Michelin - Climate Change 2023

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Since 1889, Michelin has constantly innovated to facilitate the mobility of people and goods. Today, the Group is setting the standard across every tire and travel-related services market, while leading a global strategy to drive responsible, sustainable and profitable growth. Backed by its unrivaled expertise in materials and leading-edge industrial processes, the Group's Michelin In Motion 2030 strategic plan is designed to grow its business with tires (automotive, road transportation and specialties), around tires with a range of fleet services and solutions for fleet operators and monetization of collected data, and beyond tires in high-tech materials, engineered polymers, hydrogen mobility, metal 3D printingpolymer-based materials.

Michelin enjoys exceptional geographic coverage and is stepping up its deployment in emerging markets. Currently operating in 26 countries at 121 production facilities and 9 research centers, and 7,400 dealerships and service centers in 30 countries. Michelin employs a total of 132,000 people worldwide. Net sales in 2022 were €28.6 billion.

Operating in a wide variety of markets not only enables the Group to diversify its sources of revenue but also to capitalize on the countercyclical nature of certain industries or business segments to strengthen its resilience. Today, tire-related sales account for nearly 95% of the consolidated total, divided almost equally between B2C (replacement passenger car and two-wheeler tires) and B2B sales (Road transportation, Beyond road, Mining, Automotive original equipment, and Aircraft). The main targeted growth drivers are focused on the shift to electric mobility and specialty tires.

The Group also intends to expand in services and solutions for vehicle fleets by capitalizing on advances in digital technology and connected mobility. It also leverages its unrivaled expertise in high-tech materials and leading-edge industrial processes in a variety of industries, including energy, medical devices and aerospace. Non-tire sales rose by 22% in 2022.

In 2022 the Michelin Group, which previously owned 49% of Royal Lestari Utama (RLU), has purchased the remaining 51% of the joint venture created with Barito Pacific Group. In this way, Michelin has reasserted its objectives and its commitment to producing sustainable natural rubber in Indonesia and to improving the living conditions of local communities.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date
January 1 2022

End date
December 31 2022

Indicate if you are providing emissions data for past reporting years
No

Select the number of past reporting years you will be providing Scope 1 emissions data for
<Not Applicable>

Select the number of past reporting years you will be providing Scope 2 emissions data for
<Not Applicable>

Select the number of past reporting years you will be providing Scope 3 emissions data for
<Not Applicable>

C0.3

(C0.3) Select the countries/areas in which you operate.

Brazil
Canada
China
France
Germany
Hungary
India
Indonesia
Italy
Japan
Mexico
Poland
Romania
Russian Federation
Serbia
Spain
Thailand
United Kingdom of Great Britain and Northern Ireland
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Financial control

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	FR0000121261

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	The Group Executive Committee (GEC), Group Management Committee (GMC) and the Supervisory Board are the 3 board-level committees responsible for climate-related issues. The GEC -- the managing chairman, general manager and executive VPs -- focuses on strategic decisions: corporate transformations, business models, acquisitions, performance, brand strategy, and sustainable growth. It oversees the enterprise risk management system including climate-related risks. 2 members – executive VPs of manufacturing and R&D, respectively – have delegated responsibility to make decisions on climate-related risks and opportunities regarding operations through the Environmental Governance (EG). The GEC oversees climate-related risks and opportunities regarding business strategy through the annual strategic planning process for business units. The GMC is comprised of the GEC plus the heads of Strategy, Purchasing, Corporate & Business Services, Finance, Legal Affairs, Quality, Audit, Internal Control and Risk Management, Supply Chain, Information Systems, and the China and North America Regions. It transversaly manages transformations, competitiveness, diversity and integration of acquisitions, internal control, quality and risks management. It oversees progress against climate-related targets, managed through a transformation process “All in Action for the Environment“, and external engagement on decarbonization of transport and mobility systems. It is briefed twice a year by the Chief Sustainability Officer to ensure that all climate-change related issues overseen by the EG are reviewed at the highest level of the company. The GEC and GMC are therefore responsible for overseeing assessment and management of risks and opportunities related to climate change for Michelin and its subsidiaries. The Supervisory Board’s role is to exercise permanent oversight of the Group’s management and assess its quality for the benefit of the shareholders. Its 4-member CSR Committee examines the Group’s strategy, objectives, policies and commitments regarding climate change and makes recommendations in this regard; ensures the integrity, completeness and exemplary nature of the climate change transition plan (decarbonization plan and business strategy transition) and initiatives; reviews strategic roadmaps and their implementation.

