pledges has emerged as a popular and flexible way to attempt to govern the environment. Companies have promised to do what makes sense within their capacities, putting forward commitments or aspirations toward a shared goal and hoping that the sum of these pledges will safeguard the environment.

What has become apparent is the opaqueness of how to achieve these desired goals. With enough transparency, however, pledging can enable implementation, accountability, and eventually significant change. This is the fundamental reason underlying our Low-Carbon Transition Plan (LCTP). We see it as timely due to the dramatic increase in net-zero and low-carbon corporate targets and commitments.

We recognize that climate change is not only about impact on the environment but also on people's livelihoods. Building on our 10-year experience of developing and implementing programs, especially in our agriculture supply chain, we have witnessed how climate change has exacerbated human rights issues, including social inequalities, disproportionately affecting the most vulnerable. The climate crisis concretely impacts human migration, access to water, global health, agriculture productivity, and food security, among many other issues affecting our collective livelihood.

At PMI, doing our part to address the climate crisis is a key priority of our sustainability strategy. Yet, our efforts to combat climate change are not limited to working toward carbon neutrality in our operations and across our entire value chain. We also work to adapt to the impact of climate change and increase the resilience of our business and the communities where we operate. We are acutely aware of the impact our company has on both society and the environment, and we have been actively putting in place actions that can create a positive impact that is both measurable and verifiable.

Our LCTP is part of our overall sustainability strategy, pulling together the entire climate and carbon work that our company has done, outlining our strategy, as well as the baseline for achieving our restated ambitious carbon targets, namely, to become carbon neutral in all our direct operations by 2025, and across our entire value chain by 2040. Concretely, this plan shows how our company will operate in the future, in a world in which a functional low-carbon economy exists.

The plan combines both what has been done to date, as well as the strategy moving forward, including science-based targets and interim goals. It also recognizes the impact of carbon emissions on the environment and identifies ways in which we can reduce our own carbon emissions and help others to reduce theirs. It also links these considerable ambitions to our even greater fundamental ambition of ridding the world of cigarettes, while further seeking a net-positive impact.

By presenting our low-carbon transformation strategy, we hope to encourage change and foster engagement with investors and other stakeholders who will be able to evaluate whether our company is appropriately adapting its business model for success in a net-zero carbon economy. We are also explicitly stating that the success of our business depends on our ability to adapt and respect social and environmental boundaries. The LCTP showcases how our targets are underpinned by detailed operational measures and a solid business strategy, which are vital to translate ambition into action, achievement, and impact, and most important, the only way to safeguard the sustainability of our business and to help contribute to wider societal action.

Jennifer Motles
Chief Sustainability Officer

Harnessing the power of new technologies and nature-based solutions

Runaway climate change affects everyone and every aspect of life, and it is now well established that this is one of the most significant crises of our lifetime.

Tackling it cannot be done individually; this urgent and monumental task ahead of us requires the input and collaboration of all partners across the public and private sectors. Reaching necessary greenhouse gas (GHG) emission reduction targets requires action from all parts of society. As a company with a multinational environmental footprint, we have a role to play in protecting our planet. We will do so by defining and executing strategies and initiatives that help us to reduce the environmental impact across our value chain and allow us to achieve our mid- and long-term climate-related goals.

For a business like ours—with an agricultural supply chain sensitive to climate changes—abrupt climate variations can have a profound impact on the secure supply of our raw materials. It may also threaten facilities and operations, supply and distribution chains, as well as access to power networks and water.

We are working hard to strengthen our resilience to climate risks, implementing adaptation and mitigation measures across our value chain. We use internal carbon pricing to structurally incentivize and drive a reduction in CO_2 emissions. A recent review of our approach led us to implement a shadow price to internalize environmental costs and factor them in investment decision-making, and an internal carbon levy as an incentive to reduce CO_2 emissions and to generate funding for compensation solutions for unavoidable emissions. Like other sustainability leaders, our ambitious CO_2 emissions reductions are assessed and validated by the Science-Based Targets initiative (SBTi), and we have also enacted several corporate policies that guide our approach to decarbonizing our operations and value chain. The reduction of energy consumption and carbon emissions is indeed embedded in our PMI Environmental Commitment, our Guidebook for Success (PMI's Code of Conduct), our Responsible Sourcing Principles, and our Good Agricultural Practices program. Our Zero Deforestation Manifesto specifies our efforts to protect forests, which play a fundamental role for climate regulation and carbon sequestration. I am proud to now be able to share our Low-Carbon Transition Plan (LCTP), which provides a transparent and detailed view on how we plan to achieve our climate ambitions, how we will measure success, and how we will report on the progress we will make.

While we consider the improvement of the environmental performance of our manufacturing operations as vital, most of our ecological footprint arises elsewhere in our value chain, with upstream emissions typically being 10 times greater than those from our direct operations. We therefore believe that working collectively with tobacco growers, suppliers, retailers, NGOs, and governments is crucial for reaching our environmental goals.

The progress we've made so far encourages me that we are on the right track toward a low-carbon economy. I am delighted that we are now able to expand our global climate ambition: to achieve net-zero greenhouse gas emissions across our operations and supply chain by 2040, 10 years earlier than initially anticipated. We have also set two interim science-based targets for 2030 on our way to net zero: reducing emissions across both our operations and value chain by 50% each. We are confident we will achieve these reductions by accelerating our use of renewable energy, increasing the efficiency of our manufacturing processes and fleet, and advancing technologies to decarbonize our supply chain.

We are also introducing a new target: for PMI's critical suppliers to reduce their carbon emissions, adopting science-based targets that are aligned with the ones PMI will follow. By engaging our suppliers, we aim to contribute to their transition toward a net-zero economy. In turn, this will over time support PMI's own carbon emissions reduction targets for our value chain.

In addition to our internal measures, we consistently support national and global climate policies that promote a smooth transition to a low-carbon economy and help us plan for business growth. It's our strong belief that effective climate policies provide us with more certainty for short- and long-term planning and investment, as well as help us to better anticipate regulatory trends/changes and seize economic opportunities.

PMI has been recognized as a climate leader, and we are determined to remain at the forefront of the climate-neutral agenda. It is my hope that our Low-Carbon Transition Plan will become much more than a testament of our climate actions—that it can spark a debate and serve as inspiration to others. The road toward a low-carbon economy and a better planet is one we all need to travel together.

Massimo Andolina
Senior Vice President, Operations

Driving business growth forward by integrating ESG

For the longest time, it seemed that environmental, social, and governance (ESG) factors were mere afterthoughts on the minds of business leaders and investors.

Within companies, finance and sustainability professionals communicated separately and in a different manner to their respective stakeholders—and in addition, did not necessarily talk to each other. But it has become clear that the sustainability performance of a company can no longer be a secondary concern. It is universally expected that ESG factors are integrated into the overall business strategy. A failure to do so can put the long-term competitiveness and success of a company at risk.

The impacts of climate change, biodiversity loss, and water insecurity—among others—threaten more than physical infrastructure and supply chains. They endanger progress and business growth by exacerbating systems-level disruptions for customers, investors, employees, and communities. It is crucial that business leaders view environmental risks in a new way, as it will require a drastic reduction of global greenhouse gas (GHG) emissions to limit global warming to no more than 1.5°C to avert catastrophic climate impacts.

Addressing ESG issues does not only bear costs for a company, it can also become a driver for growth and innovation. At PMI, we are investing in innovative technologies and take a multidisciplinary approach to reducing the environmental impact of our products, operations, and value chain. We are convinced that reaching our carbon-neutrality targets will contribute to making our company more resilient and more profitable.

An increasing number of organizations and sustainability leaders agree on the benefits of using internal carbon pricing to structurally drive a reduction in CO_2 emissions. Assigning a price—and hence a theoretical cost—to the emissions generated not only makes an intangible concrete, but also further incentivizes actions to reduce the emissions that contribute to global warming.

At PMI, we reviewed our carbon pricing policy in 2020 and took a pioneer approach by developing two complementary internal carbon prices: a shadow price and a carbon levy. Our shadow carbon price is integrated into the financial evaluation and preparation of business cases that will impact our carbon emissions either favorably or unfavorably. This has been instrumental in the approval of additional carbon emissions reduction projects as part of our energy savings initiatives, for example. Our carbon levy is designed to internalize costs and support behavioral change. This internal tax is virtually charged to selected business units for their GHG emissions, with the aim of using calculated virtual revenue to size and fund investments that contribute to the decarbonization of our business.

While the shadow price helps us to prioritize business cases for investment in activities aimed at structurally reducing our carbon emissions, the carbon levy helps to size the investments required today to compensate our unavoidable CO_2 emissions through a portfolio of climate investments including offsetting (e.g., by purchasing carbon reduction/avoidance certificates) or insetting initiatives (e.g., through agroforestry projects that remove carbon from the atmosphere in our tobacco supply chain).

We will review both the shadow price and the carbon levy annually to take changes in our risks and emissions profiles into account. We strongly believe that incorporating the cost of carbon emissions into investment decisions will help us become more efficient and accelerate the shift to low-carbon activities. Furthermore, it will allow us to communicate to stakeholders, including investors, how we are making decisions.

For PMI, sustainability is not only part of our business strategy. ESG is core to our performance and success. Sustainability and a strong business performance do not contradict each other. They are fully interrelated and mutually reinforcing, and therefore should be organized and presented to all stakeholders alike in an integrated way. We believe that delivering on our purpose by creating a smoke-free future without cigarettes will benefit both shareholders and other stakeholders and are aiming to complete this journey while also taking strong actions to reduce the risk of climate change impacts and stop the destruction of nature.

Emmanuel Babeau
Chief Financial Officer

WHY

Ambition and values supporting climate goals

Achieving our climate goals

With the publication of this low-carbon transition plan, Philip Morris International (PMI) wishes to explain ow we intend to achieve our climate goals and to present PMI's position on key areas of future development. Sustainability efforts entail complexity, due to the extent of variables involved and the variability of the impacts. To navigate through the complex landscape of climate change action, PMI wants to provide a clear accounting and display of the activities that contribute to climate mitigation and adaptation. PMI believes the climate emergency is a shared issue and action to combat it needs to be inclusive, allowing for cross-fertilization of ideas, concepts, and solutions.

In synergy with PMI's purpose of delivering a smoke-free future, the low-carbon transition plan is part of the company's sustainability efforts. PMI's first sustainability-related disclosure (UNGC Communication on Progress 2015) was published in 2016, to communicate externally how PMI intended to create a future in which cigarettes would be replaced by less harmful, science-based alternatives. Sustainability is core to PMI's transformation, which is based on a deep sense of purpose to create value for shareholders and other stakeholders. PMI understands that companies must deliver more than just shareholder value alone. While the Board must exercise its fiduciary duties as they relate to the oversight of the company's financial performance, we also recognize the importance of creating value for a diverse group of stakeholders, including employees, customers, suppliers, and communities. PMI addresses the environmental and social implications of our products and operations, where climate protection is for PMI a part of a bigger picture that includes the goals of innovation for better smoke-free alternatives, operating with the lowest possible risk rate in the entire value chain, and respecting human rights.

The climate crisis, as acknowledged by the international community, threatens livelihoods, particularly those of the world's most vulnerable people. It impacts human rights, biodiversity, water access, global health, and food security, and exacerbates environmental changes such as ecosystem degradation, drought, flooding, and desertification. While science tells us that climate change is irrefutable and unavoidable, it also tells us that it is not too late to limit the warming to the 1.5°C that is considered the limit beyond which impacts will be catastrophic. This will require fundamental transformations in all aspects of society—how we grow food crops, use land, transport goods, and power our economies. As a business with a multinational environmental footprint, PMI will continue to play a role in contributing to addressing this crisis.

Climate transition at PMI is already afoot, with actions that strengthen resilience to climate impacts, reduce GHG emissions, apply innovative low-carbon technologies, and support policies enabling a smooth transition to a low-carbon economy. PMI addresses the climate crisis actively, building resilience and seizing opportunities to maintain business profitability.

The target of achieving carbon neutrality by 2025 and net zero for the entire value chain by 2040 (see WHAT: PMI's main climate goals and p. 12) will contribute to making PMI's business more resilient and profitable. CO_2 reduction at PMI goes hand in hand with increased efficiency and energy saving, resulting in less inputs used over outputs and better profitability. Although climate-smart technologies may require higher investments upfront, current projects of energy saving in manufacturing are already aligned with PMI's usual and expected payback times. This is one of the reasons PMI is dedicating significant resources to energy-efficiency projects in factories, improving technologies, and transferring proven solutions through a wide behavioral change program that includes all manufacturing plants. The aim is to move it upstream in the supply chain.

Within our decarbonization strategy, PMI took a pioneer approach to carbon pricing, including a shadow carbon price and a carbon levy. Both are going to be regularly reviewed to reduce the risk of stranded assets and to accelerate the shift to low-carbon activities by incorporating the cost of carbon emissions in investment decisions.

Strengthening resilience also means working with local communities on climate change adaptation measures such as water cycle improvements and infrastructural investments to reduce negative impacts. Engagement efforts strengthen the adaptation of partners and interested communities to unavoidable impacts caused by climate change.

PMI has a science-driven decarbonization roadmap including science-based targets aligned with the 1.5°C scenario set by the Paris Agreement. To continuously track overall progress, PMI set quantitative mid-term targets such as entirely phasing out coal both from our factories (already achieved in 2020) and our tobacco supply chain (by 2023) together with 100% renewable electricity use by 2025 and stretching efficiency improvements in our manufacturing sites. The robustness of PMI's commitments is reflected in the achievement of an A score in the last seven years of CDP Climate Change disclosure, a recognition of PMI's action to combat climate change.

PMI will continue to implement new technologies in our operations to optimize the use of inputs (e.g., energy-efficiency initiatives) and to increase greener energies usage applied to multiple business areas (e.g., hybrid and electric car fleet or zero-carbon technologies in manufacturing and sustainable biomass in the tobacco-curing process). PMI will invest in carbon removal, insetting, and high-quality offsetting to further move forward to the decarbonization of our value chain by compensating unavoidable emissions.

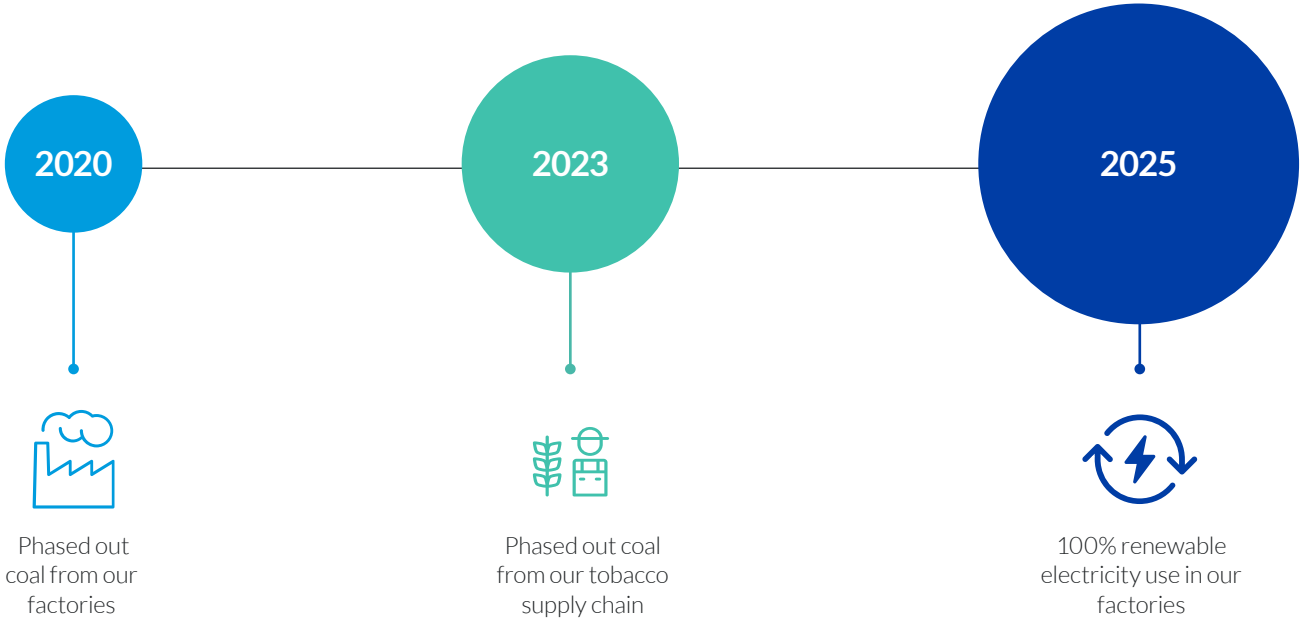
PMI responds to the growing consumer demand related to the environment and sustainability.

Consumers are increasingly interested in knowing the social and environmental impacts of the products they buy and are changing their consumption patterns accordingly. During 2020, PMI carried out four large-scale surveys with over 13,500 consumers of our products. Beyond offering adult smokers a less harmful alternative to cigarettes, we aim to reduce our products' environmental footprint by integrating eco-design and circularity considerations at the early stages of product development, as well as strengthening our capabilities to collect and recover used devices and consumables. Results indicated that environmental and social initiatives were highly appreciated (including device repair, eco-certified devices made from sustainable materials, used consumables proper disposal, packaging minimization as well as carbon-neutral, manufacturing and effective waste management) denoting a good understanding of causal relations between efficiency in the value chain and reduction of the carbon footprint of the company.

Understanding consumers' needs helps PMI raise standards to pursue and provide comprehensive information. PMI trusts in a fair communication with consumers, based on transparency and visibility of sustainability results, empowering them to make more sustainable choices.

Consistently with the climate action we promote internally and within our supply chain and leveraging on results and recognition we have received as a proactive and reliable climate actor, we voice support for national and global climate policies that put society on track toward a low-carbon economy, sustainable and beneficial for ecosystems and society. PMI's actions in that area are publicly recognized by external stakeholders such as CDP or S&P Global Corporate Sustainability Assessment that rated the maturity and results of its programs, as further presented in chapter 12 of this document. Effective climate policies also help us plan for business growth, as we believe that clear frameworks give us more certainty for short- and long-term planning and investments, as well as help us better anticipate regulatory risks and seize economic opportunities.

Delivering on our mid-term targets



PMI'S STATEMENT OF PURPOSE

Our vision of a smoke-free future is strongly reaffirmed in PMI's Statement of Purpose: We are committed to relentlessly focus resources to replace cigarettes with better alternatives. This statement explains how PMI continues to transform our business and organization from the inside, leading the industry toward a future without cigarettes. More concretely, PMI believes that with the right regulatory encouragement and support for smoke-free products from governments and civil society, cigarette sales can end within 10 to 15 years in many countries. PMI understands that maximizing shareholder value is no longer acceptable as a company's sole purpose; this should also be accompanied by clarity of purpose for both external stakeholders and internal alignment.

Read PMI's Statement of Purpose

ONLINE SURVEY/WHITE PAPER

In support of the primacy of science

PMI is completing a crucial transformation into a science- and technology-powered company with the aim of delivering a smoke-free future—a future without cigarettes. PMI believes science is essential to making informed decisions and to understanding what the connection between society and science is. In summer 2020, we commissioned an online survey in Europe, Asia, the Americas, and Africa. Main findings highlight that the majority of people strongly rely on science to find a solution to 21st-century challenges, and that they prioritize businesses with data-driven decisions and programs. Most people feel curious about new inventions and research and have high expectations of science, yet only half of those surveyed state to have access to clear information. They "believe" in science, just as most people in previous eras believed in higher powers. There is a widespread expectation that science will find a way to effectively solve global problems. On the other hand, most of those interviewed think governments should do more to meet the expectation of basing decisions on scientific approaches. As a company that is undergoing a disruptive change toward a smoke-free future, we root our strategy in science and providing alternative products that can reduce our impact on the environment. As part of our mission, PMI strives to ensure that accurate information about tobacco harm and better products are delivered to those smokers who otherwise would not stop smoking.

"We are proud to announce that we now expect to reach our 2030 scope 1+2 carbon neutrality target five years ahead of schedule."

Jacek Olczak
Chief Executive Officer, June 2021

Pioneer climate program at PMI: The perfect shift

Efficiency is a journey with a starting point that is often referred to as "the baseline" and a goal that in some cases can be difficult to define. In PMI's manufacturing carbon neutrality program, the journey started in 2010 when PMI's direct emissions accounted for over 900,000 tons of CO_2e.

We compare progress every year, defining our goal as the "perfect shift," the moment when our manufacturing processes will run free of issues, avoiding downtime, and thus fully optimizing production outputs, with no safety or quality incidents. Perfect shift will support our carbon neutrality by 2025, in a commitment for our operations, including the certification of all our manufacturing sites as carbon neutral. This is a collective effort brought forward by the approximately 20,000 colleagues in PMI Operations.

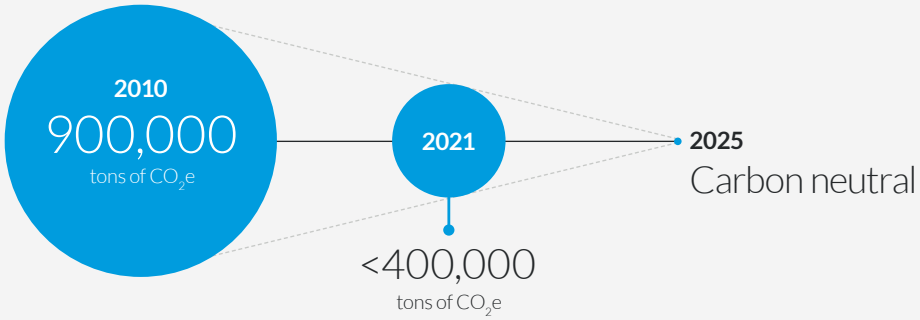
Our journey to carbon neutrality played a key role in reaching relevant results, lowering PMI's emissions by more than half against the 2010 baseline. We forecast emitting less than 400,000 tons absolute CO_2e emissions in 2021.

We have already achieved some aspects of a perfect shift and aim to reach the perfect shift in all our manufacturing plants, making even more exciting the journey to minimize our environmental impact and support the ambitious goals of PMI's climate strategy.

An employee in PMI's manufacturing facility in Neuchâtel, Switzerland


IQOS device recycling hub in Japan

Our journey to carbon neutrality



WHAT

PMI's main climate goals

For PMI, climate protection means mitigating climate change by reducing energy consumption and greenhouse gas (GHG) emissions while adapting to climate change by improving resilience across our value chain.

PMI's climate strategy aims to address pertinent climate change risks and build resilience while seizing opportunities presented by a low-carbon future. To deliver on our climate ambition, PMI relies on robust carbon footprint accounting, analysis of climate change–related risks and opportunities, ambitious targets, clear management and governance structures, and key enablers such as internal carbon pricing.

Led by climate change awareness, PMI is targeting to reduce emissions and deliver carbon-neutral operations by 2025 and net-zero emissions across the entire value chain by 2040. To meet these goals, a broad range of climate and energy targets have been set, including emission reduction aligned with the goals of the Paris Agreement, transition to renewable energy, forest protection through sustainable management, product eco-design, manufacturing process improvements, and the reduction of waste. Our new goals can be reached through intermediate targets such as the one PMI has set for all our factories that will be certified as by 2025. PMI's first carbon-neutral-factory, Klaipėda, in Lithuania, defined the best practice for the remaining plants to achieve the certification.

To deliver on these ambitions, we are guided by SBT targets and take a three-step approach: reducing consumption and optimizing efficiency; minimizing the use of fossil fuels and promoting the switch to renewable energy; and compensating unavoidable emissions with instruments and activities in line with the best international practices aiming to fully incorporate environmental and social integrity in the approach. PMI is evolving as a climate-resilient business by identifying, accounting for, and managing climate risk and opportunities.

Tobacco harvesting in Salta, Argentina

PMI's main climate goals

To guide the work in the years to come, we revised our absolute CO_2e emission reduction targets in 2020 to align with a scenario of an increase in global temperatures of no more than 1.5°C above pre-industrial levels.

In doing so, PMI aligned with the recommendations of the Intergovernmental Panel on Climate Change (IPCC) Special Report (2018). We are currently integrating the latest information from IPCC Sixth Assessment Report (2021) to further improve scope and direction of our climate action. Another relevant step has been to update the baseline of the accounting, moving it from 2010 to 2019, to include changes in footprint and business model (see **HOW: Achieving climate goals by measuring emissions and setting reduction targets** on p. 23).

The main goals are:

1. **Achieving carbon neutrality for direct emissions (scopes 1+2) in 2025 (five years earlier than previously announced), and all factories certified as carbon neutral by 2025**
2. **Reaching net-zero emissions for the entire PMI value chain (scopes 1+2+3) by 2040 (10 years earlier than previously announced)**

Furthermore, in 2020 the Science-Based Targets initiative (SBTi) assessed and approved PMI's emission reduction targets aligned with a 1.5°C scenario (see 1.5°C Scenario on p. 16): 1) reduction of absolute scopes 1+2 GHG emissions by 50% by 2030 from a 2019 base year and 2) reduction of absolute scope 3 GHG emissions by 50% within the same time frame. Additionally, PMI commits to 100% electricity used in our factories to come from renewable sources by 2025, phasing out coal in manufacturing by 2020 (a result PMI already achieved and is planning to maintain), and completely phasing out coal in the tobacco supply chain by the end of 2023.

PMI developed new targets specific for the tobacco supply chain, which represented 23% of our total carbon footprint in 2020. PMI aims to achieve an absolute carbon emissions reduction for our tobacco supply chain of 35% by 2025 and of 50% by 2030 versus the 2019 baseline. The target will be reached acting on the six categories for which GHG emissions are measured (tobacco-curing fuels, fertilizers, mechanization, seedling production, crop protection products, and transport). The aim of phasing out coal is supported by the adoption of sustainable biomass (such as firewood, wood pellets, woodchips, or other agricultural waste products) and the improvement of efficiency in the curing process. PMI continues to work on improving the efficiency of tobacco-curing barns by upgrading thermal efficiency and insulation, among other interventions.