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding annual budgets Overseeing major capital expenditures Overseeing acquisitions, mergers, and divestitures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan Monitoring the implementation of a transition plan Overseeing the setting of corporate targets Monitoring progress towards corporate targets Overseeing value chain engagement Reviewing and guiding the risk management process	<Not Applicable>	As part of the Supervisory Board’s role of exercising permanent oversight of the Group’s management, its CSR Committee reviews the climate strategy, including the transition plan and the adaptation plan, and issues recommendations. The Group Management Committee (GMC), which brings together the Group Executive Committee (GEC) and the heads of Strategy, Purchasing, Corporate Business Services, Finance, Legal Affairs, Quality, Audit, Internal Control and Risk Management, Supply Chain, Information Systems, and the China and North America Regions, reviews all strategic actions related to climate change. To do this, it conducts a biannual review, organized by the corporate sustainability officer, of decisions made and issues handled by the Environmental Governance. This review enables the GMC to verify that steady progress is being made towards short-, medium- and long-term CO2 reduction targets and validate the strategic objectives for major climate-related issues and risks and their internal control. The Environmental Governance body reviews climate-related and energy transition issues impacting the Group’s business operations and review the whole value chain engagements and, under this remit, makes decisions on behalf of the Group Executive Committee. As of 2021 the GMC oversees 6 Group-wide transformations, one of which is “All in Action for the Environment”. This transformation includes reaching carbon neutrality by 2050 for Scopes 1, 2 and 3 and focusing on short-term CO2 reductions in manufacturing, logistics and raw materials, while contributing to downstream users’ carbon neutrality with products and services enabling highly energy efficient and low carbon mobility. The role of the GMC is to ensure that the necessary changes take place across Group’s organizations that will enable the roadmap to carbon neutrality to be implemented and achieved. The Group Executive Committee (GEC) oversees all major decisions on Capex and mergers/acquisitions/divestitures, the corporate risk management framework and the annual risk map. In 2020, the review included a new environmental risk map approved by the EG that includes climate-related risks corresponding to the TCFD approach of physical risks and transition risks The CEO's, General manager's and all employee's Group Bonus is decided once a year by the GEC. Four times a year, the Corporate Innovation Board stands with GEC members, R&D members, and Business Lines representants. It sets and oversees the R&D strategy for the Group. One of its decisions was the definition of a product energy efficiency ambition for 2030. Three times a year, the Capex Steering Committee, which brings together the GEC and the Finance department, oversees the use of major capital expenditures, including those dedicated to energy efficiency and energy transition. It also steers these annual budgets.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	One member of the Group Executive Committee (GEC) who co-chair the Environmental Governance has done so since 2018, accumulating knowledge for managing climate-related risks and opportunities, including setting science-based targets, assessing physical risks of climate change, and applying climate change scenarios to transition analysis. The second member has a strong background built through his experience at Ministry of Environment in France. The chair of the Supervisory Board CSR Committee has since 2020 managed the process of 1) reviewing and guiding strategy, 2) reviewing and guiding risk management policies, and 3) monitoring and overseeing progress against goals and targets for addressing climate-related issues. Dedicated training courses: The full GEC has undergone training on climate scenarios and their application to corporate strategy transition. The full GEC has undergone training session about systemic consequences of climate change called "The Climate Fresk". Certain members of the GEC and Group Management Committee (GMC) have taken the training course “The Climate School”. In March 2023, the whole top 80 members have spend a whole training day about climate change and environmental issues, including a conference of the co-president of IPCC Group 1.	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee
Chief Executive Officer (CEO)

Climate-related responsibilities of this position
Managing annual budgets for climate mitigation activities
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Managing climate-related acquisitions, mergers, and divestitures
Providing climate-related employee incentives
Integrating climate-related issues into the strategy
Monitoring progress against climate-related corporate targets
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
The CEO oversees the strategy for external engagement on sustainable mobility and decarbonizing transport. The latter is the most material climate change issue for Michelin. The CEO is assisted by the Chief Sustainability Officer to monitor climate-related issues with a focus on identifying and developing opportunities for external partnerships and relations covering a diverse set of mobility ecosystems that are working on 2 fronts: 1) accelerating the systemic transformation of mobility into a “net zero emissions” system before 2050; and 2) actively putting in place new approaches to low-carbon and lower impact mobility. They are supported by internal experts representing Michelin in public-private sustainable mobility initiatives (Sustainable Mobility for All, Transport Decarbonization Alliance, International Transport Forum, among others) and internal and external experts involved in Michelin-developed ecosystems for sustainable mobility (Movin'On, the world's leading ecosystem of strategic anticipation and co-innovation for sustainable mobility). These same experts identify and manage risks regarding corporate engagement and reputation, in consultation with the Chief Sustainability Officer and the CEO.
Through its engagment in Corporate Innovation Board, the CEO takes part in R&D prioritization, setting for example a product energy efficiency strategy.
Being part of the Capex Steering committee, the CEO manages the annual budget, including those for climate mitigation activities. The allocation of capital expenditures is a critical aspect to implement the energy efficiency and energy transition strategy.
As president of the Group Executive Committee, the CEO validates the employees incentives.