Beyond tobacco sourcing, the other categories of direct materials with the greatest impact on PMI's CO_2 footprint are cellulose acetate tow for filters and wood pulp-based materials for packaging and fine papers. PMI engages with our suppliers to develop and implement emissions reduction strategies in line with our emissions reduction objectives. PMI intends to define targets aligned with SBTi with our suppliers to monitor progress in full alignment with the supply chain and the SBTi. Our relationship over sustainability action with our suppliers is at a mature stage, and the data exchange transparent and reciprocal; we will be using these attributes as a starting base to develop and monitor the SBT agenda for our suppliers.

PMI is already working to limit our impact on the environment and climate by reducing packaging and by addressing plastic litter from products. We are committed to a plastic litter reduction target of 50% by 2025 and aim for 0% waste to landfill by 2022 for our manufacturing plants.

PMI has launched a 2025 eco-design and circularity ambition applicable especially for electronic devices and has set a goal of ensuring 100% of packaging materials to be recyclable and 95% of packaging inputs to come from renewables.

WHERE DO WE STAND WITH OUR TARGETS

Climate protection

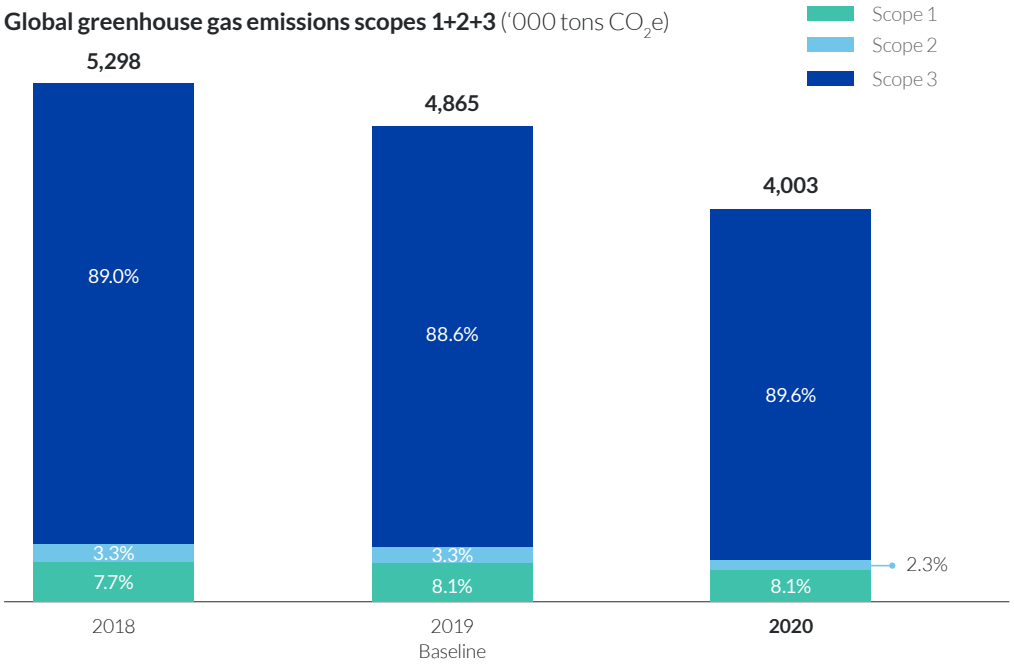
Mitigate climate change by decarbonizing our operations and value chain, while increasing our resilience

Net zero
Achievement of carbon neutrality of PMI's direct operations (scopes 1+2) by 2025

Net zero
Achievement of carbon neutrality of PMI's value chain (scopes 1+2+3) by 2040

We achieved significant absolute CO_2e emission reductions in 2020: Emissions across our value chain (scopes 1+2+3) contracted by 18%, and those in our direct operations (scopes 1+2) by 26%. These were partially driven by COVID-19 related impacts, but mainly due to accelerated efforts toward our carbon neutrality goals. Our progress in 2020, supported by our new science-based targets and revisited approach to carbon pricing, makes us confident we can achieve our carbon neutrality target in our operations (scopes 1+2) before 2025.

Global greenhouse gas emissions scopes 1+2+3 ('000 tons CO_2e)



How are we performing?

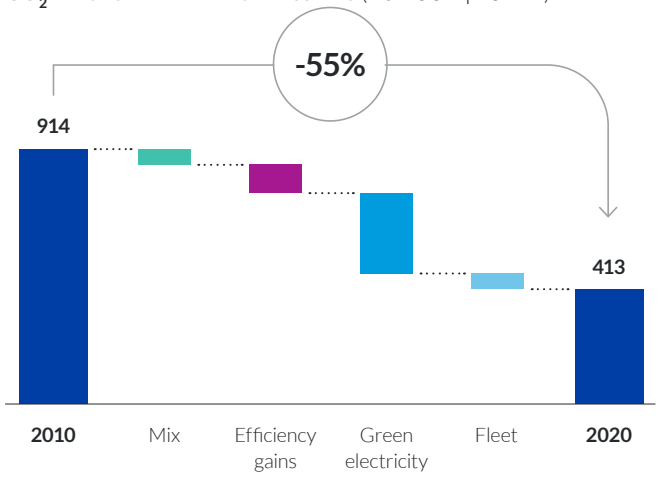
Driving energy efficiency is an ongoing journey at PMI to enhance productivity while minimizing climate change transition risks such as, e.g., taxation, as several of our factories are in countries subjected to ETS schemes.

PMI's activities in improving efficiency are categorized in our Drive 4 Zero program (see **D4Zero program** on p. 31), which aims to eliminate economic losses caused by inefficient energy use. Under the program, we look for industrial and manufacturing solutions such as heat recovery and manufacturing-process optimization. We also promote behavioral change through our Zero Loss Mindset program (see **HOW: Achieving climate goals by… Reducing emissions** on p. 27). In PMI's factory in Russia, for example, it was necessary to drain around 1% of the steam our boiler produced to maintain the desired water-quality parameters. This meant heat loss. We found a way to recover the wasted heat by installing a heat exchanger, which used the heat to generate steam. In that same factory, the water used for domestic purposes and radiators was heated by inefficient electric heaters, leading to avoidable losses. We installed a thermal pump that was five times more efficient, leading to a reduction of 210 tons of CO_2 equivalent (CO_2e) per year.

Progress to date—CO_2 emissions scopes 1+2

The journey started in 2010 when PMI's direct emissions accounted for over 900,000 tons of CO_2e. The efficiency journey has already reached relevant results—together with other initiatives, it has contributed to lowering our emissions by more than half against the 2010 baseline and achieving a forecasted less than 400,000 tons absolute CO_2e in 2021. This is a tangible result—especially considering the increased energy required to produce the consumables for our smoke-free products, which is approximately four times greater than for cigarettes.

CO_2 reduction of direct emissions (k tons scopes 1+2)



$70m
Total investment

$30m
Annual savings

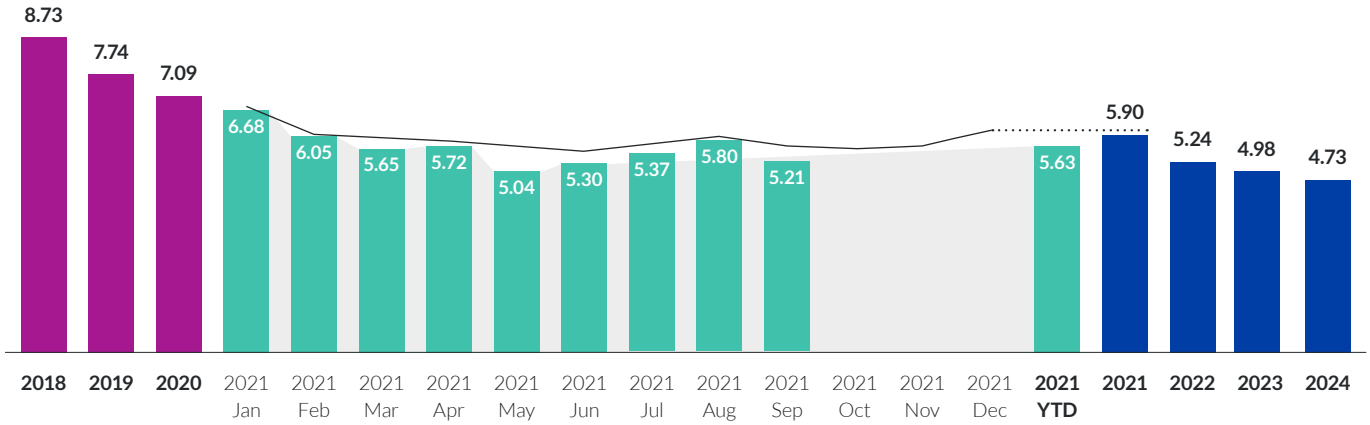
Source: "ESG webcast"—June 2021

Energy efficiency (GJ/M sticks)

Combustible cigarettes

Reduced-risk products

Total energy consumption rate (GJ/Mio Cig)
PMI global manufacturing (not including ARLF {MASSALIN LRM}, PKLF {PMPK Mard}, IT {PM MTB RRP ZP} and MY {Seremban}

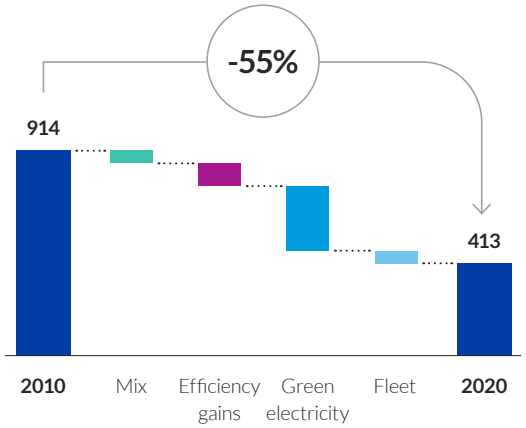


Presentation of past projects on CO_2 reduction, efficiency achieved in the last 10 years with a projection 2020-2025, minimize transition risks on ETS

Plan to achieve CO_2 neutrality by 2025 (scopes 1+2)

Progress to date

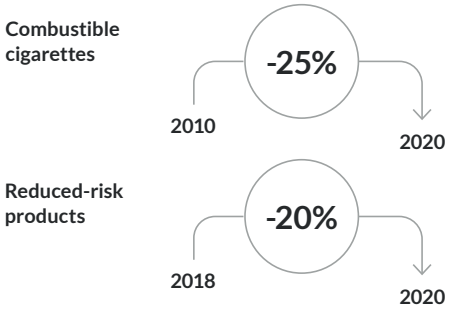
CO_2 reduction (k tons)



$70m
Total investment

$30m
Annual savings

Energy efficiency (GJ/M sticks)



Fleet CO_2 reduction is not driven by structured program directed at CO, rather by logistics optimization

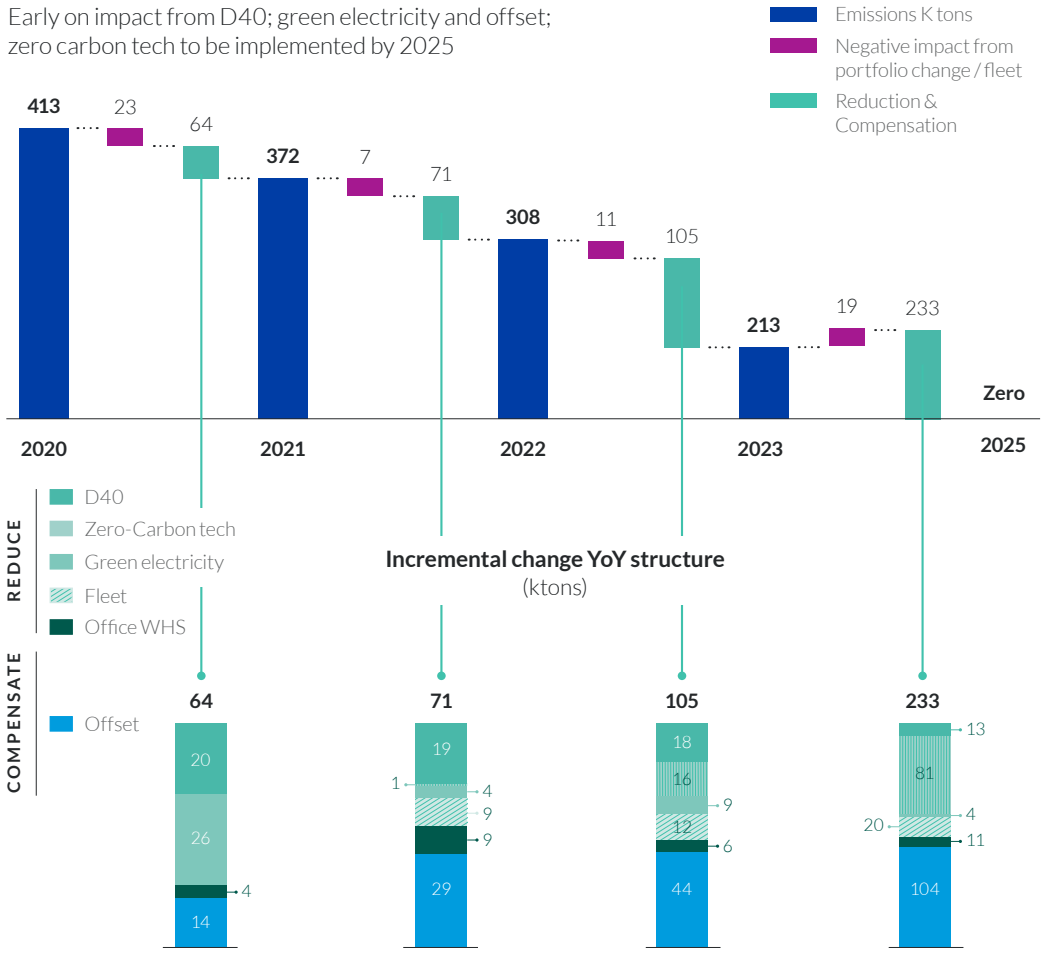
Core drivers to get to zero emissions

		Investment	CO_2 impact reduction and compensation
REDUCE	Green electricity	$10m	15%
REDUCE	Zero-carbon tech	$120m	18%
REDUCE	D40	$77m	17%
REDUCE	Fleet	$7m	9%
REDUCE	Office WHS	$5m	8%
COMPENSATE	PMI Climate Portfolio	$11m	33%
		$230m	100%

Zero-carbon tech example: Biomass or electrification of heat generation, carbon capture technologies

Emissions reduction and compensation plan

Early on impact from D40; green electricity and offset; zero carbon tech to be implemented by 2025



Yearly offset: 14K tons by 2021; 43K tons by 2022; 87K tons by 2023; 137K tons by 2024; 191K tons by 2025

Definition of net zero and carbon neutrality

Net zero, carbon neutrality

The Intergovernmental Panel on Climate Change (IPCC) defines net zero as that point when "anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period." The Paris Agreement sets out the need to achieve this balance by the second half of this century.

According to current definitions, individual actors such as companies or public entities are considered to have reached a state of net zero when: an actor reduces its emissions following science-based pathways, with any remaining GHG emissions attributable to that actor being fully neutralized by like-for-like removals (e.g., permanent removals for fossil carbon emissions) exclusively claimed by that actor, either within the value chain or through purchase of valid offset credits.

Individual actors are carbon neutral when CO_2 emissions attributable to an actor are fully compensated by CO_2 reductions or removals exclusively claimed by the actor, such that the actor's net contribution to global CO_2 emissions is zero. Carbon neutrality can be applied also to products or events. Carbon neutrality is an intermediate step toward net zero, as it happens before the net-zero emission state, and it can be reached using valid carbon credits (offsetting) or with mitigation activities within the value chain (insetting).

The concept of carbon neutrality is sometimes used as a synonym for climate neutrality, from which it differs for the range of climate-changing factors considered: only carbon dioxide (CO_2) in the case of carbon neutrality, all GHG and other relevant bio-geophysical changes due to human activities in the case of climate neutrality.

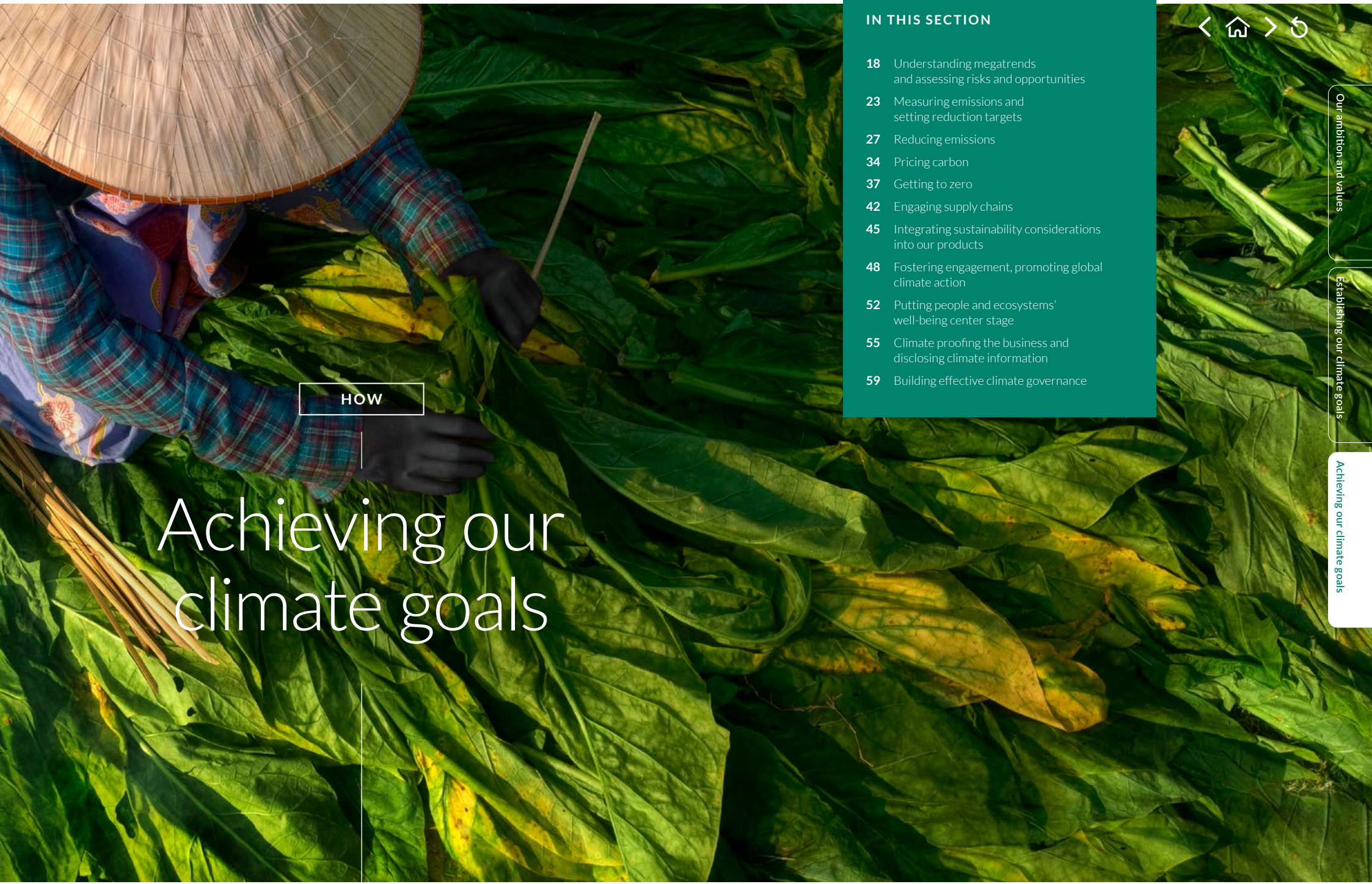
Source: SBTi, UNFCCC Race to Zero, et al.

PMI's plant research facility in Onnens, Switzerland

1.5°C SCENARIO

Limiting global warming to 1.5°C before the pre-industrial level would allow society to avoid the intensity and the danger of the impact of ongoing climate change. This value has been set with wide agreement among scientists, and it is the result of models that integrate the climate physics and anthropogenic rebound effects of human activities in the climate system. During the Paris Agreement (UNFCC) in 2015, 190 countries pledged to keep global temperatures "well below" 2°C above pre-industrial levels and to "pursue efforts to limit the temperature increase even further, to 1.5°C."

The 1.5°C scenario means that the planet has a remaining carbon budget that is shrinking. In practice, this target requires a scenario where GHG emissions reach a peak in the next few years and then decline, mainly through the technology of capturing carbon from the atmosphere and storing it. This scenario would require a reduction of emissions in all sectors, a steep increase in energy efficiency, and major technological development. The panel of scientists at IPCC, responsible for publishing information on the state of the climate and future projections of climate change, have recently (2021) published the Sixth Assessment Report that shows the 1.5°C scenario will very likely be exceeded, and in some areas of the world this has already happened, leading to climate change negative impacts for society.



HOW

Achieving our climate goals

IN THIS SECTION

HOW

ACHIEVING OUR CLIMATE GOALS BY...

Understanding megatrends and assessing risks and opportunities

Employees in PMI's manufacturing facility in Batangas, Philippines

PMI regularly conducts sustainability materiality assessments to ensure we focus our efforts and resources where they have the greatest impact. PMI's materiality assessments consider perspectives of both internal and external stakeholders and includes an evaluation of impact on sustainable development and insights to identify emerging trends.

Our approach to sustainability is structured around four pillars of action and two tiers of topics, providing the framework through which we respond to sustainability challenges and opportunities.

Among the pillars of action to become an ever more sustainable company, PMI committed to replace cigarettes with better, smoke-free alternatives (see **HOW: Achieving climate goals by... Integrating sustainability considerations into our products** on p. 45). Innovating for better products is therefore at the core of our strategy. PMI's other strategic pillars include effective management of operational topics, social issues, and environmental matters.

Our two-tiered grouping of topics is based on the sustainability materiality analysis we conducted in 2018 and refreshed in 2019. That analysis identified 10 areas of priority focus—or "tier 1 topics"—across PMI's four pillars of action. Under "Protecting the environment," climate protection is one of the 10 tier 1 topics and where we strongly commit to robust and transparent approaches. In PMI's 2025 Roadmap, informed by the materiality matrix, we commit to "mitigate climate change by decarbonizing our operations and supply chain, while increasing our resilience."

As we conduct our new sustainability materiality refresh in 2021, we anticipate no changes in terms of the relevance or importance climate change—an ESG topic—will have in our strategy, as the importance stakeholders attribute to this issue, and the impact our company can have to address it, have not decreased.

PMI's climate strategy aims to address pertinent climate change risks and build resilience while seizing opportunities presented by a low-carbon future. In conjunction with the integrated risk management process, PMI periodically conducts a climate change risks and opportunities assessment to fully understand impacts across the entire value chain. The next assessment is planned for 2022 to align to the latest available scenario predictions, as well as international expectations such as those of the Paris Agreement and the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Throughout the risk management process, PMI mapped two key transition risks: the first one is linked to the fact that PMI operations across the globe are subject to various climate-related regulations evolving over time. The second risk concerns the increased production costs for farmers in the supply chain due to changing input prices, specifically diesel fuel costs. For PMI, this may have an impact on procurement expenditure on tobacco from third-party leaf suppliers and directly contracted farmers in the long term.

With the high-level goal of recognizing the risks related to our operation, PMI is strongly committed to making the UN Agenda for Sustainable Development (UN SDGs) a reality (see **HOW: Achieving climate goals by... Fostering engagement, promoting global climate action** on p. 48 and **HOW: Achieving climate goals by... Putting people and ecosystems' well-being center stage** on p. 52). In 2019, building on our refreshed sustainability materiality assessment, PMI reviewed our contribution to the SDGs to identify areas where we have an opportunity to make the greatest difference, in line with our sustainability priorities.

Understanding megatrends and assessing risks and opportunities

Climate change poses both ubiquitous and differentiated risks threatening ecosystems, livelihoods, and the most vulnerable people around the world. Beyond these repercussions, climate change can also threaten business continuity. This is especially true for businesses such as PMI, involving agricultural supply chain. Moreover, although PMI's industry is not considered a hard-to-abate one—and may be less affected than others—climate change is material to society. It is a megatrend; as such, companies, investors, and institutions are progressively addressing it.

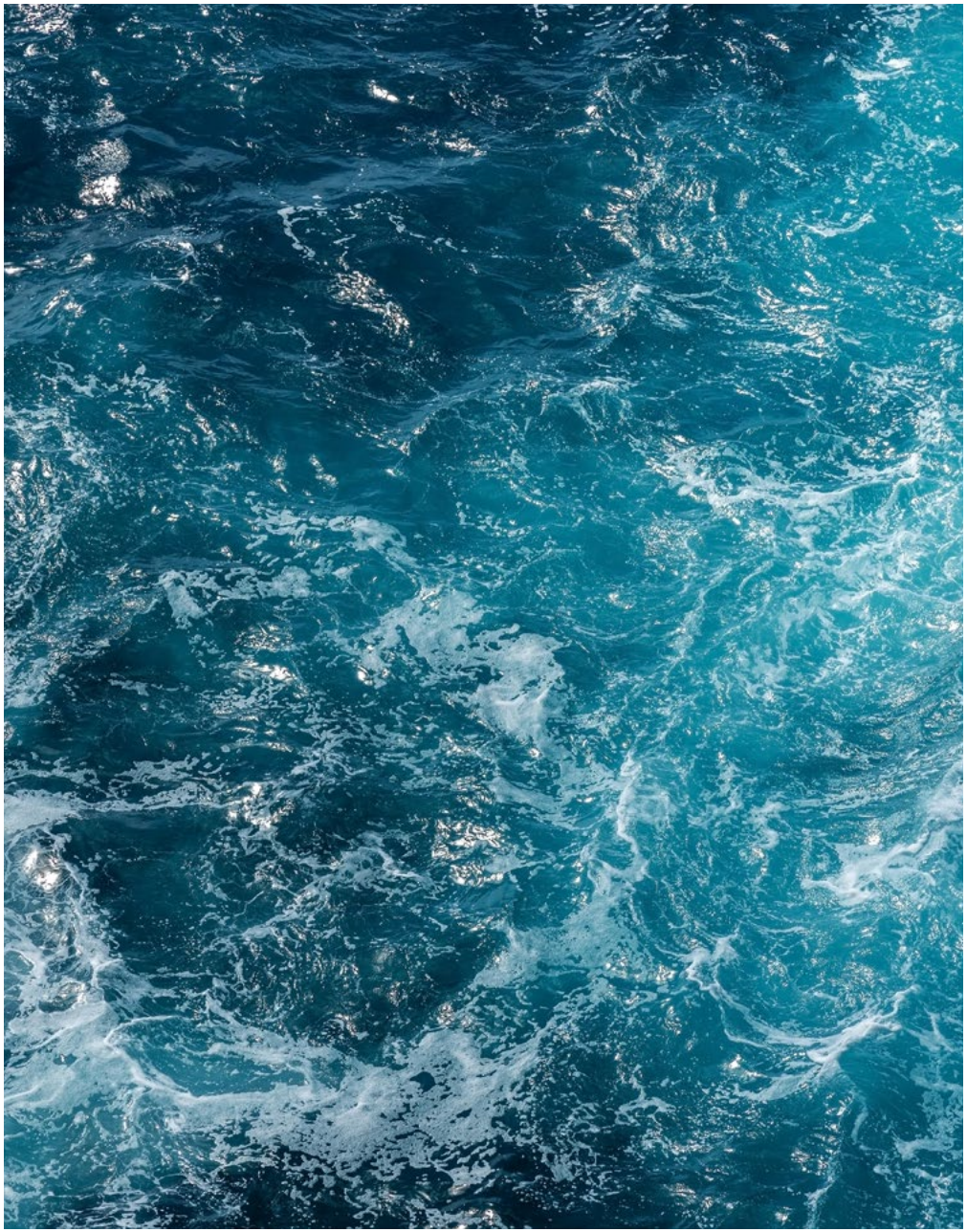
Alongside physical impacts such as rising sea levels and changing weather patterns, there are sustainability-related megatrends, transition risks, new carbon-related regulations and taxes, changes in manufacturing technology, and evolving consumer preferences, which can affect business units or the organization due to stakeholder or customer concerns. Being at the forefront of addressing the global challenge of climate change also presents opportunities. To realize these opportunities, PMI, alongside many of our suppliers, is working within a context of stabilizing the global temperature rise to below the internationally agreed 1.5°C scenario. We understand the potential impacts of climate change across all areas of our operations, particularly upstream in our supply chain.

For PMI, costs of raw materials such as tobacco leaf and cloves may rise, and both consumers and our employees are becoming increasingly sensitized to the environmental impact of corporate actions. Upfront expenditures with longer-term returns are required. At the same time, PMI's efforts to reduce GHG emissions, such as through increased energy efficiency, could alleviate potential costs and create a competitive advantage by meeting or exceeding the expectations of consumers, employees, and other stakeholders.

Mechanization in tobacco farming in Jujuy, Argentina

"We strongly believe that PMI must play its part in protecting our planet by reducing our environmental impact across our value chain and by defining and executing strategies and initiatives to achieve our long-term targets. Our business and sustainability strategies are advancing hand in hand with increasing momentum. As we transform our company, we are also accelerating our sustainability efforts to achieve a smoke-free and more sustainable world."

Massimo Andolina PMI Senior Vice President, Operations



A substantive financial or strategic impact can occur depending on which of the above aspects of the business are impacted and the potential combination of them. PMI evaluates a "substantive impact" based on a variety of factors and quantitative indicators including but not limited to the potential impact on financial performance as well as other strategic factors that may affect PMI's efforts and/or delivery toward a smoke-free future, ultimately replacing cigarettes with smoke-free products for adults who would otherwise continue to smoke.

PMI has an interconnected three-step assessment process in place to identify, assess, and manage risks and opportunities that can have a substantive financial or strategic impact on our operations. The impacts reported as substantive strategic or financial impacts are defined as those identified and prioritized by management in our value chain, through key enterprise risks based on four risk dimensions: the impact a risk could have on the organization if it occurs, the likelihood a risk will occur, the velocity with which a risk will affect the organization if it occurs, and the interconnectivity of a risk with other risks, that exceed defined thresholds at the corporate level.

This process takes place every year, covering short-, medium- and long-term time horizons.

Through its climate change risk assessment, PMI mapped different categories of climate-related risks that can be relevant for our business. Considering that PMI is subject to international, national, local environmental, and climate-related laws and regulations in the countries where we operate, regulations are considered in PMI's climate-related risk/opportunity assessment process. Moreover, there is a clear international trend toward stricter climate-related regulations that could increase PMI's operational costs.

In 2019, the evaluation of climate change risks aligned on TCFD recommendations. It identified mid- and long-term transition risks for PMI's business.

For instance, PMI is subject to risks related to market changes, such as shifts in supply and demand for certain commodities, products, and services. These include risks of increasing costs of sourcing (including materials such as water and diesel) and increasing costs for suppliers.

Climate-related reputational risk is also included in PMI's risk assessment, considering that stakeholders' interests and expectations in climate change policies are increasing and society is asking businesses to become part of the solution by changing their practices.

Finally, PMI has also considered acute and chronic physical risks, which means that we have considered the extreme weather events due to climate change that have the potential to significantly impact our operations, buildings, and suppliers, therefore having a substantive impact on our supply chain and business continuity plan.

2019

The evaluation of climate change risks aligned on TCFD recommendations identified mid- and long-term transition risks for PMI business

Megatrends highlighted by COVID-19

The COVID-19 pandemic has heightened awareness of a central tenet of sustainability-related megatrends: That disruption does not come from technologies and business models alone; it can also be unleashed by political events, climate disruption, or a far-reaching health crisis. As a company operating on a global scale in a fast-paced world, PMI's long-term success requires that we continuously monitor and adapt to significant social, environmental, economic, political, and technological changes. New technologies are emerging rapidly, including in robotics, artificial intelligence, and virtual reality, and taking a mindful and proactive approach to shaping the future of work will enable companies to respond to people's need and desire for income security, well-being, empowerment, and purpose, ensuring lives are enriched by advancing technology and that people across society can prosper from equal access to new opportunities. Moreover, consumers are increasingly interested in knowing the social and environmental impacts of the products they buy and are changing their consumption patterns accordingly.

Because of these reasons, nowadays there is more environmental pressure, and business leaders should look at environmental risks in a new way. The impacts of climate change, biodiversity loss, and water insecurity—among others—threaten more than supply chains and physical infrastructure; they endanger progress and business growth by exacerbating systems-level disruption to customers, investors, employees, and communities. An increasing number of stakeholders are demanding that capital markets shift from perceived short-term, siloed, and sometimes extractive behavior to a model of long-term, inclusive, and sustainable capitalism. Investors are increasingly moving beyond a traditional risk-return model to ask how they can deploy capital as a lever for change. Investment decisions increasingly integrate environmental, social, and governance (ESG) criteria, which are growing in sophistication from initial undifferentiated approaches, and are expected to ramp up dramatically over the next decade.

Read more on megatrends in our Integrated Report

"Strong action must be taken to reduce the risks of climate change impacts and stop the destruction of nature. At PMI, we are investing in innovative programs and taking a multidisciplinary approach to reduce the environmental impact of our products, operations, and value chain."

André Calantzopoulos PMI Executive Chairman of the Board

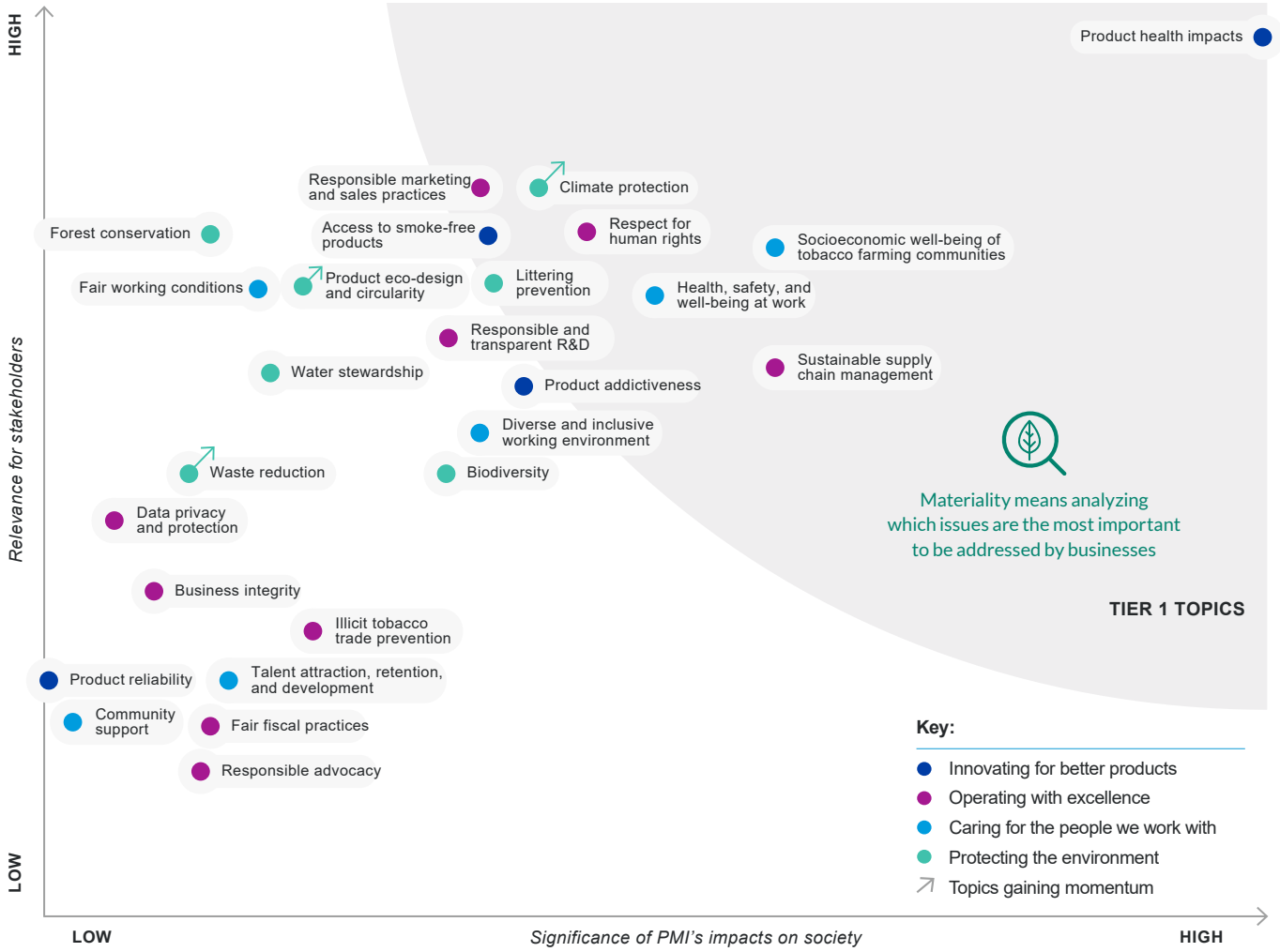
Materiality matrix

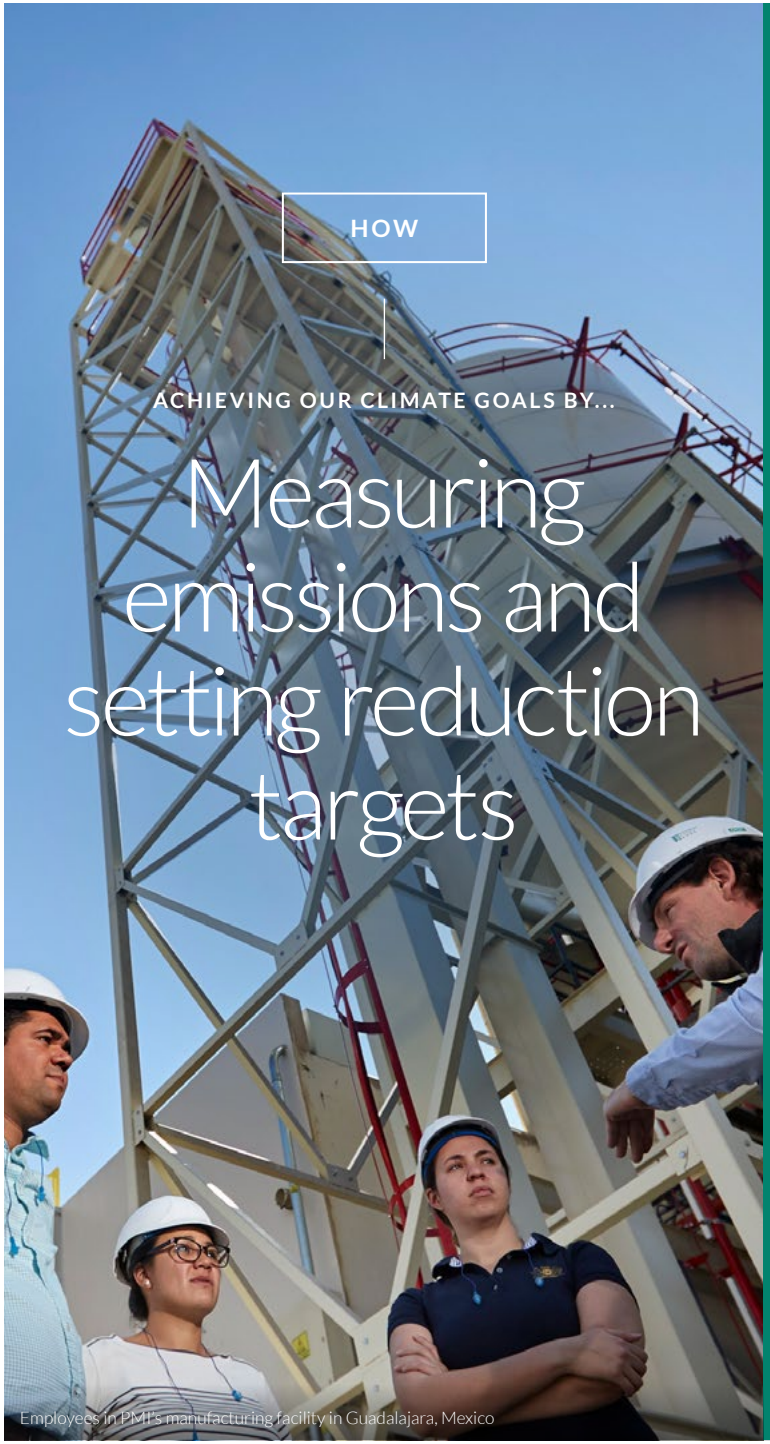
According to the GRI G4 guidelines, "material topics" are "those topics that have a direct or indirect impact on an organization's ability to create, preserve, or erode economic, environmental, and social value for itself, its stakeholders, and society at large."

Sustainability materiality is a process through which PMI identifies, assesses, and prioritizes issues by collecting feedback from a range of sources. These sources vary in complexity and include both financial and nonfinancial quantitative and qualitative information. A rigorous materiality assessment ensures that the strategy, work, and reporting cover the right topics in the right way; this allows us to measure progress against the sustainability roadmap.

Materiality means analyzing which issues are the most important to be addressed by businesses. After the identification of potential sustainability issues determined to be directly relevant to an organization's value chain, these issues are analyzed considering the potential of each issue to impact organizational growth, cost, or trust positively or negatively and how important each issue is to stakeholders. The ultimate result is a visual representation of which issues should be prioritized according to their importance to the company's success and stakeholders' expectations.

In other words, a materiality analysis is a methodology a company can use to identify and estimate possible environmental, social, and governance (ESG) issues that might impact the business and its stakeholders.





HOW

ACHIEVING OUR CLIMATE GOALS BY...

Measuring emissions and setting reduction targets

Employees in PMI's manufacturing facility in Guadalajara, Mexico

Accurate measurement and transparent reporting of PMI's carbon footprint are the first steps required to act on climate change: They allow PMI to shape strategy, set targets, and measure progress. PMI acts in accordance with solid accounting methods, science-based practices for target setting, and has defined a wide range of organizational and operational programs to be accurate in measuring and reducing its GHG emissions.

We calculate our GHG footprint annually, accounting for all relevant emissions generated across the entire value chain. The robust data set coming from a thorough measurement of the GHG footprint allowed for a strong emissions reduction target, validated by the Science Based Targets initiative (see **Science Based Targets initiative** on p. 26): to halve greenhouse gas emissions across scopes 1+2+3 (see **scopes 1+2+3 emissions** on p. 26) by 2030, with respect to 2019 baseline. To achieve the goal, PMI has a full value chain carbon footprint model in place, aligned with the GHG Protocol international guidelines. Third-party verification of the entire value chain emissions follows ISO 14064-3 standard.

50%

Halve greenhouse gas emissions across scopes 1+2+3 by 2030

ISO 14064-3

Third-party verification of the entire value chain emissions follows ISO 14064-3 standard

Measuring emissions and setting reduction targets

PMI's value chain is evolving rapidly due to the steady development of new products. It is becoming more complex because of the use of multiple materials (e.g., electronic components) and our constant revision of material sourcing and manufacturing processes and standards based on scientific progress.

PMI has collected GHG emissions data over many years as part of our efforts to improve performance and achieve our climate targets.

In 2020, PMI established more ambitious targets to drive our decarbonization journey with a reduction in absolute CO_2e emissions consistent with science-based targets for a 1.5°C scenario and to guide the achievement of carbon neutrality across our entire value chain (scopes 1+2+3), which we now target by 2040—10 years earlier than our original projection. PMI is targeting a 50% reduction of greenhouse gas (GHG) emissions (scopes 1+2) by 2030 with respect to 2019 baseline and 50% reduction GHG emissions (scope 3) by 2030 with respect to 2019 baseline. These targets are validated by Science Based Targets initiative.

To achieve these targets, PMI developed a full value chain carbon footprint model, to help measure emissions reductions, conduct product life-cycle analysis, and support decision-making on investment in low-carbon technologies. These emissions are reported publicly on an annual basis in PMI's integrated report and our website, and are used to respond to investors and public disclosures such as CDP Climate Change.

The value chain model calculates carbon emissions for each relevant scope 3 category and combines these with the scope 1+2 results. The value chain model is calculated to align with the accepted international standard for greenhouse gas (GHG) value chain modelling Corporate Value Chain (scope 3) Accounting and Reporting Standard published by the GHG Protocol. The model is built in line with PMI's reporting period, which is calendar year, and captures all activities associated with GHG emissions of PMI's owned and operated enterprises, as well as activities from PMI's licensees, franchises, and joint ventures. Activities covered include the entire scope of PMI's operations: from purchased materials, including raw materials, production, distribution, consumption, and disposal of our products, as well as overhead activities such as marketing and business travel.

All scope 3 categories have been assessed for inclusion within the model, to understand what is important, applying a materiality threshold defined as 10% of total scope 3 emissions, and in accordance with the Corporate Value Chain (scope 3) Accounting and Reporting Standard.

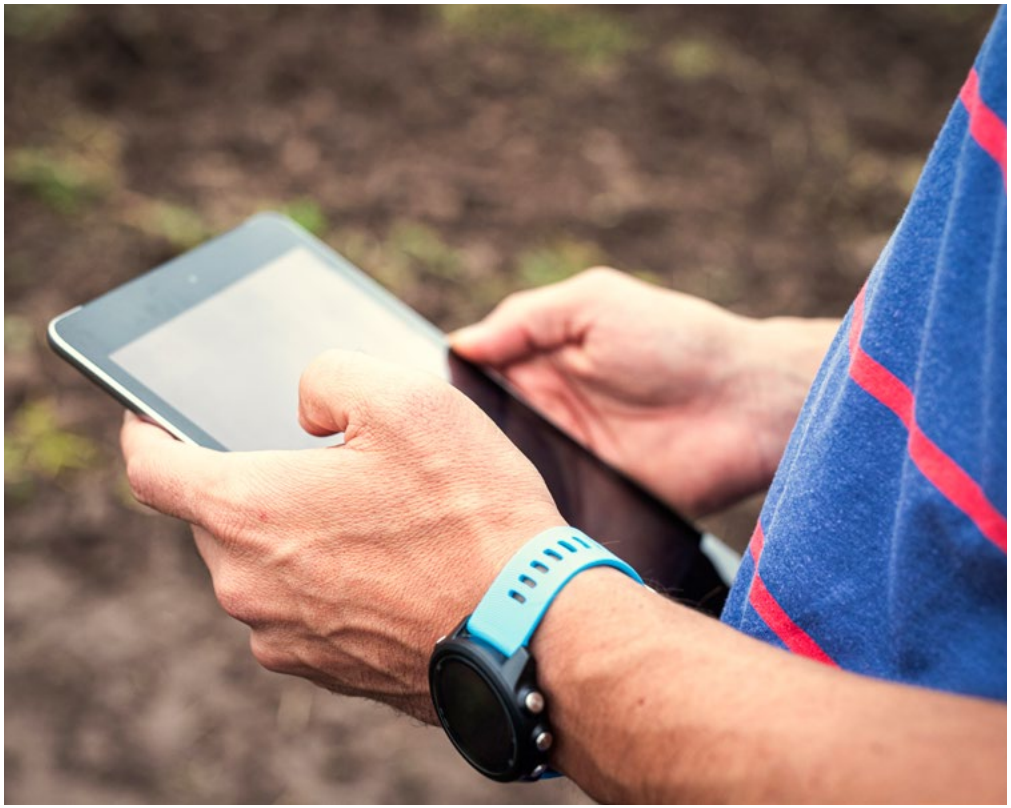
To be always at the forefront of this global challenge, we update our GHG accounting methodology every year (**methodology summary**).

PMI undertakes third-party verification of scope 1+2+3 emissions aligning to ISO 14064-3 standard. PMI uses primary data, collected directly from the sources or process concerned or obtained through suppliers and third-party partners when possible; when not available, we extrapolate emissions from international databases such as Ecoinvent.

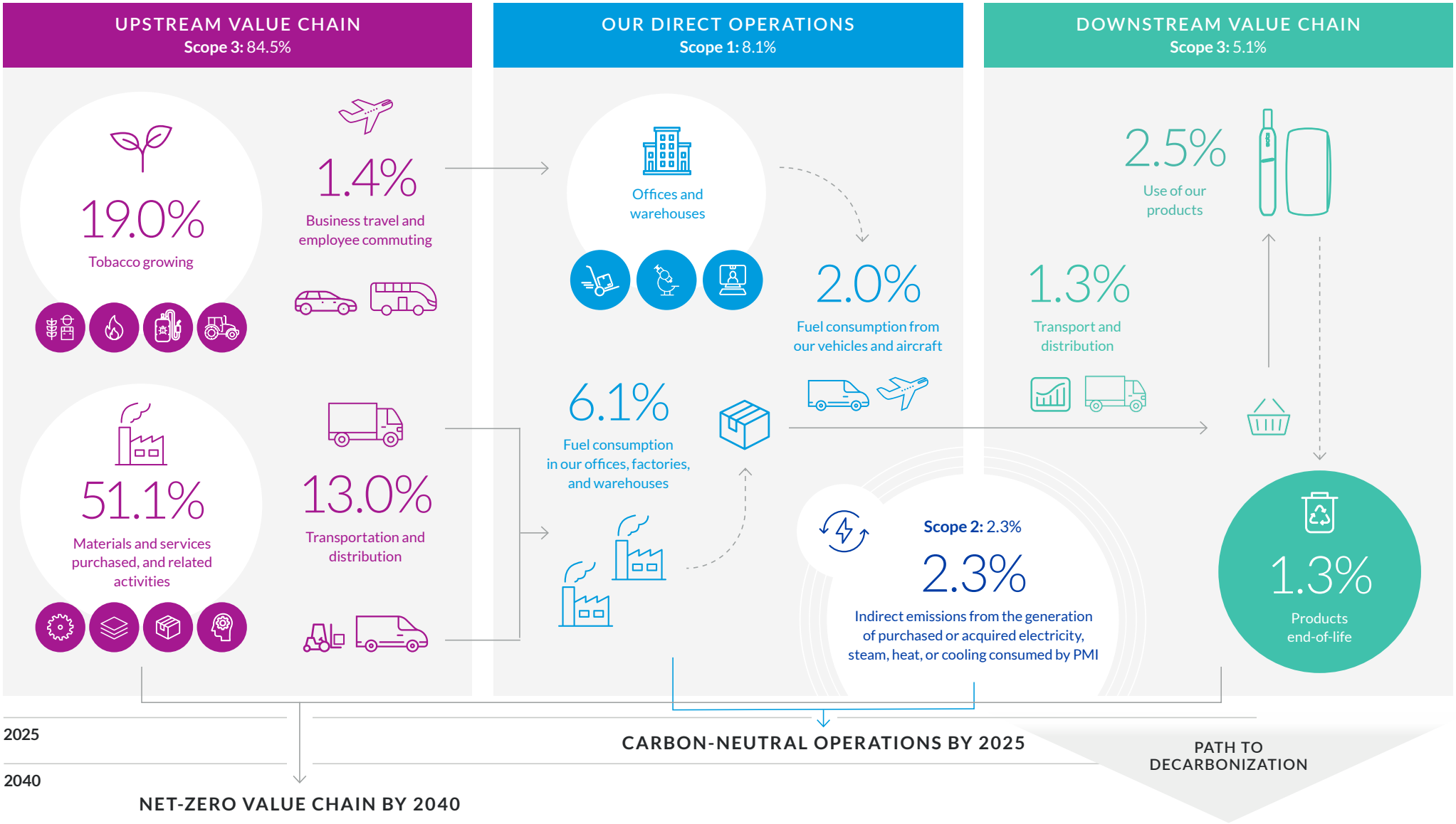
PMI relies on robust primary data collection and plans to extend supplier engagement and data collection efforts in 2021 to cover additional product categories. For this reason, a tobacco leaf digitalization program has been specifically launched with the aim to drive CO_2 data management via a digital solution developed by PMI and available to our suppliers, and a procurement digital platform covering multiple supplier categories is under evaluation.

In relation to PMI's tobacco leaf supply chain, digitalization is possible through a tailor-made digital platform that allows PMI to collect disaggregated data uploaded and reported by suppliers. This new system is a powerful tool to track, account, and analyze CO_2 emissions in the tobacco supply chain and on-the-ground impact for each carbon emission reduction activity.