Position or committee
Other C-Suite Officer, please specify (General Manager)

Climate-related responsibilities of this position
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Half-yearly

Please explain
The General Manager has 2 main functions: 1) to oversee all issues related to sustainable finance, including implementation of the recommendations of the Task Force on Climate-related Financial Disclosure and the EU Sustainable Finance regulation; 2) to ensure that the management systems in place for climate-related risks and

opportunities are reviewed by the Supervisory Board's CSR Committee. These functions are supported by the Chief Sustainability Officer.

Position or committee
Chief Operating Officer (COO)

Climate-related responsibilities of this position
Developing a climate transition plan
Implementing a climate transition plan
Setting climate-related corporate targets
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Half-yearly

Please explain
The positions of executive VP of manufacturing operations and executive VP of research and development, both members of the Group Executive Committee (GEC or management board), serve as co-chairs of the Environmental Governance, which operates under auspices the Group Management Committee (GMC), and as such they are empowered to make decisions for the GMC as a whole. Meeting twice a year at a minimum, the Environmental Governance oversees all climate-related issues impacting operations. They are assisted by the members of the Environmental Governance: chief procurement officer, chief risk officer, corporate EHS/Security manager, chief sustainability officer, 2 vice-presidents of research and development, vice president of the advanced materials division, and norms and regulations manager. The 2 executive vice president chairs, supported by the transverse expertise of the members, jointly monitor climate-related issues with a focus on assessing their potential impacts to internal operations – manufacturing, logistics and purchasing – and strategy for research and development. They are supported by several standing work groups that analyze and make recommendations on strategic issues related to energy use, carbon pricing, mitigation, adaptation, and current and future objectives, among others. Lastly, the Environmental Governance is particularly suited to bottom-up identification of emerging risk factors and analyzing their impacts over the short-, medium- and long-term. All major decisions on climate-related risks, opportunities and investments impacting operations that are not made by the GMC are made by the Environmental Governance. This approach ensures that major decisions are made at the highest level of the company with the relevant divisions and activities of the Group represented.

Position or committee
Other C-Suite Officer, please specify (Executive vice president of Research & Development)

Climate-related responsibilities of this position
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Half-yearly

Please explain
The positions of executive VP of manufacturing operations and executive VP of research and development, both members of the Group Executive Committee (GEC or management board), serve as co-chairs of the Environmental Governance, which operates under auspices the Group Management Committee (GMC), and as such they are empowered to make decisions for the GMC as a whole. Meeting twice a year at a minimum, the Environmental Governance oversees all climate-related issues impacting operations. They are assisted by the members of the Environmental Governance: chief procurement officer, chief risk officer, corporate EHS/Security manager, chief sustainability officer, 2 vice-presidents of research and development, vice president of the advanced materials division, and norms and regulations manager. The 2 executive vice president chairs, supported by the transverse expertise of the members, jointly monitor climate-related issues with a focus on assessing their potential impacts to internal operations – manufacturing, logistics and purchasing – and strategy for research and development. They are supported by several standing work groups that analyze and make recommendations on strategic issues related to energy use, carbon pricing, mitigation, adaptation, and current and future objectives, among others. Lastly, the Environmental Governance is particularly suited to bottom-up identification of emerging risk factors and analyzing their impacts over the short-, medium- and long-term. All major decisions on climate-related risks, opportunities and investments impacting operations that are not made by the GMC are made by the Environmental Governance. This approach ensures that major decisions are made at the highest level of the company with the relevant divisions and activities of the Group represented.

Position or committee
Chief Risks Officer (CRO)

Climate-related responsibilities of this position
Other, please specify (Assessing and managing climate-related risks)

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Annually

Please explain
The Chief Risk Officer reports to the GMC on climate-related risks in coordination with the Environmental Governance, which itself oversees climate-related audits and internal control.

Position or committee
Chief Sustainability Officer (CSO)

Climate-related responsibilities of this position
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Annually

Please explain
The Chief Sustainability Officer assists the CEO to monitor climate-related issues with a focus on identifying and developing opportunities for external partnerships and relations covering a diverse set of mobility ecosystems that are working on 2 fronts: 1) accelerating the systemic transformation of mobility into a “net zero emissions” system before 2050; and 2) actively putting in place new approaches to low-carbon and lower impact mobility. They are supported by internal experts representing Michelin in public-private sustainable mobility initiatives (Sustainable Mobility for All, Transport Decarbonization Alliance, International Transport Forum, among others) and internal and external experts involved in Michelin-developed ecosystems for sustainable mobility (Movin'On, the world's leading ecosystem of strategic anticipation and co-innovation for sustainable mobility). These same experts identify and manage risks regarding corporate engagement and reputation, in consultation with the Chief Sustainability Officer and the CEO.