A field technician in Salta, Argentina



Carbon emissions along our value chain in 2020



Source: PMI Integrated Report 2020

Scopes 1+2+3 emissions

The GHG Protocol splits companies' emissions sources into three main macro-groups to facilitate their accounting. Scope 1 emissions represent direct GHG emissions occurring from sources owned or controlled by the company (e.g., emissions from combustion in boilers, furnaces, vehicles; emissions from chemical production). The control of the company over the emissions can be either financial or operational. Scope 2 emissions account for the GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions occur at the facility where electricity is generated. Scope 3 includes indirect emissions that are a consequence of the activities of the company; these activities are not owned or controlled by the company.

Science Based Target initiative (SBTi)

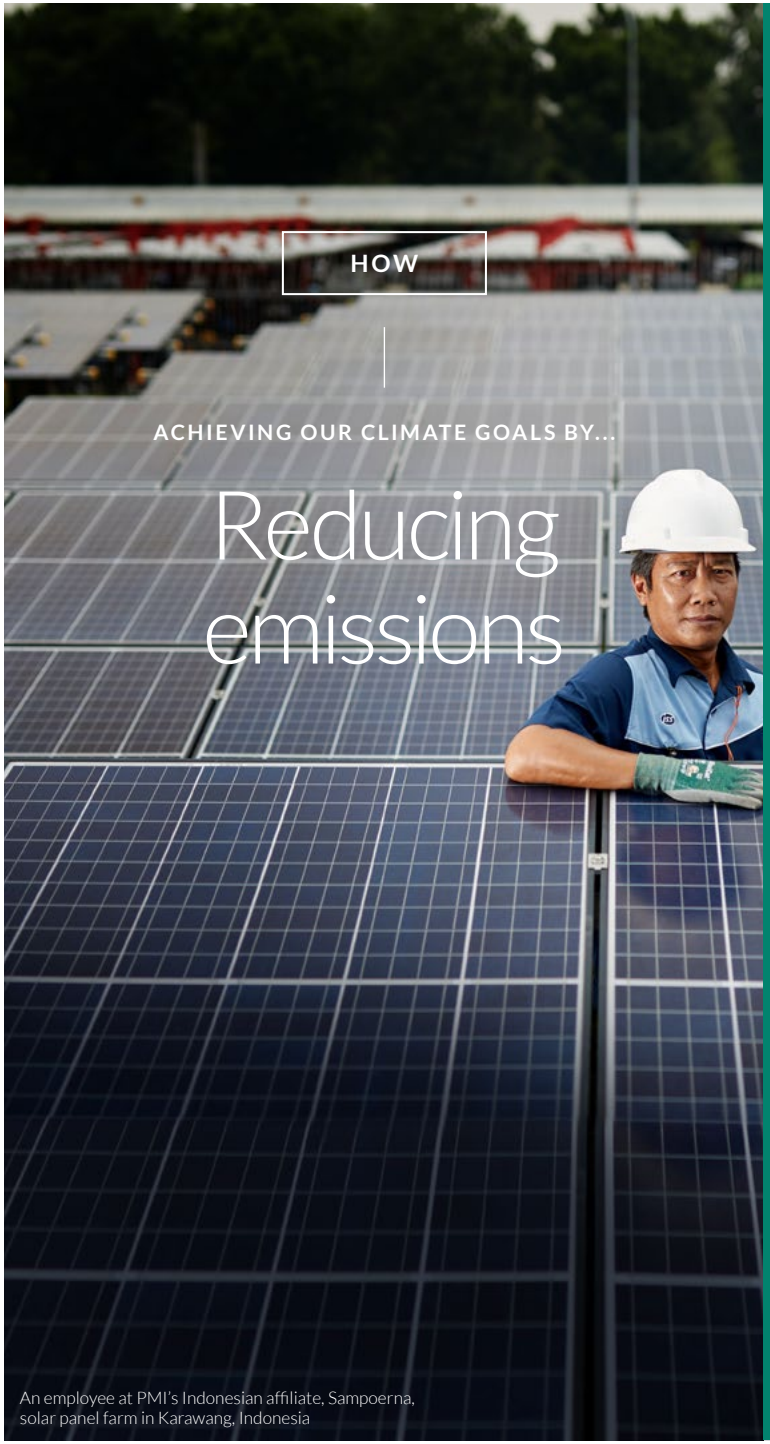
SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). The initiative supports companies toward the successful meeting of their emissions reduction targets. SBTi defines and promotes best practice in emissions reductions and net-zero targets in line with climate science; a target is defined as science-based only if it is in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement—limiting global warming to well below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C. To this extent, SBTi provides assistance, resources, and tools to companies that are setting a target. After engaging in SBTi, actors will commit their intent, develop targets, submit them for official validation, and then communicate to stakeholders. Finally, they need to disclose and keep track of progress.

Top 30 contributors to 2020 value chain footprint: (scopes 1+2+3)

Change from 2019	Rank		Source		% total value chain
▲	1		1a. DIM materials	Acetate tow	8.99%
▲	2		1a. Product-related—agriculture	Fertilizers	8.45%
▲	3		1b. Purchased goods and services—non-product related	Marketing & sales	7.44%
▲	4		Scope 1	Manufacturing S1	6.01%
▼	5		1a. Product-related—agriculture	Curing fuels	6.01%
▲	6		4. Upstream transportation and distribution	In-market distribution	4.70%
• • •	7		1a. DIM materials	Pack board	4.31%
• • •	8		1a. Product-related—agriculture	Mechanised activities	4.07%
▼	9		1a. DIM materials	Flexibles	4.00%
▲	10		1a. DIM materials	Fine paper	2.83%
▼	11		1a. Product-related—other direct materials	RRP devices	2.68%
▲	12		1a. DIM materials	Ingredients	2.65%
▼	13		1b. Purchased goods and services—non-product related	Facility services & supplies	2.42%
▲	14		4. Upstream transportation and distribution	Aircraft	2.21%
▼	15		3. Fuel- and energy-related activities	Fuel- and energy-related	2.18%
▲	16		11. Use of sold products	Lighters	2.10%
▼	17		Scope 1	Fleet S1	1.96%
▲	18		1a. Third-party facilities	TP stemmeries	1.73%
▲	19		4. Upstream transportation and distribution	Land	1.70%
▼	20		Scope 2—market based	Manufacturing S2 (M)	1.63%
▲	21		1b. Purchased goods and services—non-product related	Information services	1.55%
▲	22		1a. DIM materials	PLA	1.45%
▲	23		4. Upstream transportation and distribution	Mixed transportation	1.43%
▼	24		1b. Purchased goods and services—non-product related	R&D	1.27%
• • •	25		9. Downstream transportation and distribution	Transport—not paid by PMI	1.25%
▲	26		1b. Purchased goods and services—non-product related	Couriers/customs/fees+nonprod air	1.22%
▼	27		2. Capital goods	Other	1.20%
▲	28		4. Upstream transportation and distribution	Ocean	1.10%
▲	29		1a. DIM materials	Filtration materials	0.99%
▲	30		12. End-of-life treatment of sold products	Packs	0.95%

Leaf · Procurement DIM · Procurement IMS · Manufacturing · Logistics · Finance · Commercial · Product*

* S&I and PPMD that design products



HOW

ACHIEVING OUR CLIMATE GOALS BY...

Reducing emissions

An employee at PMI's Indonesian affiliate, Sampoerna, solar panel farm in Karawang, Indonesia

Transition to a low-carbon economy implies efforts to account for and reduce emissions across the value chain. While the accounting is based on the methodology explained in the previous chapter and followed by the targets set, the achievement of the goals needs concrete actions, which are presented in this section.

The goal of carbon neutrality of direct operations by 2025 requires extensive emission reduction efforts in factories, offices, and fleet.

This is the first focus of PMI's strategy for the low-carbon transition, relying on two efficiency programs, Zero Carbon Technology (ZCT) and Drive for Zero (D4Zero), and a carbon neutral fleet program.

The commitment to reaching net-zero carbon by 2040 across the entire value chain encompasses also reducing scope 3 emissions that occur mainly in tobacco growing and curing, sourcing raw materials (e.g., acetate tow, paper, and cardboard), upstream and downstream logistics, and other minor impacts like business travel and end of life of products.

PMI addresses scope 3 emissions through multiple initiatives including the Good Agriculture Practices program, the Zero Deforestation Manifesto, and the eco-design and circularity program, which applies circular economy concepts and product life-time optimization.

Reducing emissions

The emissions reduction journey in PMI's direct operations is driven by two main programs: Zero Carbon Technology (ZCT) and Drive4Zero (D4Zero).

ZCT program supports PMI's commitment to carbon neutrality and renewable energies while presenting both environmental and cost-saving benefits for the business. With a dynamic tool, ZCT explores alternative technological solutions to achieving the carbon neutrality goal, such as innovative renewables and carbon capture technologies (see **Zero-Carbon Technology (ZCT) program** on p. 30).

D4Zero (see **D4Zero program fleet policy** on p. 32) is designed to drive energy efficiency at the core of PMI's carbon neutrality strategy in manufacturing and beyond, to deliver a step-change in performance and productivity. Within D4Zero, PMI looks for industrial and manufacturing solutions such as heat recovery and manufacturing-process optimization. We promote a common way of working across all PMI factories implementing concepts such as the Zero Loss Mindset, a behavioral change program that facilitates new ideas of eliminating process losses (e.g., energy, materials, and water). Every manufacturing employee is equipped with tools and trainings to propose and work at solutions to reduce losses and increase efficiency at any level. Within this program, PMI is implementing energy-saving initiatives across all factories. To support D4Zero, an energy saving initiatives (ESIs) program was launched in 2019, triggering more than 500 projects.

Overall, the efficiency initiatives and behavioral changes made possible a 10% reduction in carbon emissions across PMI's manufacturing facilities in 2020 (with respect to 2019 baseline).

In 2020, we updated our car fleet policy under the message "moving first toward a safer, smoke-free fleet." The goals are multiple:

- Decreasing carbon emissions
- Improving employee's safety and overall experience
- Decreasing total cost of ownership
- Optimizing fuel consumption and improving operational efficiency

PMI is switching to alternative eco-powertrains —such as hybrid and electric vehicles (see **Fleet Policy** on p. 32). Employees driving a company car at PMI are offered eco-driving courses to improve their driving skills, increasing fuel saving, and consequently reducing CO_2 emissions.

In 2020, PMI's offices and warehouses represented 7% of carbon emissions in direct operations (scopes 1+2), and PMI focused on optimizing energy consumption at those sites, through lightening and equipment efficiency, interior temperature optimization, and the switch to renewable energy sources.

An organization's upstream emissions are typically more than 10 times greater than its direct operations. Therefore, PMI is committed to engaging with suppliers in working on solutions and programs to reduce the full carbon footprint (see **HOW: Achieving climate goals by... Engaging supply chains** on p. 42).

The tobacco agricultural supply chain represented 25% of PMI's total carbon footprint in 2019 baseline. Agriculture is also a sector among those at high risk of climate change effects. Because of this, PMI set new targets with the aim of achieving an absolute carbon emissions reduction of 35% by 2025 and 50% by 2030 versus the 2019 baseline for the overall emissions generated by six agricultural input categories (fertilizers, curing fuels, mechanization, seedling production, crop protection agents, and transport). The use of fertilizer (especially nitrogen-based) and the process of curing tobacco are the most relevant sources of carbon emissions in the tobacco agricultural supply chain (see **Reducing emissions in tobacco flue curing** on p. 32).

An employee in PMI's manufacturing facility in Izmir, Turkey

PMI is working closely with farmers to reduce environmental footprints through the Good Agricultural Practices (GAP) program, reforestation initiatives, and strategic initiatives related to curing barn improvements. GAP includes environment-friendly agricultural practices for farmers to adopt, such as the safe use of chemicals, water and waste management, fertilizer usage optimization, energy and raw material efficiency, soil management, and biodiversity conservation. In addition to the mentioned program, protecting natural ecosystems and sustainably managing forests, which are important carbon sinks, are key drivers in reducing greenhouse gas emissions. PMI is committed to sourcing wood fuels from traceable, sustainable, and legal sources and has set targets for the tobacco supply chain as part of the Zero Deforestation Manifesto (see **Zero Deforestation Manifesto** on p. 54).

Within PMI's direct material supply chain (i.e., non-tobacco materials used in the manufacturing of our products), cellulose acetate tow, pulp, and paper (packaging board) have the greatest impact on our footprint.

PMI developed and launched a new and comprehensive supplier engagement program with our suppliers to collect primary carbon data and understand their GHG emissions reduction programs and targets. We aim at reducing emissions of our supply chain starting from quick wins such as larger contributors that will be addressed in their gaps while performance of virtuous suppliers with efficient processes in place will be considered as an element in the allocation of business and volumes.

A field technician next to a renewable and sustainable forest in A Peshewar, Pakistan.

D4Zero program applies beyond our direct operations where the zero-loss mindset is key to reduce the use of materials starting from the design of our products and benefiting productivity while reducing overall carbon emissions.

As for the upstream emissions reductions, PMI aims at reducing the emissions from packaging in collaboration with suppliers leveraging technological improvements and improved packaging design to minimize the use of packaging materials without compromising protection and convenience.

PMI tackles emissions from upstream transportation with a strategy to proactively assess and select lower-carbon transportation carriers and transport routes. PMI will set targets to drive a successful roadmap including engaging with suppliers to promote emissions reduction strategies in line with carbon objectives while investigating improved/ alternative technologies to transport goods.

PMI is making efforts to minimize the waste generated by our manufacturing facilities and offices, promoting materials reuse and recycling, and striving for responsible disposal. PMI is committed to achieving zero waste to landfills across all our manufacturing operations by 2022. To sustain the results achieved with further action and continuously improve our environmental practices, we are constantly working on projects to create circularity of materials in the supply chain to reduce waste generation to the bare minimum.

PMI's innovation gate process supports new ways of designing manufacturing processes and products applying the principles of eco-design and circularity and aims to reduce the carbon footprint of smoke-free products in line with SBTi.

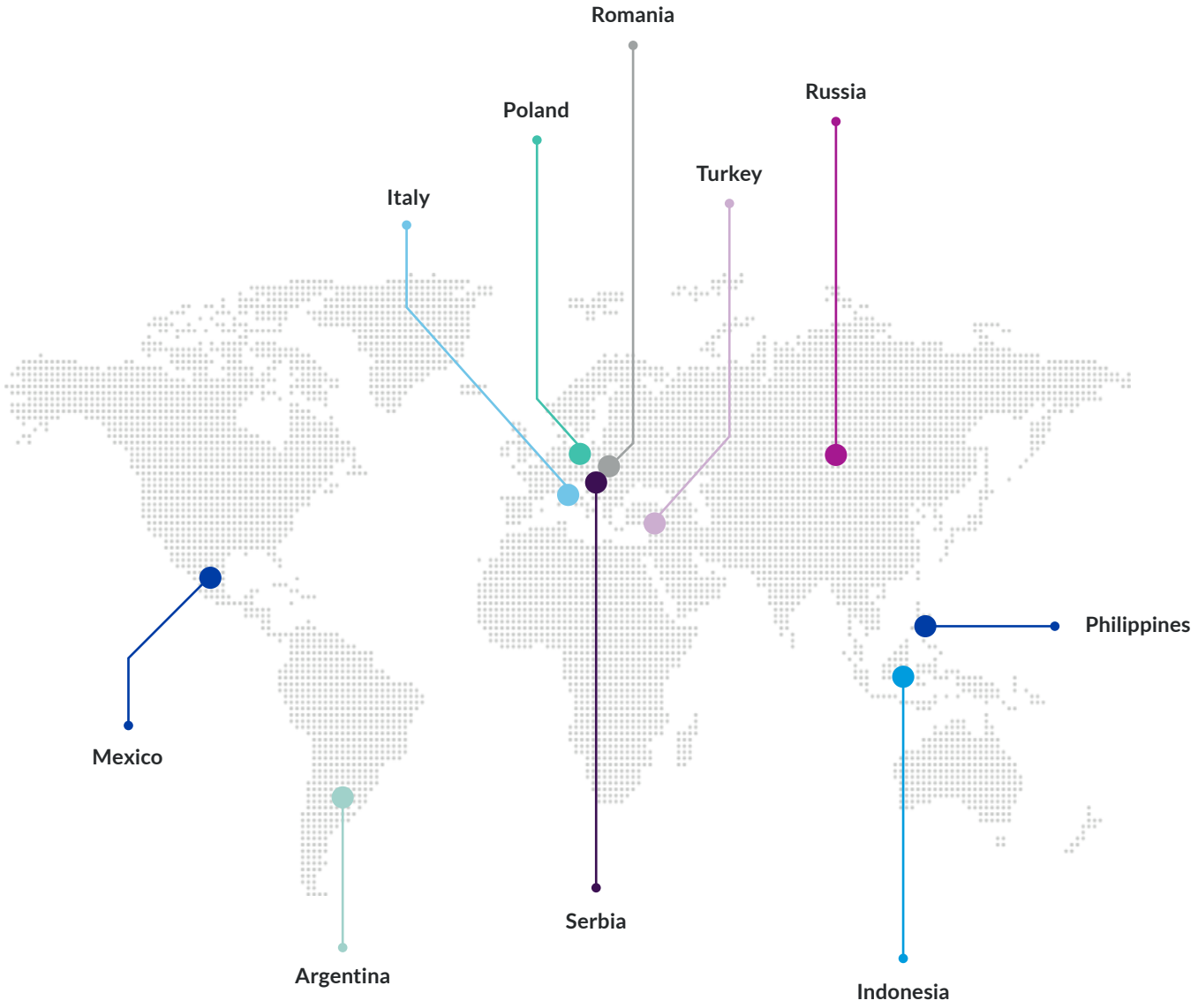
Downstream, emissions generated by the transport and distribution, use, and end-of-life management of the products represent 5% of PMI's total footprint. PMI is reducing the emissions from these sources through improvements in the heated tobacco units as well as the adoption of eco-system design standards.

2022

PMI is committed to achieving zero waste to landfills across all our manufacturing operations by 2022

Zero-Carbon Technology (ZCT) program

While the world faces the impact of rising sea levels and changing weather patterns, businesses face transitional risk from new regulations and taxes, changes in manufacturing technologies, and evolving consumer preferences. The Zero-Carbon Technology (ZCT) program affirms PMI's commitment to carbon neutrality and renewable energies, while presenting both environmental and cost-saving benefits for the business. ZCT focuses both on reduction through the use of renewables and on carbon removal. Projects are ongoing in Argentina, Indonesia, Italy, Mexico, Philippines, Poland, Romania, Russia, Serbia, and Turkey. The most relevant technologies to be tested and implemented, identified so far by the dynamic tool ZCT, include biomass burners combined with thermal/heat storage and solar photovoltaics, with standard and/or thermal storage, and carbon capture and tri-generation processes (combining cooling, heat, and power). The main target of ZCT is enabling PMI to master the complicated domain of energy in manufacturing linked to carbon emissions capture and to later extend the knowledge and approach to our main suppliers.



Source: "ZCT in a nutshell"—PMI, 2021

D4Zero program

To reduce carbon emissions in manufacturing sites, PMI promotes efficient energy use through the Drive 4 Zero program, which establishes a common way of working across the company's factories. This is the core of an energy efficiency improvement strategy. To anticipate international trends toward stricter climate-related regulations and higher operational costs, PMI aims to eliminate economic losses caused by inefficient energy use. Under this program, PMI looks for industrial and manufacturing solutions such as heat recovery and manufacturing-process optimization. We designed the systems to facilitate new ideas aimed at eliminating process losses (e.g., energy, materials, and water). This seeks to empower every worker to look for losses and recommend and implement solutions, promoting improvements not only across the factories but also throughout the company.

CASE STUDY

Carbon-neutral factories

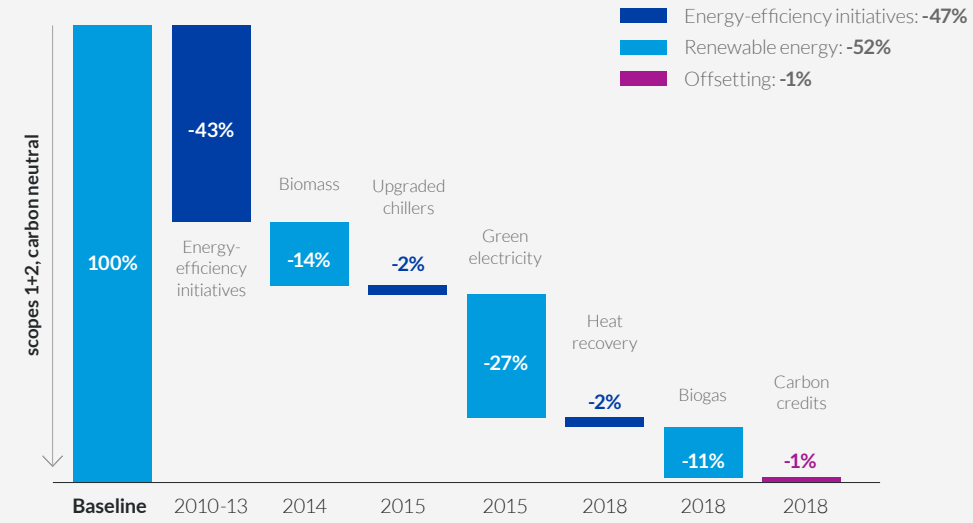
In 2019, PMI reached the first milestone toward carbon neutrality in our factories—through energy-saving measures, renewable energies, and carbon offsets in Klaipėda, Lithuania. PMI has been running energy-efficiency projects at the site for many years, upgrading utility equipment, such as chillers and compressors, and facilitating heat recovery to optimize fuel use, including installing a biomass boiler. Combined, these initiatives reduced carbon emissions by 47% versus the 2010 baseline. As part of the renewable energy strategy, PMI purchased certified renewable electricity and offset natural gas carbon emissions with biogas certificates.

These efforts led to a 52% reduction in carbon emissions versus 2010. To offset the remaining 1% carbon emissions at this factory, PMI invested in Gold Standard certificates from a climate protection initiative seeking to switch households in India from kerosene and firewood to biogas.

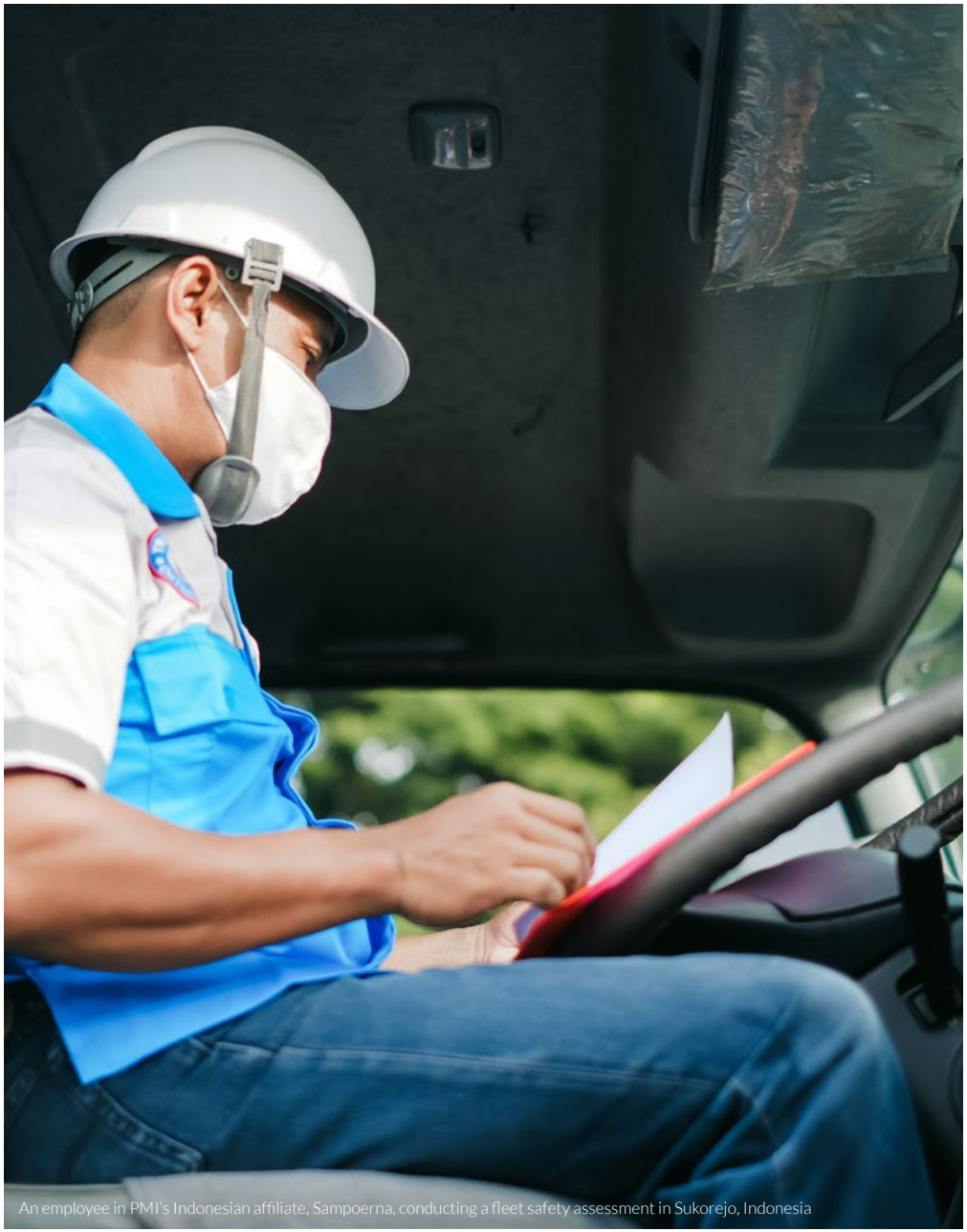
In 2020, we installed pyrolysis technology in our factory in Neuchâtel, which uses operational waste instead of fossil energies to produce steam and hot water. It will be operational in 2021, and PMI will communicate results in the next report. This factory became our second carbon-neutral facility, receiving certification from the Swiss nonprofit organization myclimate.

In 2020, a photovoltaic installation at Bologna factory in Italy reached its full capacity, generating around 4% of the total energy used on the site in a year. In 2020, 34% of the total energy consumption came from renewable sources. We are also on track to achieve our target of 100% electricity used in our factories to be from renewable sources by 2025. In total, 78% of the electricity used in our manufacturing facilities in 2020 came from renewable sources.

Klaipėda: carbon-neutrality journey



Employees in PMI's manufacturing facility in Klaipėda, Lithuania



An employee in PMI's Indonesian affiliate, Sampoerna, conducting a fleet safety assessment in Sukorejo, Indonesia

Fleet policy

PMI launched a new car fleet policy in 2021, to prioritize the lease of hybrid and electric cars instead of more polluting engines and, in general, to use more efficient modes of transport, thus reducing CO_2 emissions. PMI runs an extensive fleet of approximately 23,000 vehicles, among which 80% are working tool cars (WTC). In 2020, PMI decided to invest in renewing lease contracts by switching to a full hybrid vehicle fleet and electric drivetrains where possible. PMI's investment assessment led to pilot cases in which market fleet has been converted to full hybrid. PMI plans to apply the approach to the global fleet aiming at a progressive full conversion to lesser polluting and better cost performing vehicles not only for WTC but also for benefit cars based on a standardized catalog, with a target of having over 30% of all our PMI cars as fully electric or plug-in hybrid by 2024. Our effort to quickly move on the modernization of the fleet by embracing cleaner vehicles has already resulted in 39% less CO_2 emitted in 2021 for every kilometer run by the renewed fleet.

Behavioral change at PMI

PMI is undergoing a transformation unprecedented in our history; the paradigm shift is a great challenge. While evolving from a tobacco company to a technology company, one of PMI's strengths is to be able to put people at the center of this journey. The wave of novelty and transformation applies to each and everyone in the company; from suppliers to employees and customers, the behavioral change is a key ingredient in increasing personal well-being, reducing environmental impact, and taking action to tackle climate change.

With this clear message in mind, PMI has developed programs to engage workers in our factories, suppliers, farmers, and new employees at every level to be active enablers of this transformation by addressing their behaviors toward more sustainable actions and approaches in line with the climate action targets set by the company.

Reducing emissions in tobacco flue curing

Tobacco flue curing is a practice that characterizes the tobacco type Virginia flue-cured (flue-cured tobacco), which is an important component of tobacco blends in tobacco products. Flue curing of tobacco requires an external source of heat that typically comes from the combustion of a fuel in a burner to keep the temperature above ambient and controlled inside the curing structure, which is generally a curing barn of different size and construction. This process requires hanging the tobacco leaves on racks inside curing barns, where heated air is generated to dry the leaves. As they lose their moisture, leaves develop a distinct aroma, texture, and color. Thermal efficiency is the first step in reducing fuel usage in the curing process, mainly through improved combustion efficiencies, ventilations, heating controls, and insulation. Biomass is the most common fuel source for heating flue-curing barns, and PMI has committed to ensuring that this biomass comes from sustainable, traceable sources to further reduce our impact from this process. Through the Renewable Curing Program, PMI will achieve the goal of 70% of the purchased flue-cured tobacco to be cured with renewables by 2021, one year after the initial target date of 2020.

Multi-stakeholder initiative

Led by the China National Tobacco corporation / Monitoring and Verification Framework for Sustainable Leaf Curing Fuels.

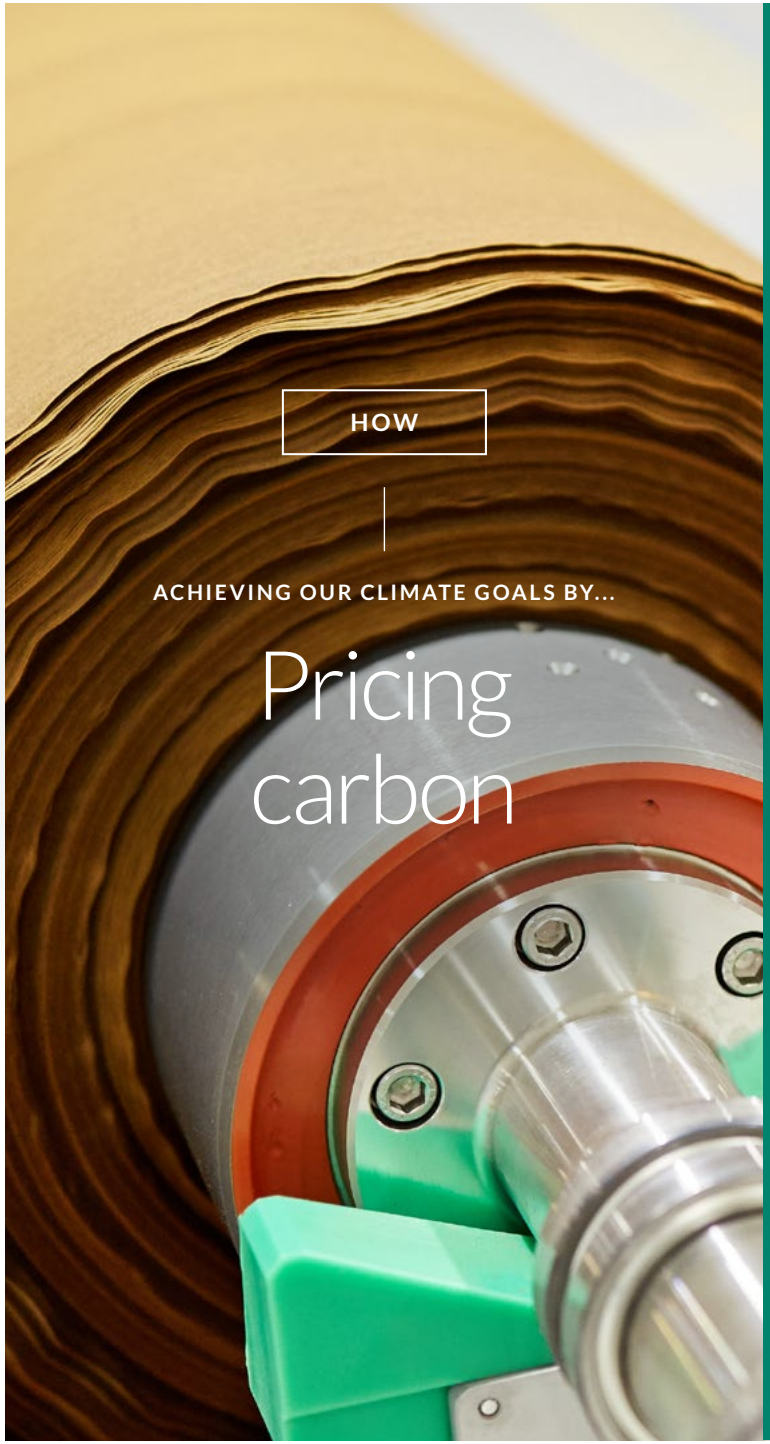
Eliminating coal by switching to renewable fuels, which implies the conversion of curing infrastructures, remains a priority for PMI. PMI's tobacco supply chain decreased its total carbon footprint by 28% from 2019 to 2020. Through our proprietary Monitoring and Verification Framework for Sustainable Leaf Curing Fuels, PMI systematically monitors the sustainability of all fuel types used in the tobacco supply chain by verifying results on the ground and fostering improvement in all our tobacco flue-cured markets. In 2020, PMI achieved a 77% reduction in GHG emissions per kilogram of flue-cured tobacco versus the 2010 baseline, exceeding the set target of 70%. In 2016, PMI embarked on a multi-stakeholder initiative led by the China National Tobacco Corporation and supported by local governments aimed at converting curing barns from coal to biomass and creating a fuel pellets supply chain produced from agricultural waste. By the end of 2020, more than 71,000 curing barns had phased out coal and converted to biomass, leading to a significant reduction in GHG emissions from tobacco-curing (from 4.62, which is the average emissions for a curing barn in the provinces of China where we operate, to 2.84 kg CO_2eq per kilogram of cured tobacco), measured and verified through the Monitoring and Verification Framework. Beyond the carbon reduction achieved by the barn conversions, the project increased farmers' incomes, as commercial tobacco grades were lifted between 8.6% and 11.8% for the farmers who switched to biomass-based curing.

Reducing packaging

In 2020, PMI intensified our efforts to reduce the volume of board required in heated tobacco units (HTU) and cigarette packaging. Working with key suppliers, PMI began replacing the packaging board across all of our brand's portfolio with a 10% lighter alternative that offers the same pack strength and, therefore, a similar consumer experience. The shift to this alternative will allow PMI to save approximately 25,000 tons of board over a four-year period. We expect to complete a full rollout of this initiative across all our consumables—both combustible cigarettes and HTU—by 2024. PMI also achieved significant progress in the packaging of the devices and accessories for our smoke-free products. We developed a new *IQOS* mobility kit (which contains the device and necessary accessories) and accessories packaging, with a launch planned in 2021. The removal of shrink film in the mobility kit and plastic windows in the accessories packaging will allow PMI to meet our target of having 95% of packaging materials made from renewable sources by 2025. In addition, we were able to reduce the packaging weight of our new mobility kit by 17% and accessories packaging by approximately 35%, which will contribute significantly to reaching PMI's target of a 15% reduction in material used in our packaging by 2025. As a next step, PMI aims to replace plastic laminated board in our packaging by mid-2022 to achieve full recyclability of the packaging of devices and accessories in the paper stream. We are also exploring further improvements, including the potential replacement of rigid boxes by lighter packaging designs. This would further reduce the use of packaging materials and optimize PMI's transportation CO_2 footprint.

"PMI began replacing the packaging board across all of our brand's portfolio with a 10% lighter alternative that offers the same pack strength and, therefore, a similar consumer experience. The shift to this alternative will allow PMI to save approximately 25,000 tons of board over a four-year period."

An *IQOS* Store in Rome, Italy



HOW

ACHIEVING OUR CLIMATE GOALS BY...

Pricing carbon

Carbon pricing means assigning a price and hence a theoretical cost to the emissions generated. An increasing number of organizations and sustainability leaders are using internal carbon pricing as a tool to structurally drive a reduction in CO_2 emissions. In 2020, PMI set a strategy in this field adopting a shadow carbon price of USD 65 per ton of CO_2e and a carbon levy of USD 8 per ton of CO_2e.

While the shadow price helps in the prioritization of business cases for investment in activities aimed at structurally reducing its carbon emissions, the carbon levy helps size the investments required today to abate our emissions through offsetting or insetting initiatives.

USD 65

PMI adopted a shadow carbon price of USD 65 per ton of CO_2e

USD 8

and a carbon levy of USD 8 per ton of CO_2e

Pricing carbon

The underlying concept of carbon pricing is that the visible and fair quantification of the financial impact of those emissions will incentivize and increase the viability of actions and investments focusing on their reduction.

Integrating carbon pricing in PMI business decisions will help to:

- Mitigate hidden future risks due to climate change (such as regulations and taxations) by embedding their true impact in the business case of a project or investment, and helping drive and prioritize investments that organically reduce mid- and long-term CO_2 emissions
- Allocate sufficient funds to activities aimed at decarbonizing the business and/or offsetting/insetting emissions
- Position PMI as a leading company in environmental sustainability enhancing our proposition for investors as they integrate ESG considerations into portfolio decisions

Multiple carbon pricing mechanisms may coexist within an organization to achieve the above (see **Different instruments of carbon pricing** on p. 36). PMI has evaluated and adopted two types of internal carbon pricing tools: the shadow carbon price and the carbon levy.

PMI's shadow carbon price of USD 65 per ton of CO_2e is an internal lever to assign a theoretical cost per ton of carbon emissions. It is used to better understand the potential impact of external carbon pricing (e.g., carbon taxes) on the profitability of a project, a new business model, or an investment and hence drive and prioritize investments that accelerate CO_2 emissions reduction to a level that is considered as unavoidable, i.e., technically or economically not further abatable. The introduction of an adequate shadow carbon price helps ensure that business decisions reflect environmental costs by putting a price on carbon emissions.

PMI has modeled what an adequate shadow carbon price should be through a robust methodology, best international practices, and a worst-case scenario analysis of transition risks projected by 2040, and specificities of the emissions profile and geographic footprint. PMI's shadow carbon price is integrated into the financial evaluation and preparation of business cases that will impact the carbon emissions (favorably or unfavorably); in 2020, it was instrumental in the approval of 13 additional carbon emissions reduction projects as part of our energy saving initiatives program in manufacturing sites.

On the other hand, the carbon levy is an internal tax that is virtually charged to selected business units for their emissions, with the aim to use the calculated amount to fund investments that contribute to the decarbonization of the business. While the shadow price helps in the prioritization of business cases for investment in activities aimed at structurally reducing PMI's carbon emissions, the carbon levy helps size the investments required today to abate emissions through offsetting (e.g., acquisition of carbon credits) or insetting initiatives (e.g., agroforestry projects, carbon sequestration programs).

PMI has modeled its carbon levy based on the data calculation of the forecasted voluntary carbon market prices including PMI's CO_2 compensation profile (i.e., the number of tons of CO_2 to be compensated through offsetting/insetting investments) and our carbon neutrality time horizon within the compensation strategy PMI wants to adopt. PMI's carbon levy has been fixed at USD 8 per ton of CO_2e emitted. A fixed price will be implemented throughout our business overtime, on direct and indirect emissions beginning with selected business units (e.g., scope 1+2 emissions and emissions from business travel). The price will be recalibrated every year to reflect PMI's emissions profile and reduction forecast in 2030.

By adopting the carbon levy, PMI aims to virtually charge business units based on their emissions, to size a budget for a portfolio of climate investments that will be dedicated to projects focused on nature-based solutions. These projects will be developed in PMI's supply chain to generate carbon insets of high quality and with benefits that will go beyond carbon (e.g., biodiversity, water, community). The carbon levy approach is considered as a tool to design, manage, and govern a strategic and long-term view to define the most cost-effective and efficient solutions to compensate the remaining unavoidable emissions (e.g., the ones remaining after the implementation of initiatives to abate our direct emissions in manufacturing sites that will become carbon neutral) and achieve the carbon neutrality targets (see **Application and revenues of the carbon levy** on p. 36).

Shadow price and carbon levy will be revised on an annual basis to allow the integration of changes in risk and/or emissions profiles.

"PMI has evaluated and adopted two types of internal carbon pricing tools: the shadow carbon price and the carbon levy."

Different instruments of carbon pricing (carbon tax, ETS, shadow carbon price, etc.)

There is a growing consensus among both governments and businesses on the fundamental role of carbon pricing in the transition to a decarbonized economy. For governments, carbon pricing is a needed tool in a climate policy package to reduce emissions. In most cases, it is also a source of revenue, which is particularly important in an economic environment of budgetary constraints. Carbon pricing can take different forms and shapes.

- **An emissions trading system (ETS)** is a system where emitters can trade emissions units to meet their emissions targets. To comply with their emissions targets at least cost, regulated entities can either implement internal abatement measures or acquire emissions units in the carbon market, depending on the relative costs of these options. By creating supply and demand for emissions units, an ETS establishes a market price for GHG emissions.
- **A carbon tax** directly sets a price on carbon by defining an explicit tax rate on GHG emissions or—more commonly—on the carbon content of fossil fuels, i.e., a price per unit of CO_2e. It is different from an ETS in that the emissions reduction outcome of a carbon tax is not pre-defined, but the carbon price is.
- **An offset mechanism** designates the GHG emissions reductions from project- or program-based activities, which can be sold either domestically or in other countries. Offset programs issue carbon credits according to an accounting protocol and have their own registry.
- **Internal carbon pricing** is a tool an organization uses internally to guide its decision-making process in relation to climate change impacts, risks, and opportunities.

Application and revenues of the carbon levy (details)

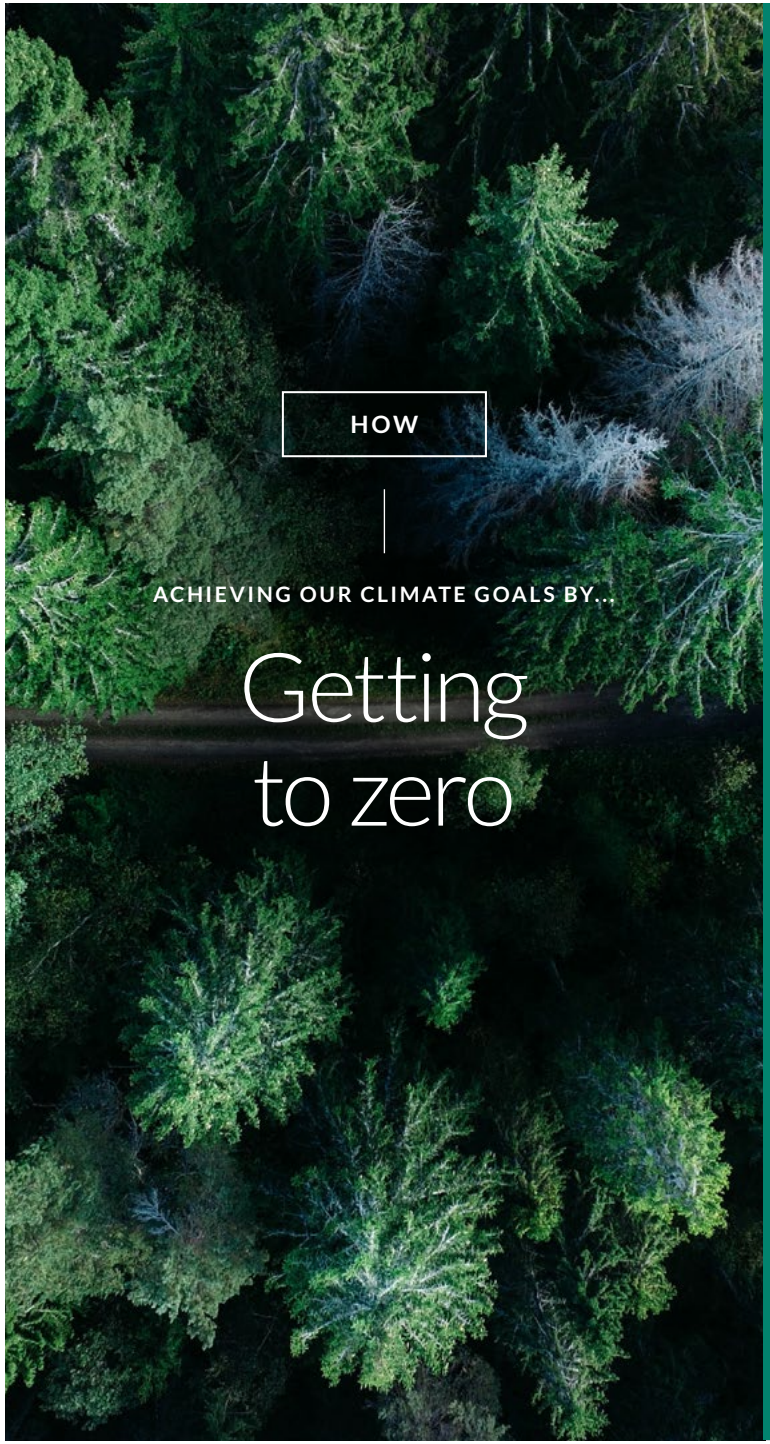
PMI's Portfolio of Climate Investments advisory committee is responsible for managing and allocating budget to climate investment solutions according to three main lines of intervention.

- Purchase of high-quality carbon credits (offsetting) to support short-term neutrality targets
- Investments in medium-/long-term insetting projects or in natural removals within PMI's value chain to support long-term net-zero ambitions
- Investments to unlock innovative climate solutions (technological removals) to position PMI as a leader in climate investment and explore the possibility of climate positive targets

A higher annual budget is expected during the first years, in line with PMI's business emissions profile, to support investments to implement a long-term climate solution. Over time, the financial needs of PMI's Climate Investments Portfolio are expected to decrease once medium-/long-term scope 1 carbon reduction investments become operational and generate emissions reduction/removals. At the same time, the levy budget is expected to reduce in line with the emissions reduction strategy. Where additional budget will be required for specific investments (e.g., unlocking innovative climate solutions and R&D), the advisory committee will decide on approval.

"There is a growing consensus among both governments and businesses on the fundamental role of carbon pricing in the transition to a decarbonized economy."

An employee in PMI's manufacturing facility in Crespellano, Italy



HOW

ACHIEVING OUR CLIMATE GOALS BY...

Getting to zero

To deliver on our decarbonization targets, PMI is targeting to maximize emissions reduction while developing innovative solutions to compensate unavoidable emissions and transition to net zero.

There are two main strategies to transition to net-zero emissions.

1. **Offsetting** (e.g., acquisition of green certificates and high-quality carbon credits from certified projects)
2. **Insetting initiatives** (e.g., agroforestry projects and carbon sequestration programs in the company's supply chain)

In 2020, PMI developed a targeted study to map the potential of nature-based solutions (NBS) for insetting in our tobacco supply chain and evaluated natural carbon sinks in the context of our carbon neutrality ambition. In compensating unavoidable emissions, PMI is committed to prioritizing projects within our supply chain (insetting) and purchasing high-quality, certified carbon credits when insetting is not feasible. PMI will gradually shift from relying on offsets (emissions avoidance/reduction) toward developing and making use of emissions removals, including nature-based and innovative technological carbon sequestration projects.

To support decarbonization efforts and net-zero targets, a Portfolio of Climate Investments (PCI) was created in line with internationally recognized practices, such as International Carbon Reduction and Offsetting Alliance (ICROA) code of Best Practice, the report of the Taskforce on Scaling Voluntary Carbon Markets (TFVCM), and GHG protocol Land Sector and Removals Initiative. PMI believes that limiting the use of market approaches (offsetting) in the short term by prioritizing direct investment in our supply chain in the medium and long term will support the cost effectiveness of our actions and will assure transparency, consistency, and quality of our climate investment strategy.

Getting to zero

To support decarbonization efforts and net-zero targets, PMI created a Portfolio of Climate Investments (PCI).

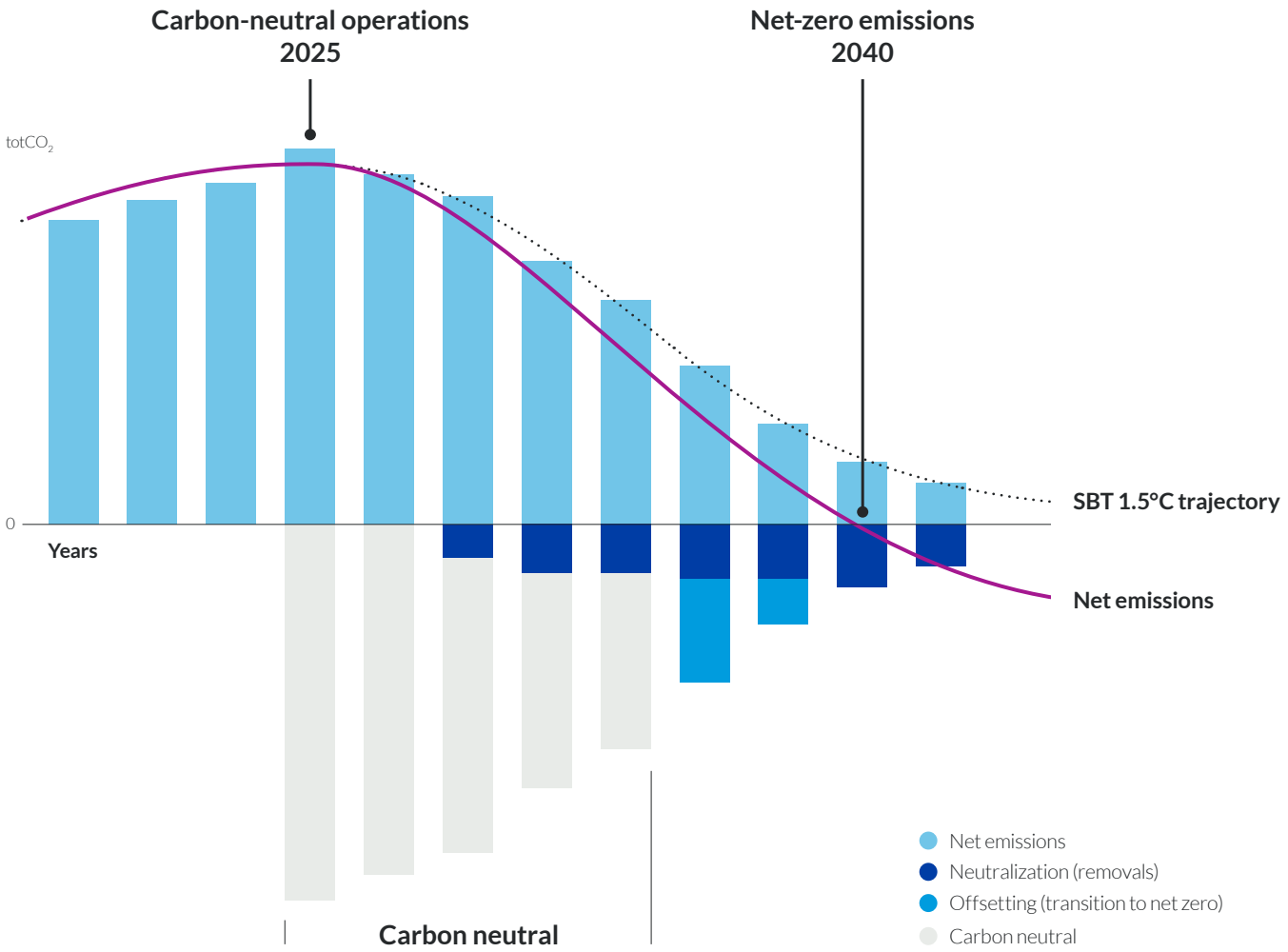
The PCI will play a key role in:

- Positioning PMI as a nature-based solution leader in the medium/long term through insetting projects that will look at generating benefits for carbon, water, and biodiversity
- Further implementing in PMI's supply chain sustainable agricultural land management to reduce emissions while increasing soil organic carbon, fighting deforestation, and safeguarding natural ecosystems
- Promoting early investment in projects and technologies that are the most difficult to commercialize, scaling down the cost

With the creation of the PCI, PMI aims to provide full transparency in our compensation activities that are ancillary to the carbon-neutral target for scopes 1+2. PCI standardizes the approach to investing in offsets that are used to compensate unavoidable carbon emissions related to our operations. The decision-making process at the backbone of the PCI strategy relies on a set of mechanisms and rules that will allow PMI to efficiently evaluate and decide which climate solutions are more in line with the scope of PCI.

The PCI is built on a set of core carbon principles and additional attributes that strongly support the generation of benefits that go beyond carbon reduction/removal activities, such as ecosystem conservation, ecosystem enhancement, and positive impacts on local communities involved (see **What makes a high-quality carbon credit?** on p. 40).

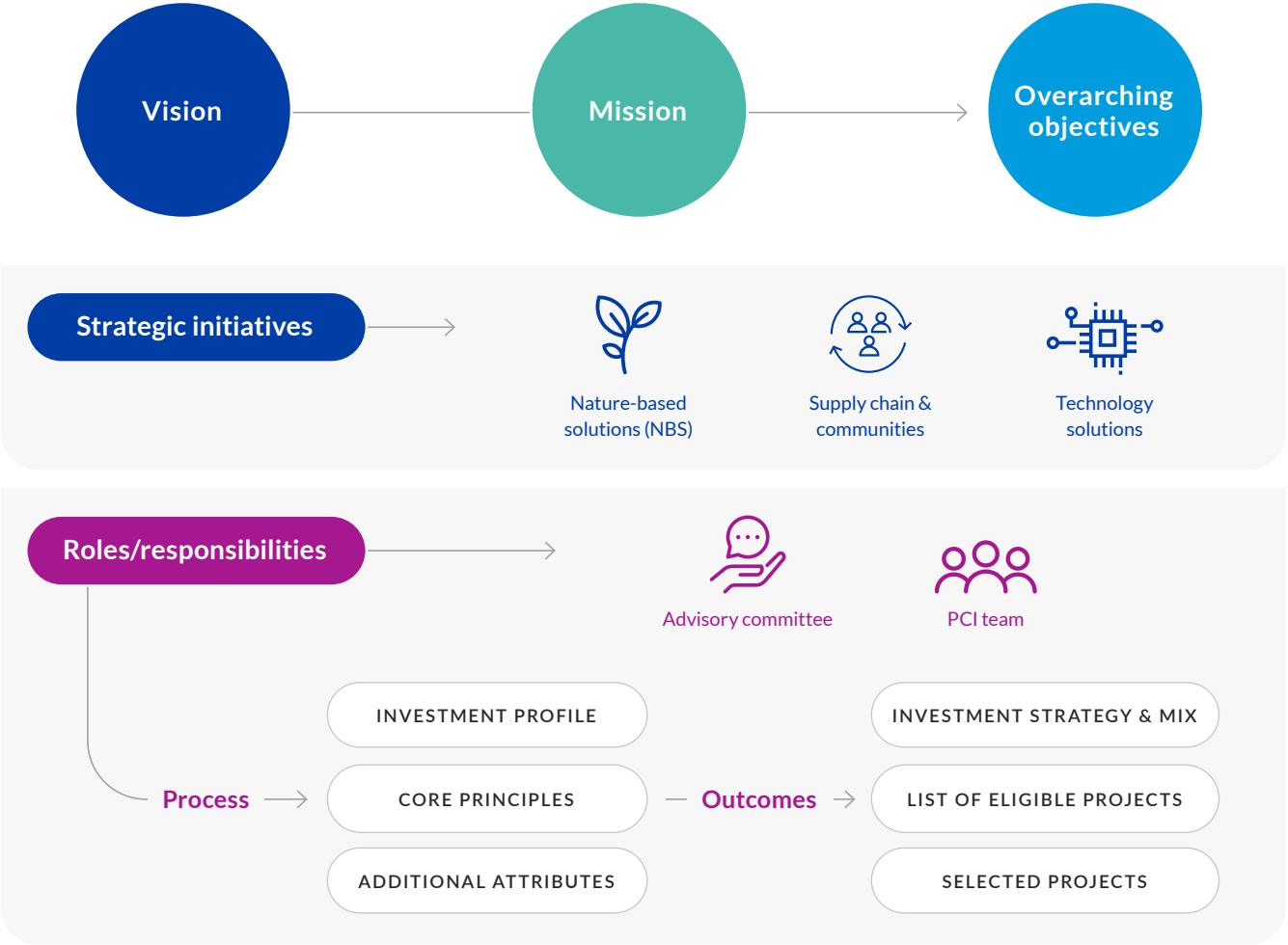
PMI's pathway to net zero



Source: PMI—Portfolio of Climate Investments, 2021

Processes and outcomes to achieve the mission of PCI are reported in the below scheme.

PCI framework architecture



Source: PMI - Portfolio of Climate Investments, 2021

Applying the principles of climate finance at PMI means to be guided by three main strategic initiatives: nature-based solutions (NBS), supply chain & communities (SCC), and technological climate solutions (TCS). Each initiative leads to specific impacts that PMI wants to generate when financing projects.

The PCI is supervised by an advisory committee composed by senior management roles. The advisory committee revises and validates the proposals of the project team through the application of the core principles and additional attributes to the selection of projects for investment. It approves allocation of resources to the proposed climate solutions through an investment strategy that leverages the budget generated by PMI's carbon levy scheme (see **HOW: Achieving climate goals by... Pricing carbon** on p. 34).


Crop diversification in Gunung Kidul, Indonesia

What makes a high-quality carbon credit?

Focus on core carbon principles and additional attributes.

The central idea behind a carbon offset is that it can substitute for GHG emission reductions that an organization would have made on its own. For this to be true, the world must be at least as well off when you use a carbon offset credit as it would have been if you had reduced your own carbon footprint. "Quality" of a carbon offset credit is the level of confidence one can have that the use of the credit will fulfil this basic principle.

A variety of terms are frequently used to define quality criteria for carbon offsets, including that associated GHG reductions must be:

1. **Real**—concrete evidence of emissions avoided as a result of project activities
2. **Additional**—the project activities must be "project induced" and not "business-as-usual"
3. **Realistic and credible baselines**—conservative baseline estimate of emissions
4. **Measurable**—verified by an accredited third party
5. **Permanent**—credits should represent permanent reductions and removals of emissions
6. **Leakage accounted**—assess any potential increase in emissions outside the project boundary
7. **Unique**—offsets must be archived/withdrawn in an independent register; credits already withdrawn are not sold back on the market
8. **Do not harm**—crediting program must have the requirements to address and mitigate all potential environmental and social risks

PMI defines a list of additional attributes to align our Portfolio of Climate Investments to the definition of a quality offset to further add value to the eligibility criteria stated by the Core Principles.

Additional attributes better define:

1. **Vintage or age of a project**
2. **Project type**
3. **Project size**
4. **Carbon assessment methodologies**
5. **Geography and business opportunity**

Carbon credits can generate co-benefits, ranging from improved water access, increased biodiversity and social value, job creation, support for local communities, and health benefits. In addition, many of the highest-potential projects are developed in low-income countries. As a result, a further benefit is that carbon credits can generate flows of private capital where it is most needed.

"Carbon credits can generate co-benefits, ranging from improved water access, increased biodiversity and social value, job creation, support for local communities, and health benefits."

Nature-based solutions definition

The European Commission defines nature-based solutions as:

"Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social, and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes, and seascapes, through locally adapted, resource-efficient and systemic interventions."

Nature-based solutions must therefore benefit biodiversity and support the delivery of a range of ecosystem services.

Nature-based solution mapping and pilot scoping for GHG Protocol standard

PMI is aware of the importance of nature-based solutions (NBS) to complement our climate strategy and to ensure that impact is delivered holistically on the environment beyond carbon sequestration.

For this reason, PMI engages with WBCSD and GHG Protocol to actively participate in the testing of the forthcoming standard on accounting for scope 3 emissions and removals. We believe action on NBS needs to be accurately planned and coordinated between the main players of the private sector. Results and figures also need to be compared and validated before being used to communicate progress and achievements. The pilot testing of the standard will allow companies to set their approaches on parameters validated by stakeholders such as GHG Protocol and WBCSD with the backing of CDP and WWF, representing the highest level of expertise and competence on the subject.

Reforestation program in Malawi

HOW

ACHIEVING OUR CLIMATE GOALS BY...

Engaging supply chains

PMI's Greek affiliate manufacturing facility in Papastratos, Greece

PMI's suppliers play a major role in the transformation journey toward a low-carbon world. The tobacco supply chain alone represented 25% of our total carbon footprint in 2019. The role of suppliers in the decarbonization of PMI's business becomes very relevant.

To make this happen, we provide our suppliers with guidance and support to reduce environmental impacts related to tobacco growing, and especially GHG emissions. Actions include training on best practices on fuel efficiency, barn maintenance, and ecosystem protection.

PMI considers it fundamental to recognize suppliers' excellent performance and contribution to PMI's business goals, fostering long-term partnerships and value creation.

In 2020, PMI developed and launched a new and comprehensive supplier engagement program to collect primary carbon data of the direct materials used in our products—cellulose acetate tow, pulp, and paper—and understand the suppliers' GHG emission reduction programs and targets. In 2020, PMI achieved a 14% reduction in absolute emissions from the non-tobacco direct materials supply chain (such as cellulose acetate tow, pulp and paper, and smoke-free electronic devices) versus 2019. To support our low-carbon transition goals, PMI will further expand this supplier engagement to other supply chain material categories.

Read more about our methodology summary

14%

Reduction in absolute emissions from the non-tobacco direct materials supply chain

Engaging supply chains

Since 2002, PMI's GAP program sets and delivers on standards for good practices in the supply chain of tobacco especially at farm level

(see **Good Agricultural Practice (GAP), Good Agricultural Practice/ALP** on p. 44).

In 2020 alone, through the renewable curing fuel program to improve the flue-cured tobacco-curing process, PMI contributed to increasing the efficiency of 2,146 barns, mainly in China, Malawi, the Philippines, Pakistan, and Brazil, for a cumulative total of around 82,500 barns upgraded since 2014. The program has a global outreach and covers farmers in more than 10 countries.

To accelerate developments for direct materials (i.e., outside the tobacco supply chain), PMI launched a supplier engagement program to collect primary carbon data and understand suppliers' GHG emission reduction programs and targets. The supplier engagement program allows PMI to have access to supply chain primary data to construct targets, calculate the CO_2 impact on productivity, and develop programs for action. In 2020, PMI found that 41 suppliers across the direct materials category represented 80% of the category's total carbon footprint, proving once more that supplier engagement is a crucial part of the more complex roadmap to accelerate the decarbonization of the supply chain. The engagement and the data collected supported PMI to significantly improve the accuracy level of the calculated carbon emissions.

PMI encourages and supports suppliers to start or accelerate their transition toward a low-carbon economy. The publicly available Responsible Sourcing Principles is the entry point to sustainability each supplier of PMI is required to follow.

PMI will define targets aligned with SBTi with all critical suppliers to monitor progress in full alignment with PMI's SBTs, and we will measure performance of our supply chain against our SBTs assessing and scaling-up climate ambition. We will use SBTi to drive supplier-based temperature alignment, assessing where our supply chain stands in the SBTi temperature scorecard and defining a roadmap for suppliers to meet the temperature target in line with what we have committed to.

The strength of PMI's engagement in the supply chain is also proven by the fact that in 2020, for the fourth consecutive year, CDP placed PMI on the CDP Supplier Engagement Leaderboard in recognition of our efforts and progress on supplier engagement on climate change. PMI's Supplier Engagement Rating (SER) positions PMI in the top 7% of companies that disclosed for CDP's full climate questionnaire. By engaging the suppliers on climate change, the aim is to contribute to their transition toward the net-zero sustainable economy.

One enabler for bioenergy to gain more importance in the global energy mix is the shift toward second- and third-generation biofuels that rely on food waste and residues

CASE STUDY

China fuel switch in flue-cured tobacco

In the provinces of Yunnan and Guizhou in China, PMI partnered with CNTC, our suppliers, and local communities to promote the switch from coal to renewable fuels for tobacco-curing in our flue-cured tobacco supply chain. In addition to the much-needed contribution to limiting climate change, biofuels can trigger technological innovation and benefit local communities. In Yunnan and Guizhou, China, PMI, CNTC, and relevant stakeholders helped local farmers switch to wood pellets as a primary energy source.

The newly required pellet production facilities benefited local communities through additional employment and reduced dependency on imported fuels. One enabler for bioenergy to gain more importance in the global energy mix is the shift toward second- and third-generation biofuels that rely on food waste and residues. These input materials decrease the requirement for land use improving the resiliency of rural communities to climate change and providing at the same time more opportunities for adaptation to it.

Tobacco curing

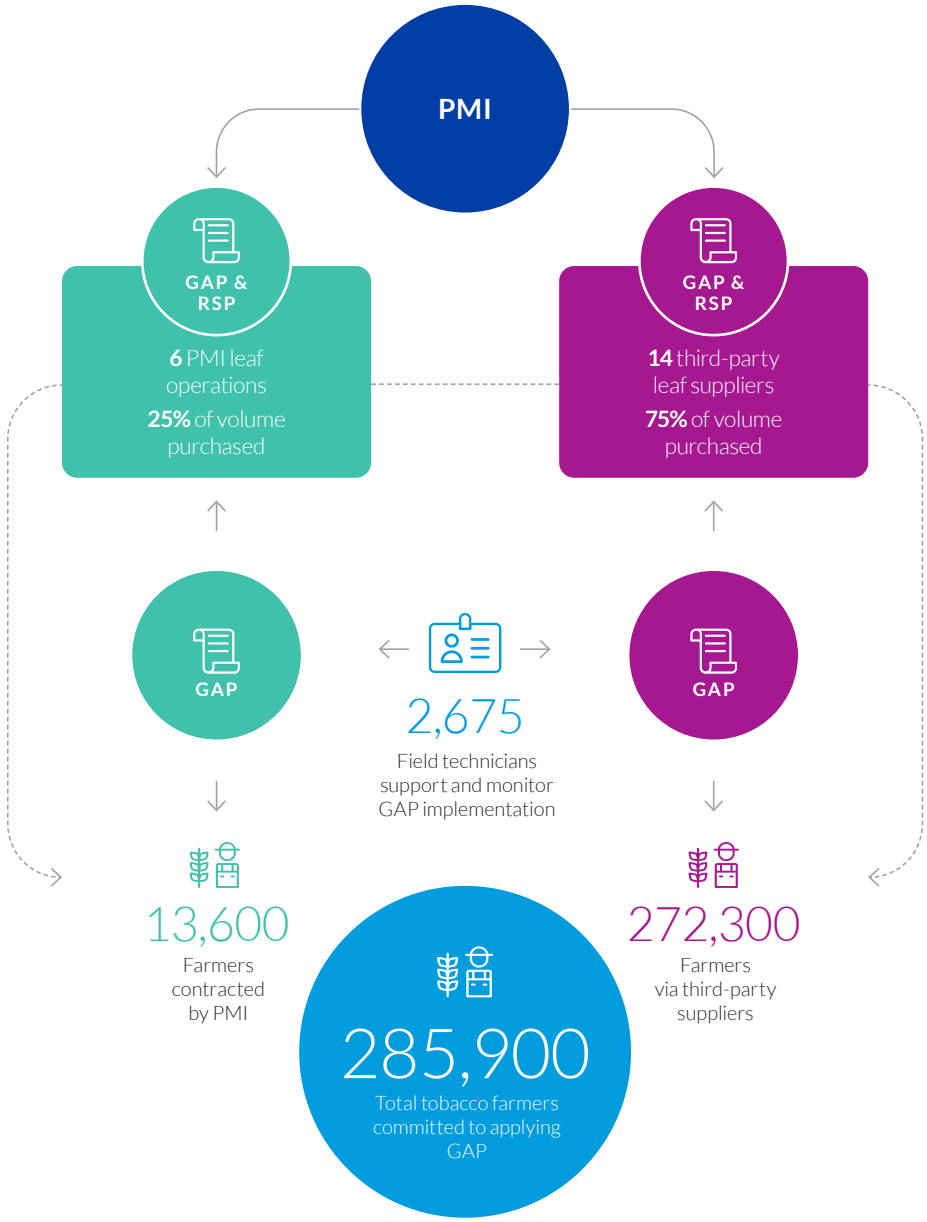
Good Agricultural Practice (GAP)

In PMI's tobacco supply chain, production is managed in accordance with the Good Agricultural Practices (GAP). GAP was first introduced in 2002. Since then, it is continuously updated to reflect feedback received from farmers, suppliers, and stakeholders and to keep up with ever more demanding expectations and technological developments. One major improvement is the Agricultural Labor Practices Code in 2011. All the measures and standards framing the GAP are organized in four main areas: governance, crop, environment, and people. GAP is mandatory for all suppliers and their affiliates. To ensure the effective implementation of GAP, PMI relies also on the Integrated Production System (IPS), that connects leaf suppliers and farmers beyond the customary boundaries of a commercial relationship and enables direct technical support, agronomic advice, financial loans, and various other services. The program is supported by a large number of field technicians (approx. 2,000) who are fully dedicated to tobacco agriculture that through the application of the best practices in training, monitoring, traceability, and data management drive impact in line with our decarbonization strategy for our tobacco supply chain.

Good Agricultural Practice/ALP

Since 2002, PMI has in place the Good Agricultural Practice (GAP) program to drive sustainability and ambition with suppliers and contracted tobacco farmers. GAP also represents a way through which PMI tries to foster Agricultural Labor Practice (ALP), which aims to identify issues related to inadequate working and life conditions, especially for tobacco leaf suppliers' farmers. At PMI, there have been multiple initiatives developed to support contracted farmers in improving their income levels and thus the livelihoods of their households; among others, the Living Income Project, which aims to assess actual farmers' income versus the living income benchmark of a given area. Another direction of PMI's effort to foster ALP is the diversification of growing crops: Supporting farmers in diversifying their crops has become an even more important focus area. Growing a range of complementary and diversified crops and engaging in other income-generating activities could improve farm income and make farmers more resilient against climate change and economic uncertainty. We also act with a wider focus on the entire environment, working at the landscape level, such as implementing holistic strategies and actions through our flagship programs in renewable curing, Good Agricultural Practices, and forest protection. In Malawi, for example, our diversification program is supporting local communities by interconnecting the economy, society, and the environment. This approach allows PMI to work more closely with farmers and suppliers and, where appropriate, in partnership with external stakeholders that support crop diversification.

Our tobacco supply chain in 2020



Source: PMI Integrated Report 2020

HOW

ACHIEVING OUR CLIMATE GOALS BY...

Integrating sustainability considerations into our products

An *IQOS* store in Lausanne, Switzerland

Net positive strategies are built on the concept that a company must give back more than it takes from society and the environment. Sustainability offers the opportunity for growth through investments in scientific research to continue innovating for better products.

Building on the Board's Letter to Shareholders in PMI's 2017 Proxy Statement, PMI reaffirmed our purpose in 2020 and acknowledged that, as we continue to transform our business and organization, our purpose remains to provide smoke–free alternatives that appeal to today's adult smokers. In addition, we continue to work toward earning the trust and active cooperation of a host of stakeholders, from our supply chain partners to regulators and public health authorities.

A smoke-free future is attainable, and the benefits it can bring to the people who would otherwise continue to smoke, and hence to global public health, are enormous.

By integrating sustainability considerations into our products—from development to end-of-use—we can lower their environmental and social impacts and associated costs. Potential benefits include energy savings, reduced consumption of natural resources, waste minimization, and a longer product life span. Minimizing the negative environmental and social impacts of products commercialized at scale can help safeguard the interests of future generations.

We are working to close the gap between combustible and smoke-free products through improved manufacturing processes, extending the usable life of our electronic devices, and decreasing the total CO_2 footprint through smart material selection and sustainable design practices. This is achievable through the application of eco-design and circularity principles, reducing costs of returns, obsolescence, and disposal.

Integrating sustainability considerations into our products

Eco-design principles are strong pillars for PMI operations: They inform how PMI uses life-cycle analysis (LCA) to assess the carbon footprint of our products.

So far, PMI has analyzed *IQOS* devices, heated tobacco units, and packaging. *IQOS* currently has a higher carbon footprint than combusted cigarettes. This is primarily due to the use of an electronic device, which involves new components and requires electricity to charge. This element accounts for 13% of the total carbon footprint of the *IQOS 3* system. Additionally, the process to manufacture heated tobacco units is more energy-intensive than for cigarettes, due to the production of cast leaf tobacco.

To close the gap between cigarettes and smoke-free products, over the past two years PMI has reduced the overall CO_2 impact of smoke-free products through improvements in manufacturing processes and in the tobacco supply chain. One of these initiatives has been to look at the density of tobacco within the product, both to reduce CO_2 impacts and provide a better consumer experience. By modifying the design of the heated tobacco plug slightly, PMI succeeded in reducing CO_2 impact per stick by 4% while enabling a smoother insertion of the heated tobacco unit (HTU) in the holder and generating a more consistent aerosol delivery, addressing one common consumer pain point. In 2020, PMI finalized the results for the new e-vapor product *IQOS VEEV*.

This new version has a lower carbon footprint thanks to efforts to reduce the overall product size and decrease material use. Eco-design and circularity are therefore key to making the shift consistent with net-zero targets.

Another field of operation beyond tobacco that is a key enabler for the net positive goal is our anti-littering policy. Cigarette butts are among the most frequently littered items. To address this problem, we have an anti-littering policy in place, which is sustained by three main pillars.

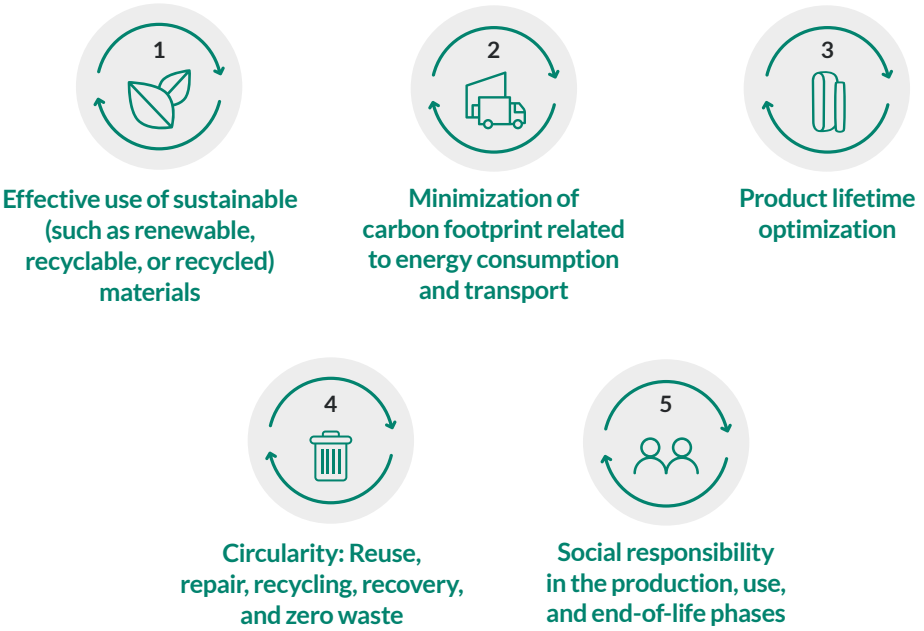
1. Reduce litter on the ground through efficient and cost-effective collection schemes and clean-up campaigns
2. Encourage behavioral change (that is the driver of PMI's transformation)
3. Design for circularity

Through these three simultaneous strategies, PMI aims to reduce by 50% the amount of plastic litter from all products by 2025.

To support efforts to build a more circular business model for reduced-risk products, PMI actively seeks to engage with external stakeholders and learn from industry leaders. In 2020, PMI engaged in a project with the World Business Council for Sustainable Development (WBCSD), on identifying best practices in circular electronics, including business model development and product design. In 2018, PMI launched CIRCLE (Central Inspection and Recycling for a Closed Loop Economy) (see CIRCLE on p. 47), which is a service that provides centralized hubs that inspect, process, and separate materials from electronic devices for recycling.

Design and engineering teams have been trained by internal and third-party experts to embed eco-design standards. This applies to devices, consumables, and accessories, as well as packaging. By integrating sustainability into the products from development to end-of-use, PMI can lower the risk of environmental and social impacts, and associated costs. Benefits are extensive and include energy savings, reduced consumption of natural resources, waste minimization, and a longer product life span—most of these outcomes have a positive impact on mitigating climate change.

Eco-design principles and circularity in a nutshell
Five fundamental eco-design principles guide our progress



Source: PMI Integrated Report 2020

Making progress to achieve our purpose

In 2020, we continued with relentless focus on our business transformation, dedicating 99% of our research and development and 76% of our commercial expenditure to smoke-free products. Five years since PMI publicly announced its vision to replace cigarettes with less harmful alternatives, our efforts and investments are delivering strong results. In 2021 Q3, smoke-free products represented close to almost 30% of our total net revenues, and an estimated 14.9 million adults have already switched to *IQOS* and stopped smoking. The strong position of our smoke-free business has allowed us to increase our ambition. From a net revenue perspective, we now aim to become a predominantly smoke-free product company by 2025. PMI is committed to serving as an agent of change and an advocate of positive values. We understand that our business must become a provider of effective solutions. Innovation and inclusiveness are key to solving our challenges, whether related to tobacco harm reduction, environmental sustainability, or equity. To accelerate our progress, we will build on PMI's unique scientific capabilities to develop products and services that go beyond nicotine. We aspire to achieve at least USD 1 billion in revenues from such sources by 2025.

Read PMI's Statement of Purpose

Our World Is Not an Ashtray (2020)

In July 2020, PMI launched Our World Is Not an Ashtray, a web-based corporate platform to educate, inspire, and engage the public on the issue of littering. Through this awareness campaign, we share facts and figures, testimonials, and calls to action. Besides leveraging our brands to encourage adult smokers to change behavior and switch to better alternatives, PMI also aims to promote post-consumption behaviors related to proper disposal.

In that regard, in 2020 the deployment of Marlboro limited-edition "Leave No Trace" pack continued, which communicates anti-littering messages to adult smokers. Developed in 2019, the pack was sold in nine markets in 2020.

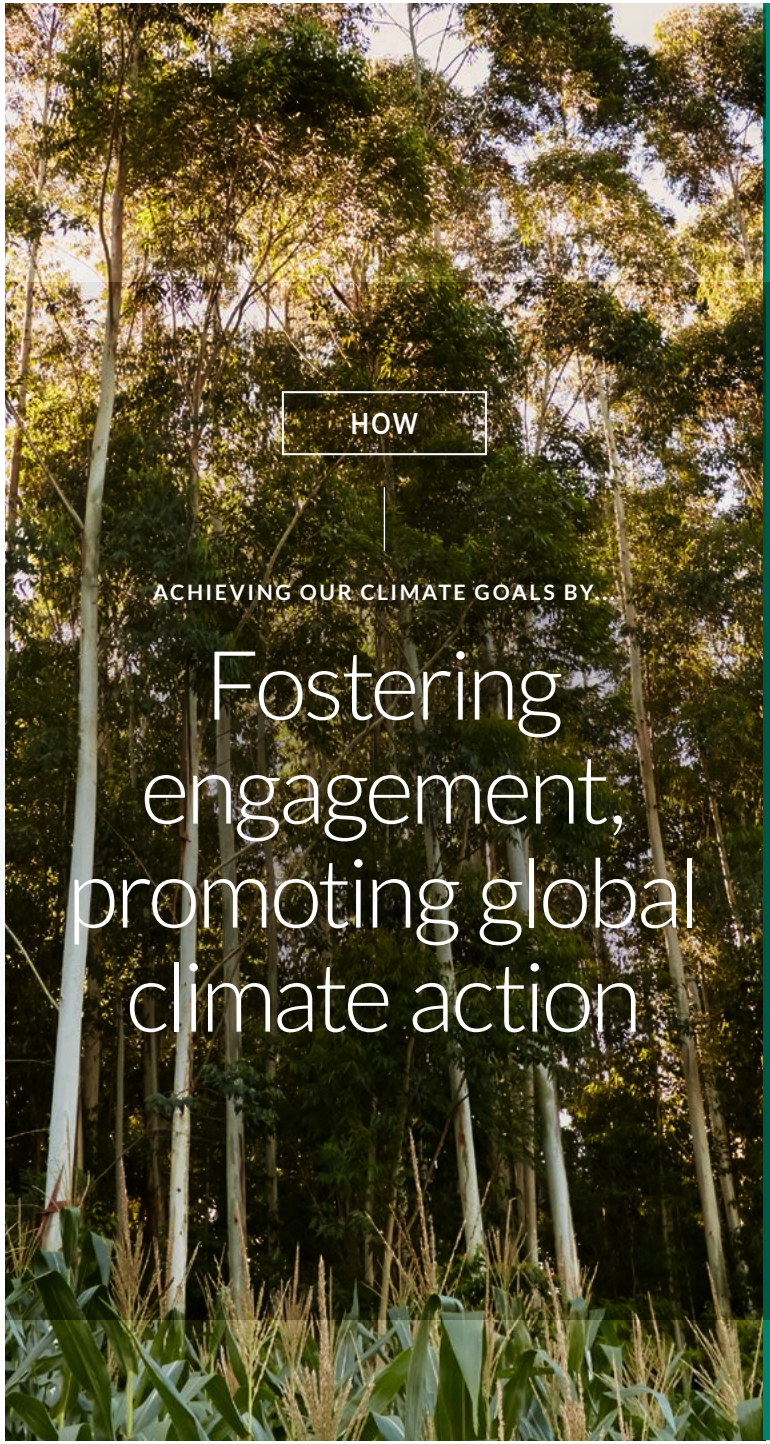
CIRCLE

CIRCLE (Central Inspection and Recycling for a Closed Loop Economy) is a PMI service that provides centralized hubs that inspect, process, and separate materials from electronic devices for recycling. In 2019, a third-party audit of the facility in Europe showed that PMI recycled at rates between 70% and 79% by weight based on device version; the remainder of materials went to energy recovery. Materials sent for energy recovery include some elements of the batteries and printed circuit board assemblies, which pose unique challenges. CIRCLE is a centralized service that ensures recycling is completed to the highest standards. To the extent possible, PMI is rolling out CIRCLE globally; however, it currently is not possible to implement the service in all markets due to legislative restrictions related to waste transport. In markets where CIRCLE has not yet been implemented, *IQOS* users can, nonetheless, return their devices to specified locations.

14.9m

Adults have already switched to PMI's leading smoke-free alternatives and stopped smoking

Recycling of *IQOS* devises in a hub, Japan



HOW

ACHIEVING OUR CLIMATE GOALS BY...

Fostering engagement, promoting global climate action

Transition to a low-carbon economy requires engaging in multilateral, global initiatives to help push the climate agenda forward, mainly through cross-sector sharing of best practices. Addressing climate change requires urgent policy action to drive an unprecedented global infrastructure and technological transformation.

PMI aims to play our part in supporting society to achieve the UN Sustainable Development Goals (SDGs), by supporting and implementing climate-aligned public policy and participating in multi-stakeholder initiatives fostering climate change actions and sustainability efforts.

Addressing climate change requires urgent policy action to drive an unprecedented global infrastructure and technological transformation

PMI aims to play our part in supporting society to achieve the UN Sustainable Development Goals (SDGs)

Fostering engagement, promoting global climate action

An employee of our local third-party tobacco supplier and a field technician next to sustainable firewood in Pakistan

The climate crisis, as acknowledged by the international community, threatens livelihoods, particularly those of the world's most vulnerable people.

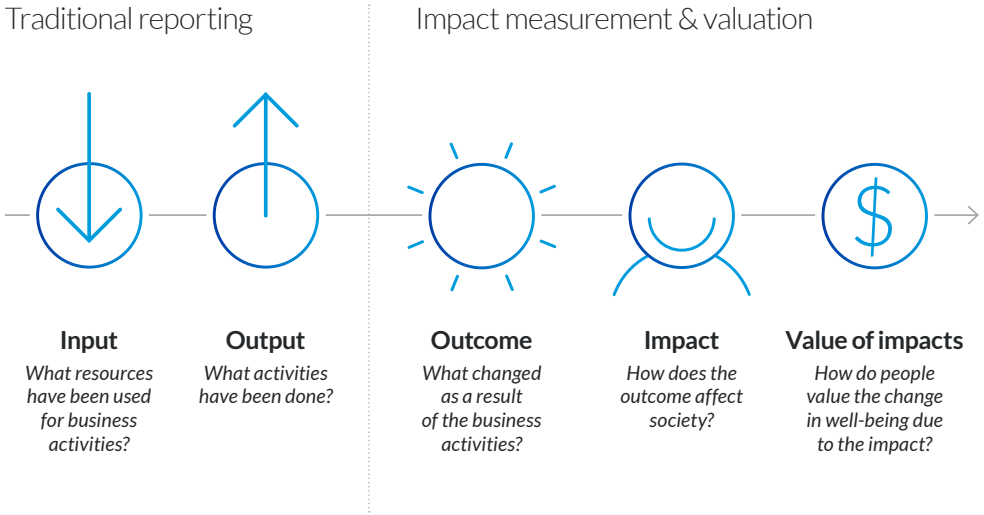
While science tells us that climate change is irrefutable and unavoidable, it also tells us that it is not too late to limit the warming to the 1.5°C that is considered the limit beyond which impacts will be catastrophic. This will require fundamental transformations in all aspects of society—for PMI, this means how we grow crops, use land, transport goods, and participate in supply chain operations. As a business with a multinational environmental footprint, PMI will continue to support climate-aligned public policy and commit to multi-stakeholder initiatives such as Business Ambition for 1.5°C (see **Business Ambition for 1.5°C** on p. 51).

PMI works with not-for-profit organizations and governments to support communities on environmental sustainability topics including sustainable forestry, reforestation, controlled use of pesticides in agriculture, sustainable rural living conditions, and education—all of these can have an influence on climate change improvement, adaptation, and mitigation. PMI supports projects to protect and enhance natural resources, implement conservation agriculture, provide clean water, cater for food security, and improve the livelihoods of people living in rural communities.

PMI continues to support multi-stakeholder initiatives on environmental topics by, for example, signing on to the Brazilian Business Commitment to Water Security in 2019, a coalition of companies led by the Brazilian branch of the World Business Council for Sustainable Development (WBCSD). PMI's commitment includes the implementation of the Alliance for Water Stewardship (AWS) Standard and a partnership with tobacco growers to restore degraded riverbanks through the Water Guardian Project. Moreover, with the intention to advance progress in achieving SDG 13 (take urgent action to combat climate change and its impacts), we are a member of multiple sustainability organizations, including the World Business Council for Sustainable Development, Sustainable Brands (SB), and the We Mean Business Coalition. These organizations have helped harness the power of collaboration to implement solutions at scale and at greater speed. PMI affiliates are also members of other national business associations that are engaging with governments to advance progress on SDG 13.

"PMI works with not-for-profit organizations and governments to support communities on environmental sustainability topics including sustainable forestry, reforestation, controlled use of pesticides in agriculture, sustainable rural living conditions, and education."

Impact valuation



Note: Visual adapted from Value Balancing Alliance, Methodology Impact Statement General Paper, Version 0.1 (February 2021)
Source: PMI Integrated Report 2020

"In 2020, PMI was included in the Dow Jones Sustainability Index (DJSI) North America, achieving the highest score of 100 in the climate strategy, environmental reporting, and environmental policy and management systems categories."

In 2020, our CEO joined CEOs from over 170 businesses, investors, and business and investor networks, in a letter to call on EU policymakers to support an EU 2030 GHG emissions reduction target of at least 55%. Following the establishment of PMI's new science-based emissions reduction targets consistent with keeping global warming to 1.5°C above pre-industrial levels, PMI signed the Business Ambition for 1.5°C commitment—responding to the call to actions for companies to step up their ambition for the best chance of tackling the climate crisis (see **Business Ambition for 1.5°C** on p. 51). PMI affiliates also belong to national business associations that are engaging with governments to advance progress on climate protection at the local level.

We have received external recognition for our efforts to tackle environmental issues.

In 2020, PMI was included in the Dow Jones Sustainability Index (DJSI) North America, achieving the highest score of 100 in the climate strategy, environmental reporting, and environmental policy and management systems categories. PMI discloses its efforts to the CDP, and in 2020 we achieved a "triple A" score for environmental sustainability leadership and maintained our position on the A List for Climate Change for the seventh year in a row. CDP also placed PMI on its Supplier Engagement Leaderboard for the fourth consecutive year.

We are confident that our annual responses to investors' call via CDP disclosure can provide valuable insights and information to inform investment decisions, increase market transparency on environmental risks and opportunities, and foster risk management and resilience toward the alarming climate crisis.

To support the creation of a global impact measurement and valuation standard for monetizing and disclosing impacts of corporate activity, in 2019 PMI joined other companies to support the Value Balancing Alliance (VBA), a nonprofit organization to better evaluate impacts on nature. Impact valuation is a method by which companies identify, understand, improve, and demonstrate the benefits and costs of their activities on society and the environment, translated into monetary terms. This helps integrate environmental, social, and human aspects into decision-making and disclosures.

55%

In 2020, our CEO supported an EU 2030 GHG emissions reduction target of at least 55%

Business Ambition for 1.5°C

Business Ambition for 1.5°C is led by the Science Based Targets initiative in partnership with the UN Global Compact and the We Mean Business coalition. It is an urgent call to action from a global coalition of UN agencies, business and industry leaders, and it is calling on companies to commit to setting ambitious science-based emissions reduction targets.

"By setting a net-zero target in line with a 1.5°C future—our only future—businesses can make their critical contribution to limiting the worst impacts of climate change."

In early October 2021, over 900 companies, representing more than US$13 trillion in market cap, have responded to the open letter from global leaders and signed the Business Ambition for 1.5°C commitment.

To hold off some of the worst climate impacts, and avoid irreversible damage to our societies, economies, and the natural world, we must hold temperature rise to 1.5°C above pre-industrial levels. This requires halving greenhouse gas emissions by 2030 and hitting net-zero emissions by 2050.

Acting with ambition to push a sustainability agenda forward is not only a commitment and a responsibility, but also an action that has positive repercussions on the structure and performance of a company.

If companies could better measure and provide transparency on their liabilities related to climate change, it would allow investors to evaluate assets more accurately, increase social accountability, and facilitate the design of incentives to encourage climate-friendly behavior. Various elements of environmental, social, and governance (ESG) disclosure could help lower the vulnerability of companies to climate policy and to climate change risks (e.g., stranding or actual destruction of assets).

A better alignment of corporate reporting schemes within the low-carbon transition best practices would require greater harmonization of ESG reporting and coherence among scope and risk disclosure on climate-related information while minimizing bureaucratic burdens for small and medium-sized enterprises and avoiding distorting competition.

Strong leadership in ESG and climate action helps attract talent and retain high-performing and innovative people. A robust ESG proposition can help companies enhance employee motivation by instilling a sense of purpose and increase productivity overall. Employee satisfaction is positively correlated with shareholder returns.

"By setting a net-zero target in line with a 1.5°C future—our only future—businesses can make their critical contribution to limiting the worst impacts of climate change."

Researchers at the Pakistan Forest Institute in Peshawar, Pakistan

HOW

ACHIEVING OUR CLIMATE GOALS BY...

Putting people and ecosystems' well-being center stage

A tobacco farm worker stringing tobacco leafs in Nayarit, Mexico

Climate change efforts are part of a broader engagement toward sustainable development, including forest and ecosystem protection, employees' and communities' well-being, and human rights. PMI aims to address adverse impacts and maximize the opportunities to drive positive change for people.

Climate change is intrinsically linked to human rights in terms of food and water availability, the spread of diseases, extreme events, and rural communities' livelihoods.

As PMI transforms to a smoke-free future and advances decarbonization strategies, we recognize that these transitions need to be just and equitable and protect people's livelihoods. PMI has been working to identify and address the social and environmental risks and impacts resulting from our operations and supply chain footprint.

Climate justice describes how the gains and losses of the environment are often unjustly distributed, not only as regards other species or future generations of humans, but also among humans living today.

Social inequality between wealthy and poor nations—and within nations between people of different ethnicities, classes, genders, generations, work, and health conditions—influence our relationships with our shared planet.

The primary asymmetries of climate change that climate justice seeks to address are differential:

1. Contributions to climate change
2. Impacts of climate change
3. Capacity to shape solutions
4. Future response capacity.

Putting people and ecosystems' well-being center stage

PMI aims at being on the frontline of this transition to collectively fight against climate change.

The renewable curing fuel program started in 2015 after an analysis of the potential impacts and risks of the flue-cured curing process, especially across countries more vulnerable to deforestation and climate change. Deforestation can result in loss of biodiversity and destruction of habitats, compromising ecosystem services such as erosion and flood control, and water cycle regulation. These impacts combine to result in land-use change contributing to feedback loops of climate change but also inhibiting resiliency necessary to face extreme climatic events for local communities. To this extent, the renewable curing fuel program limits the impact of using wood fuel for curing but also builds capacity across farmers and all involved stakeholders.

Protecting natural ecosystems and sustainably managing forests are key drivers in reducing greenhouse gas emissions. Two raw material supply chains represent a risk of deforestation for PMI: tobacco leaf and paper and pulp-based products. To mitigate this risk, PMI has developed the Zero Deforestation Manifesto to protect the forest and improve natural resource management (see **Zero Deforestation Manifesto** on p. 54). In 2020, PMI purchased 100% of tobacco cured with no risk of deforestation for primary and protected forests. PMI runs an annual risk assessment on deforestation for tobacco and paper and pulp-based materials.

We also protect forests through engagement with suppliers and farmers with the GAP program providing principles, guidelines, and tools for the sustainable management of fuel sources, including sustainable forest management practices, awareness of the risk associated with forest losses, and use of alternative renewable biomass. Within our manifesto, PMI aims for a free, prior, and informed consent (FPIC) when engaging directly or through commercial partners with indigenous people and local communities. With the commitments set in the Zero Deforestation Manifesto, we aim to safeguard primary and protected forests in our supply chain while monitoring the sustainable management of natural managed forests that are at the base of the wood fiber supply for our products. Since 2020, leveraging suppliers aligned to forest sustainability standards and collecting further evidence on supply chain sustainable practices, PMI could assess as compliant to ZDM for gross deforestation (primary and protected forests) 61% of board- and paper-based packaging.

PMI's social impact roadmap is the result of the understanding of how the company can continually respect human rights across global business practices and supply chains. PMI affects more than 285,900 farmers and 130 million adult consumers of our cigarette brands, and close to 18 million *IQOS* users (2020).

Our human rights strategy is made of four main pillars:

1. Embedding a culture of respect
2. Human rights due diligence
3. Grievance mechanism
4. Monitoring and reporting.

Regulation of fair and just working conditions, good agricultural practices, crop diversification, limiting deforestation, and promoting new and innovative farm practices are a few examples of the projects developed to enhance social responsibility across PMI´s value chain.

PMI believes in the role of the private sector in climate justice. Governments cannot be left alone to take effective action on climate change and meet the Paris Agreement targets.

It has been recognized that the private sector can be pivotal in advancing climate justice by realigning business incentives with international climate commitments. Businesses that take steps to protect workers and communities from climate insecurity, including those across supply chains, will advance human rights principles of justice, inclusion, and equity.

100%

Tobacco cured with no risk of deforestation for primary and protected forests

Workers at our tobacco supplier's facility in Isabela, Philippines

Zero Deforestation Manifesto

Forests store carbon, and their conversion to other land use releases greenhouse gas emissions. Deforestation and the progressive degradation of forests are global issues; for PMI, wood fiber is the commodity of relevance. PMI's environmental strategy aims to engage with employees, suppliers, customers, communities, and other stakeholders to minimize negative environmental impacts. PMI is committed to:

- Zero gross deforestation of primary and protected forest associated with the tobacco supply chain by 2020
- Zero net deforestation of managed natural forest and no conversion of natural ecosystems in the tobacco supply chain by 2025
- Net positive impact on forests associated with the tobacco supply chain by 2025
- Zero gross deforestation of primary and protected forest associated with the supply chain of paper and pulp-based materials by 2025
- Net-zero deforestation of managed natural forest and no conversion of natural ecosystems in the paper and pulp-based products supply chain by 2030

PMI approaches these commitments through annual risk assessments, supplier and farmer engagement, and third-party verification.

Find out more:
Briefing paper CLIMATE JUSTICE IN GLOBAL SUPPLY CHAINS: A perspective from the private sector
written by Article One and commissioned by Philip Morris International

Climate change interlinkages with other Sustainable Development Goals

The 2030 Agenda for Sustainable Development is a plan of action for people, the planet, and prosperity: Exploiting the synergies between Sustainable Development Goals and the Paris Agreement is critical. The 17 SDG and 169 targets, including SDG 13 on climate action, demonstrate the scale and ambition of this universal agenda. The energy transitions envisaged in SDG 7 on sustainable energy will help lower GHG emissions relative to business-as-usual pathways, thereby contributing to the objectives of the Paris Agreement.

Similarly, more sustainable industrialization under SDG 9, sustainable food production systems and resilient agricultural practices under SDG 2, and changing patterns of consumption and production in line with SDG 12 can all contribute toward low-emissions pathways, the creation of new kinds of jobs, and making long-term progress toward eradicating poverty.

The period to 2030 is also the window within which the SDGs are to be achieved to leave no one behind: Progress made toward limiting global temperature increase would smooth the path to achieving other SDGs, such as those related to poverty, hunger, access to water, terrestrial and ocean ecosystems, forests, health, gender equality and the empowerment of women and girls, among others. Many of the goals and targets can also be achieved in ways that would enable adaptive responses to climate change, for example those related to resilience and disaster risk reduction in SDGs 1, 9, and 11, respectively relating to poverty eradication, infrastructure, and urban settlements.

Community project to provide farmers with access to water in Mozambique

HOW

ACHIEVING OUR CLIMATE GOALS BY...

Climate proofing the business and disclosing climate information

A call center employee in Fukuoka, Japan

Reducing greenhouse gas emissions and reaching net zero is the number one priority for mitigating the risks of climate change. However, we must prepare ourselves to face the effects on the climate already underway and the colossal transformations that the low-carbon transition requires from society and the economy.

Looking ahead and evaluating possible future scenarios is also key in identifying and seizing the opportunities of a low-carbon future. Transparency to external stakeholders is a required practice for the private sector to show alignment to the global sustainability agenda and proactive/reactive action on the ground. A number of international sustainability standards and practices are available for companies to embrace and use as a robust way to foster progress in the supply chain while accounting for issues and results in a standardized and transparent manner.

The communicated results both from own programs and through standardized approaches regulated by recognized available standards are the basis for an unbiased rating and ranking of companies that commit to drive sustainability at all levels in their value chain.

PMI understands the value of participating in ESG ratings; it helps to report and assess sustainability performance transparently, benchmark against leaders in sustainability, and, most importantly, identify areas for improvement.

We prioritize our participation in ratings that are most useful to our stakeholders, based on:

- The credibility of the methodology and our ability to interpret and use our results
- Recognition of the rating among the investor community, as well as participation by our competitors and peers so we can benchmark our performance
- Value as a learning opportunity, with a sufficient feedback loop to allow us to improve over time
- Resources required, which should not undermine our focus on performance improvement
- Openness to dialogue

PMI participates and has received high scores in several ESG ratings and international initiatives, such as CDP and Dow Jones Sustainability Index.

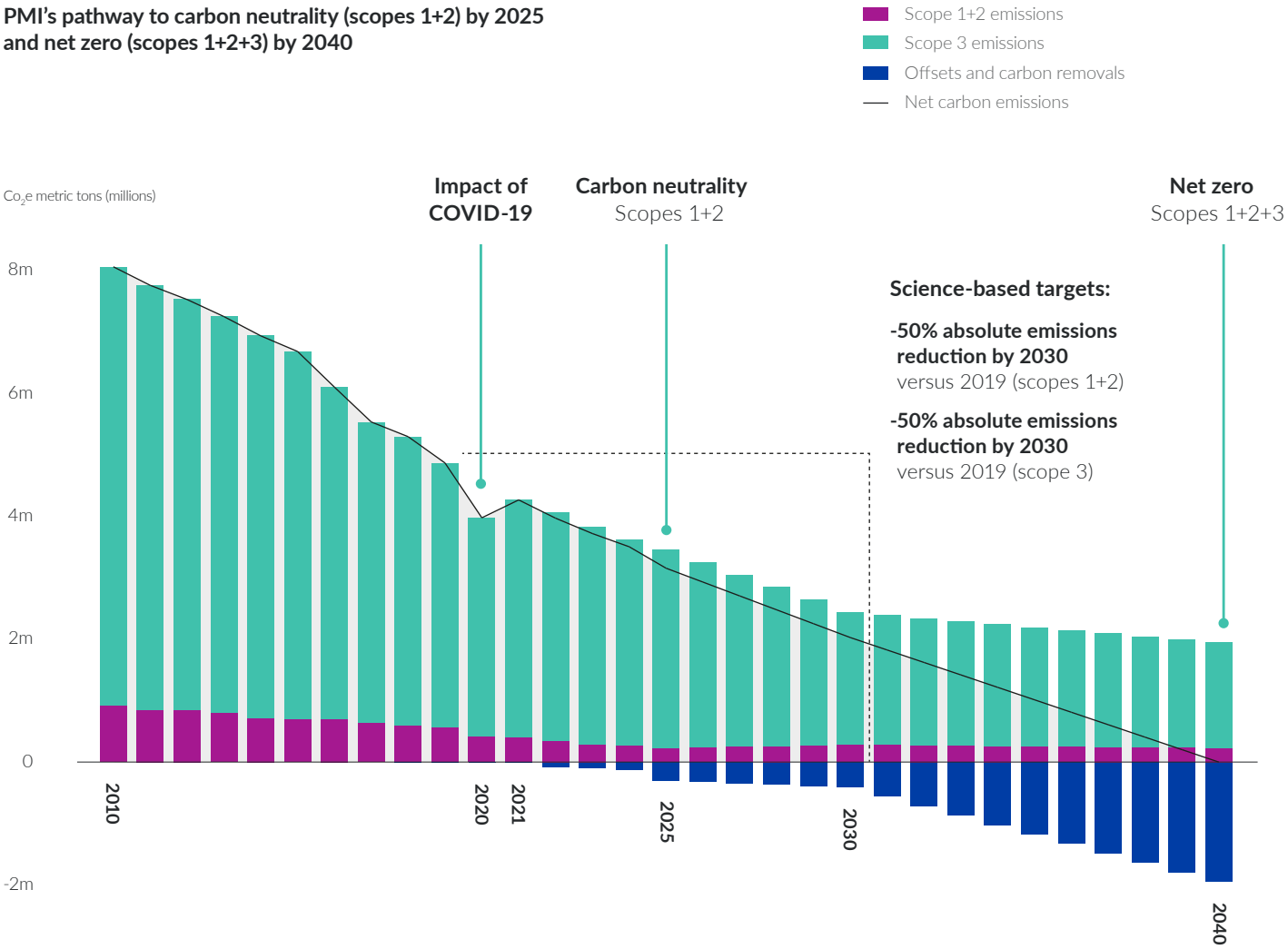
Climate proofing the business and disclosing climate information

Increased environmental pressure to perform business activities in a sustainable way means business leaders should look at environmental risks with an improved approach.

The impacts of climate change, biodiversity loss, and water insecurity—among others—threaten more than supply chains and physical infrastructure; they jeopardize business progress and growth by exacerbating systems-level disruption to customers, investors, employees, and communities.

Similar to other agricultural sectors, the production of tobacco is exposed to climate-related risks and opportunities resulting largely from tobacco´s reliance on land and natural resources. Water and fertilizers, for example, represent key input resources that are exposed to climate-related risks and opportunities. According to the Inter-Governmental Panel on Climate Change (IPCC), agriculture and forestry is responsible for "just under a quarter of anthropogenic GHG emissions, mainly from deforestation and agricultural emissions from livestock, soil, and nutrient management." This scale of impact means that decarbonization of the sector will be critical to the transition to a zero-carbon economy, which is required between 2050 and 2100 if the commitments made under the Paris Agreement are to be met and global temperature increases are limited to 1.5°C above pre-industrial levels, which is the threshold not to be passed according to IPCC (2018) and that is very likely in danger of not being respected, according to the latest IPCC communication (2021).

PMI's pathway to carbon neutrality (scopes 1+2) by 2025 and net zero (scopes 1+2+3) by 2040



This chart aims to be indicative; underlying data are based on simulation and actual assumptions until 2030 (based on our science-based targets), and on simplified assumptions as of 2030.
Source: PMI Integrated Report 2020

Carbon neutrality remains a top priority for PMI's response to climate and environmental risks. The efforts extend beyond our own operations to the entire value chain, and strategies account for the interdependencies between multiple environmental challenges. Based on the evolution of our programs and our willingness to invest in climate-smart equipment and systems driving a better environmental performance, we believe we can achieve the aim of carbon neutrality in our direct operations by 2025. To achieve the carbon-neutrality targets, we focus primarily on reducing absolute carbon emissions. To guide our work in the years to come, we revised our absolute CO_2e emission reduction targets in 2020 to align with a scenario of an increase in global temperatures of no more than 1.5°C above pre-industrial levels. In doing so, PMI aligned with the recommendations of the Intergovernmental Panel on Climate Change (IPCC) 2018 report.

PMI periodically conducts a climate change risks and opportunities assessment to fully understand our impact across the entire value chain, inform our climate strategy, and size the necessary mitigation and adaptation measures. This work aligns with international expectations such as those of the Paris Agreement to mitigate and adapt to climate impacts, as well as the recommendations of the Task Force on Climate-related Financial Disclosures (see **TCFD** on p. 58) which aims to foster voluntary climate-related, financial disclosures that provide clear, reliable, and useful information to the financial community. The most recent risk assessment was conducted in 2019 and reported on in the last integrated report as well as in the submission to the CDP (see **CDP** on p. 58).

Our climate ambition is reflected in the ratings and rankings that include PMI at the forefront of climate action for the private sector. We believe in transparent reporting, and we rely on the scoring and evaluation that is assigned to our initiatives reported for the entire value chain (scopes 1+2+3). We take comments and reviews as a means to improve our approach year after year, and we are eager to share as much as possible with relevant stakeholders both from the private and public sectors to foster steady progress and support the reaching of global climate goals.

PMI's commitment and results are acknowledged by different stakeholders at several levels; their feedback corroborates our actions. Our commitments related to climate protection are recognized to be in line with global standards, and we participate in several ESG initiatives where we have achieved the highest score in their ratings (see table).

For the first time, the score in the 2020 S&P Global Corporate Sustainability Assessment, an annual evaluation of companies' sustainability practices, earned PMI an inclusion in the Dow Jones Sustainability Index (DJSI) North America.

Rating agencies	PMI's performance in 2020	Score	
Bloomberg Gender-Equality Index	Named to the Bloomberg Gender-Equality Index	Included in the index	
CDP Climate, Forest, Water Security	Awarded "Triple A" score for our efforts to combat climate change, protect forests, and ensure water security. This marks the seventh consecutive year that PMI has ranked on CDP's A List for Climate Change and the second consecutive year that the company earned a position on the Water Security A List	Triple A	
CDP Supplier Engagement	Placed on Supplier Engagement Leaderboard for the fourth consecutive year	Leader	
Dow Jones Sustainabiity Index	Included in the Dow Jones Sustainability Index (DJSI) North America; ranked third in the industry; leading the industry for the third year in a row in DJSI's innovation management category	74	
ISS-oekom	"C" score, achieving industry leadership (2019 score; assessment is updated every two years)	C	
MSCI	Maintained BBB score	BBB	
S&P ESG Evaluation	Scored 60/100, based on ESG Profile Score (57/100) and Preparedness Opinion ("Adequate"). PMI's ESG Profile Score is assessed based on entity-specific scores and sector/region scores (see **report**)	60	
Sustainalytics	Ranked third within the tobacco subindustry ESG Risk Rating, with medium exposure score and strong management score	24.4	
State Street R-Factor Score	Outperformer within the tobacco industry; industry average score of 47	56	
Tobacco Transformation Index	Ranked second out of 15 tobacco companies assessed; leading the industry for "Strategy and Management" category	2.36	

Source: PMI Integrated Report 2020

In 2020, PMI made the CDP Climate Change A List for the seventh year in a row. In addition, we earned a position on the Water Security A List for the second year, a recognition of PMI as a global leader in water security. Our efforts on forest protection earned a rating of A by CDP Forests for the first time. For the fourth year in a row, we were included by CDP on its Supplier Engagement Leaderboard for our engagement with suppliers on climate-related issues.

CDP (previously Climate Disclosure Project)

CDP is a not-for-profit charity that runs the global environmental disclosure system. Each year CDP supports thousands of companies, cities, states, and regions to measure and manage their risks and opportunities on climate change, water security, and deforestation, doing so at the request of their investors, purchasers, and city stakeholders.

Over the last two decades CDP has created a system that has resulted in unparalleled engagement on environmental issues worldwide. Each year, CDP takes the information supplied in its annual reporting process and scores companies and cities based on their journey through disclosure and toward environmental leadership. Through its independent scoring methodology, it measures corporate and city progress and incentivizes action on climate change and forests and water security.

Founded in 2000, CDP was the first platform to link environmental integrity and fiduciary duty. Now with the world's largest, most comprehensive data set on environmental action, the insights that CDP holds empowers investors, companies, cities, and national and regional governments to make the right choices today to build a thriving economy that works for people and planet in the long term.

S&P rating of PMI

PMI leads our relatively small peer group of tobacco companies in the transition to carbon neutrality. Our recent adoption of a 1.5°C science-based target is unique among peers. Noting that the largest sources of GHG emissions-related risk in the tobacco subsector stem from upstream suppliers, we regard PMI's actions to improve the energy efficiency of curing barns and the promotion of alternative, more sustainable curing fuels as demonstrating leadership on this material risk. We also view favorably PMI's planned approach to mitigating the second biggest source of GHG emissions: cellulose acetate tow. Further, we differentiate ourself from peers through our adoption of an internal carbon price, which we use in tandem with advanced modeling tools, such as a marginal-abatement cost curve, to determine prudent climate-mitigating actions. We have taken concerted action regarding our direct GHG emissions, such as through the installation of heat pumps and onsite renewable energy generation technologies at some of our production facilities. The use of renewable energy certificates to tackle scope 2 emissions is common across the sector and form a fundamental part of PMI's net-zero strategy; however, we expect PMI to continue focusing efforts on self-generation and power-purchase agreements.

Environmental profile

Sector/region score		**20/50**
	Greenhouse gas emissions	**Leading**
	Waste and pollution	**Strong**
	Water use	**Good**
	Land use and biodiversity	**Strong**
	General factors (optional)	**None**
Entity-specific score		**42/50**
E-profile (30%)		**62/100**

Source: S&P Global ratings 2020

Task Force on Climate-related Financial Disclosures (TCFD)

The Task Force on Climate-related Financial Disclosures (TCFD) is an organization that was established in December 2015 with the goal of developing a set of voluntary climate-related financial risk disclosures that can be adopted by companies so that those companies can inform investors and other members of the public about the risks they face related to climate change.
The organization was formed by the Financial Stability Board (FSB) as a means of coordinating disclosures among companies impacted by climate change.
The TCFD, chaired by Michael Bloomberg, began issuing recommendations to companies to aid them in their disclosures of pertinent information related to climate-related financial risks in 2017. The goal of these recommendations is to provide companies a structure and impetus for disclosing this information so as to better inform financial markets and investors. These recommendations are voluntary and are in place as guidelines to assist businesses in identifying and sharing both risks and opportunities they face as a result of climate change. In turn, investors, lenders, insurers, and other participants in the market will have a more complete picture when assessing the value of those companies and the risks they face. As reported by Bloomberg, a goal of the TCFD is to encourage sustainable investments so as to build an economy that is resilient in the face of climate-related uncertainties.

PMI's Business Transformation Metrics

To make progress that is measurable and verifiable, PMI has developed a set of specific key performance indicators (KPIs) called Business Transformation Metrics. These metrics, which are periodically reported on by PMI, allow stakeholders to assess both the pace and the scale of our transformation. Over the years, based on stakeholders' feedback, we have expanded the number of metrics to increase transparency and provide improved guidance on how to achieve progress. PMI's Business Transformation Metrics also showcase how to mobilize resources away from the traditional cigarette business toward alternative smoke-free products and their supply chain, aiming to generate success, leveraging a vision where PMI no longer makes cigarettes.

HOW

ACHIEVING OUR CLIMATE GOALS BY...

Building effective climate governance

PMI's R&D center in Neuchâtel, Switzerland

Climate change is a key factor to consider in long-term business strategies. It is crucial to have rules and processes in place to identify, assess, and manage the responses to risks and opportunities of climate change. PMI's governance and management systems aim to ensure that climate-related risks and opportunities are considered in relevant decision-making processes.

As companies continue to organize their approaches around risk analysis and disclosure standards and methods, the scope of PMI's Board of Directors (BoD) is to continue to enhance the oversight of these areas. PMI's BoD views sustainability as an integral part of the company's business strategy. PMI's BoD and its committees are responsible for fostering the long-term success of the company, setting broad corporate policies, strategic direction, and overseeing management responsible for daily operations. The BoD considers that ESG factors, including climate change, are relevant to the company's business and long-term success. The BoD and its committees receive updates on the company's performance and progress toward the carbon neutrality goal.

Additionally, in early 2020, the BoD released PMI's Statement of Purpose, which acknowledges that certain key stakeholders (e.g., employees, investors, customers, civil society) are fundamental to our business transformation toward a smoke-free future.

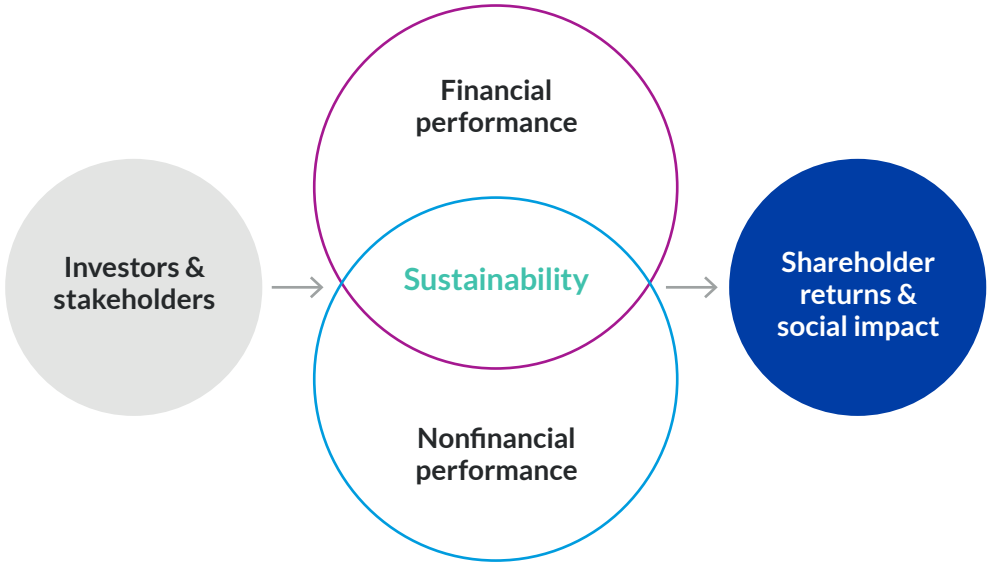
PMI focuses on protecting the environment through sustainable practices across our business and on addressing both existing social and environmental challenges pertaining to our business transformation.

In the area of governance, anchoring PMI's sustainability priorities in executive accountabilities helps ensure that the strategy is embedded in our daily operations. Aligned with our purpose, PMI is working to seamlessly integrate numerous ESG issues into the corporate culture, business strategy, and executive-compensation plans. We aim to continuously improve performance and drive transparent, substantial, and measurable progress toward our targets and aspirations—all communicated through open and clear reporting and disclosure.

There is currently an expectation by both companies and investors that material ESG factors should be completely integrated into a company's business strategy. However, the major barrier to this integration is that the finance and sustainability functions have been—and largely remain—wholly separate parts of organizations. Since October 2020, PMI's Chief Sustainability Officer reports directly to PMI's Chief Financial Officer, in line with our belief that fully integrating ESG drivers into the business strategy can significantly enhance both sustainability and financial performance.

Building effective climate governance

Integrating financial & nonfinancial performance



Source: Sustainability and Impact in Our Next Growth Phase, PMI Webcast—June 2, 2021

An increasing number of stakeholders are demanding that capital markets shift from perceived short-term, siloed, and sometimes extractive behavior to a model of long-term, inclusive, and sustainable capitalism. Investors are increasingly moving beyond a traditional risk-return model to ask how they can deploy capital as a lever for change. Investment decisions increasingly integrate environmental, social, and governance (ESG) criteria, which are growing in sophistication from initial undifferentiated approaches, and are expected to ramp up dramatically over the next decade. The standardization, measurement, and aggregation of nonfinancial data is needed to support the financial sector in making more sustainable investment decisions.

In October 2020, PMI announced that the Chief Sustainability Officer would report directly to PMI's Chief Financial Officer, as it is our belief that fully integrating ESG drivers into our business strategy can significantly enhance both sustainability and financial performance.

This was the logical next step following the Board of Director's adoption of PMI's Statement of Purpose in 2020 and the shift to integrated reporting in 2019. Those developments underscore that ESG is core to PMI's performance and success, and further demonstrate that, at PMI, sustainability and business performance do not follow separate paths; they are fully interrelated and mutually reinforcing and are organized and presented to all stakeholders, including investors, in an integrated way.

The Nominating and Corporate Governance Committee of PMI's BoD oversees sustainability strategies and performance, including climate change-related issues. The Audit Committee of the BoD oversees the assessment and management of company risks, including those related to climate change such as natural disasters, water scarcity, and agricultural supply chain instability. A member of PMI's company management, the Senior Vice President (SVP), Operations is tasked with addressing climate change risks, including physical and water-related risks, across all company activities. He monitors and reviews progress against objectives, strategies, and action plans related to climate change, and reports findings to the Nominating and Corporate Governance Committee and Audit Committee of the BoD.

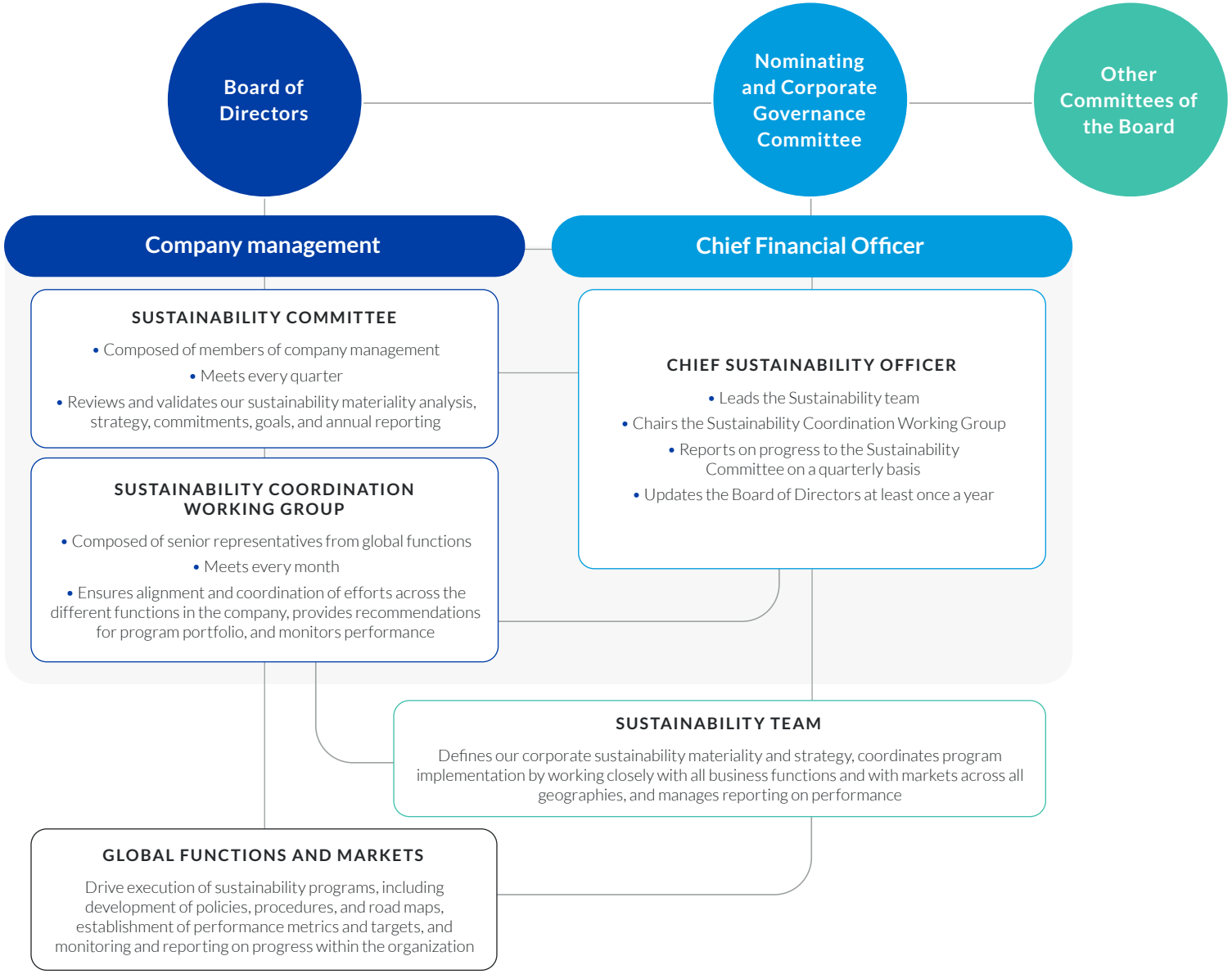
As of May 2021, the SVP, Operations reports directly to and regularly updates PMI's CEO on climate issues and has operational responsibility, including maintaining robust business resilience, risk assessment processes, and strategies to support business continuity. He examines and monitors issues related to climate change, ensuring that risk assessment and management are integrated into long-range plans, objectives, budgets, and performance review processes.

Sustainability governance and management

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

PMI's approach to decarbonizing our operations and value chain is guided by several corporate policies. Reducing energy consumption and carbon emissions is embedded in PMI's Environmental Commitment, our Guidebook for Success (PMI's Code of Conduct), Responsible Sourcing Principles, and the Good Agricultural Practices program. Efforts to protect forests, a fundamental climate-regulation mechanism, are in accordance with the Zero Deforestation Manifesto. PMI's well-established environmental management system, based on international standards such as ISO 14001, supports the implementation of environmental policies across operations.

PMI's compensation and benefits program supports business and financial objectives. The executive compensation program reflects the commitment to put sustainability at the core of our corporate strategy.



Source: PMI Integrated Report 2020

The relevant challenge on which climate action stakeholders are working diligently is to ensure that ESG information and data are managed and reported with appropriate rigor. Unlike financial accounting standards, and despite evolving practices, there are no industry norms or globally recognized established practices for measuring and evaluating a company's performance on ESG factors, sometimes referred to as nonfinancial performance. Significant action is underway to standardize reporting and align it to more rigorous practices by key stakeholders such as the European Commission and independent agencies such as GHG protocol and World Resource Institute. PMI is constantly monitoring the evolution of ESG reporting, participating wherever possible in improving data and resources needed for a robust and fully reliable accounting of results.

Sustainability reporting to the CFO

Strengthened and integrated ESG governance

Executive compensation linked to ESG+P performance

Governance & incentives linked to sustainability

	Metrics	ESG+P	Compensation type
GOVERNANCE	**Transformation** *(smoke-free NR/total NR)*	Product	PSU 2021-23
	Smoke-free (HTU) shipment volume	Product	Annual incentive metrics
	Strategic initiatives	Environment, social & governance + product	Annual incentive metrics
	Carbon footprint reduction	Environmental	PSU 2021-23[a]
	Environmental leadership *(CDP, Triple-A rating)*	Environmental	PSU 2021-23[a]
	Electronics circularity *(Recycling rate)*	Environmental	PSU 2021-23[a]
	Diversity, equity & inclusion *(% Women in senior roles)*	Social	PSU 2021-23[a]

Source: Sustainability and Impact in Our Next Growth Phase, PMI Webcast—June 2, 2021

Glossary

1.5°C

Temperature limit envisaged by the Paris Agreement (2015). The parties committed to "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change" (Paris Agreement, 2015). According to the IPCC, climate-related risks for natural and human systems are higher for global warming of 1.5°C than at present, but lower than at 2°C **(IPCC, 2018)**.
(see p. 17)

Carbon credit

An emissions unit that is issued by a carbon crediting program and represents an emission reduction or removal of greenhouse gases. Carbon credits are uniquely serialized, issued, tracked, and canceled by means of an electronic registry **(VCMI, 2021)**.

Carbon neutrality

Carbon neutrality is an intermediate step toward net zero, and it can be reached when attributable CO_2 emissions are fully compensated by CO_2 reductions or removals that can be exclusively claimed, such that the net contribution to global CO_2 emissions is zero. (see p. 16)

Carbon pricing

The price for avoided or released CO_2 or CO_2-equivalent emissions. This may refer to the rate of a carbon tax or the price of emission permits. In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies **(IPCC, 2014)**.

Compensation

Measurable GHG emission reductions, resulting from actions outside of the value chain of a company that compensate for emissions that remain unabated within the value chain of a company. Compensation measures commonly used by companies include direct investment in emission reduction activities, purchase of carbon credits, and avoided emissions through the use of sold products, among others. The scope of compensation measures is to accelerate the climate action outside the value chain **(SBTi, 2020)**.

Climate justice

Justice that links development and human rights to achieve a human-centered approach to addressing climate change, safeguarding the rights of the most vulnerable people and sharing the burdens and benefits of climate change and its impacts equitably and fairly **(IPCC, 2018)**.

Decarbonization

The process by which countries or other entities aim to achieve a low-carbon economy, or by which individuals aim to reduce their consumption of carbon **(IPCC, 2014)**.

Emissions reduction

Actions that reduce the quantity of GHGs attributable to an entity vis-a-vis a baseline. Examples include replacing fossil-burning power with renewable energy, reducing consumption of emissions-intensive products or inputs, avoiding damage to ecological carbon sinks, carbon capture and storage (CCS), avoided emissions from deployment of renewable energy, etc. **(UNFCCC Race to Zero, 2021)**.

Emissions removal

Actions that remove GHGs from the atmosphere relative to baseline. Examples include afforestation and reforestation, soil carbon enhancement, bioenergy with carbon capture and storage (BECCS), direct air capture, mineralization, or enhanced weathering **(UNFCCC Race to Zero, 2021)**.

Insetting

The term "insetting" has been used to refer to a company's efforts to prevent, reduce, or remove emissions within its own supply chain, but outside of its operational boundaries. The Science Based Targets initiative considers such insetting measures to be distinct from efforts to "neutralize" or "compensate," instead proposing that insetting measures are directly accounted for in a company's efforts to abate all of its supply chain emissions as it pursues its net-zero target. In 2015, the International Carbon Reduction and Offset Alliance (ICROA) defined insetting as "a carbon reduction project, verified by an offset standard, which occurs within a company's supply chain or supply chain communities." ICROA also formulated three best practices in the use of insetting as a management strategy. Firstly, to claim to be insetting and account for reduced or removed emissions accordingly, a company must invest financially in the development and maintenance of the insetting project. This project can be developed by the company, its suppliers, or third-party organizations. Secondly, the investment project must involve a supply-chain activity (i.e., involving the production or sourcing of raw materials, product transformation, or product transportation) and the supply chain community (all stakeholders with a direct link with the supply chain). Lastly, the activities covered must generate additional, unique, measurable, and verifiable emissions reductions **(VCMI, 2021)**.

IPCC

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change. The IPCC was created in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options. The main activity of the IPCC is the preparation of reports assessing the state of knowledge of climate change. These include assessment reports, special reports, and methodology reports.

Low-carbon economy

A low-carbon economy is an economy based on low-carbon sources. The power needs are primarily derived from less carbon-intensive energy sources. This economic system should produce a minimal output of greenhouse gas (GHG) emissions into the atmosphere, specifically CO_2, in order to maintain its concentration within the limits suggested by the best available climate science. (Synonym of decarbonized economy).

Low-carbon future

A future pathway derived from a paradigm shift in the economy, energy production, and supply systems behavior driven by a deep decarbonization. It is joint to the concept of low-carbon economy.

Glossary continued

Nature-based solutions

Nature-based solutions (NBS) are actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits **(VCMI, 2021)**.
(see p. 42)

Net zero

Net-zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple greenhouse gases are involved, the quantification of net-zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, and others, as well as the chosen time horizon) **(IPCC, 2018)**.
(see p. 17)

Offsetting

The act of compensating or canceling out all, or a portion of, the GHG emissions released to the atmosphere through investments in activities that reduce or remove an equivalent amount of GHG emissions and that are located outside the boundaries of the organization or a particular product system. Such investments are often in the form of purchasing a carbon credit. Offsetting is effected by purchasing and retiring an amount of carbon credits equivalent to the volume of GHG emissions that is being compensated **(VCMI, 2021)**.

Physical risks

Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns. Physical risks may have financial implications for organizations, such as direct damage to assets and indirect impacts from supply chain disruption. Organizations' financial performance may also be affected by changes in water availability, sourcing, and quality; food security; and extreme temperature changes affecting organizations' premises, operations, supply chain, transport needs, and employee safety. Acute physical risks refer to those that are event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes, or floods. Chronic physical risks refer to longer-term shifts in climate patterns (e.g., sustained higher temperatures) that may cause sea level rise or chronic heat waves **(TCFD, 2017)**.

Science Based Targets initiative (SBTi)

The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). The SBTi call to action is one of the We Mean Business Coalition commitments. Science-based targets show companies how much and how quickly they need to reduce their GHG emissions to prevent the worst effects of climate change. The SBTi defines and promotes best practice in emissions reductions and net-zero targets in line with climate science; provides technical assistance and expert resources to companies that set science-based targets in line with the latest climate science; brings together a team of experts to provide companies with independent assessment and validation of targets. The SBTi is the lead partner of the Business Ambition for 1.5°C campaign—an urgent call to action from a global coalition of UN agencies, business and industry leaders, mobilizing companies to set net-zero science-based targets in line with a 1.5°C future. (see p. 27)

Transition risks

Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed, and focus of these changes, transition risks may pose varying levels of financial and reputational risk to organizations (policy and legal risks, technology risk, market risk, reputation risk). Transition risks will affect the profitability of businesses and wealth of households, creating financial risks for lenders and investors. They will also affect the broader economy through investment, productivity, and relative price channels, particularly if the transition leads to stranded assets **(NGFS, 2021)**.

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