Position or committee
Other C-Suite Officer, please specify (Chief Strategy Officer)

Climate-related responsibilities of this position
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Annually

Please explain
The Chief Strategy Officer ensures that the annual strategic planning process overseen by the GEC incorporates the key inputs and outputs so that climate-related risks and opportunities are taken into account in the 5-year strategic plans of business units, operating/support departments and regions. In addition, provides ad hoc support to the CEG on strategic questions relating to climate change. The Chief Sustainability Officer and Chief Financial Officer and their team supports this process.

Position or committee
Other, please specify (Research and Development Strategy Committee)

Climate-related responsibilities of this position
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Annually

Please explain
The Research and Development Strategy Committee, a cross-functional panel of executives from research and development, manufacturing and business units, decides on which low-carbon products and services that will move from research and development phases to commercial offers. As such, it provides key inputs to the strategic planning process.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive
Chief Executive Officer (CEO)

Type of incentive
Monetary reward

Incentive(s)
Bonus - % of salary

Performance indicator(s)
Reduction in absolute emissions

Incentive plan(s) this incentive is linked to
Short-Term Incentive Plan

Further details of incentive(s)
A portion (10%) of the CEO's annual incentive bonus is indexed to the reduction in absolute value of Scope 1&2 CO2 emissions.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The reduction in absolute value of Scope 1&2 CO2 emissions is in direct line with our Net Zero Ambition.

Entitled to incentive
Chief Executive Officer (CEO)

Type of incentive
Monetary reward

Incentive(s)
Bonus - % of salary

Performance indicator(s)
Achievement of climate transition plan KPI

Incentive plan(s) this incentive is linked to
Long-Term Incentive Plan

Further details of incentive(s)
A portion (20%) of the CEO's long-term deferred incentive bonus is indexed to the reduction of the industrial Michelin Environmental Performance indicator, including a sub-indicator for reducing Scopes 1,and 2 CO2 emissions.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The deployment of the transformation program is a key point of the implementation of the strategy. Michelin has launched a six-part transformation program to improve its ability to address environmental, employee relations and social issues (one of these six parts is entitled "All in action for the Environment"). The reaching of this objective is under Board assessment.

Entitled to incentive
Other, please specify (General Manager)

Type of incentive
Monetary reward

Incentive(s)
Bonus - % of salary

Performance indicator(s)
Reduction in absolute emissions

Incentive plan(s) this incentive is linked to
Short-Term Incentive Plan

Further details of incentive(s)
A portion (10%) of the General Manager's annual incentive bonus is indexed to the reduction in absolute value of Scope 1&2 CO2 emissions.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The reduction in absolute value of Scope 1&2 CO2 emissions is in direct line with our Net Zero Ambition.

Entitled to incentive
Other, please specify (General Manager)

Type of incentive
Monetary reward

Incentive(s)
Bonus - % of salary

Performance indicator(s)
Achievement of climate transition plan KPI

Incentive plan(s) this incentive is linked to
Long-Term Incentive Plan

Further details of incentive(s)
A portion (20%) of the General Managers's long-term deferred incentive bonus is indexed to the reduction of the industrial Michelin Environmental Performance indicator, including a sub-indicator for reducing Scopes 1 & 2 CO2 emissions.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The deployment of the transformation program is a key point of the implementation of the strategy. Michelin has launched a six-part transformation program to improve its ability to address environmental, employee relations and social issues (one of these six parts is entitled "All in action for the Environment").
The reaching of this objective is under Board assessment.

Entitled to incentive
All employees

Type of incentive

Monetary reward

Incentive(s)
Bonus - % of salary

Performance indicator(s)
Reduction in absolute emissions

Incentive plan(s) this incentive is linked to
Short-Term Incentive Plan

Further details of incentive(s)
A portion (10%) of all employees's annual incentive bonus is indexed to the reduction in absolute value of Scope 1&2 CO2 emissions. (When we say All employees, it is at least 80% of all employees in Michelin Group, a propotion that is increasing year after year).

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The reduction in absolute value of Scope 1&2 CO2 emissions is in direct line with our Net Zero Ambition.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?
Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	5	This time horizon is aligned with operations/support divisions' management of operational risks and business units' management of 5-year business plans. It applies to 1) operational decisions about energy purchasing and usage in manufacturing (e.g., contracts for purchasing renewable electricity) ; 2) management of CO2 quotas under emissions trading systems; 3) strategic planning and partnerships for new mobility offers (e.g., hydrogen fuel cell vehicles and related infrastructure); 4) development of supplier partnerships for reducing carbon footprints (e.g., logistics services, engagement through CDP Supply Chain); 5) market and external environment/stakeholder analysis (e.g., corporate climate strategies, NGO expectations, positions and expectations of influencers); 6) tactical implementation of norms and regulations strategy (see below); 7) management of operational risks related to extreme weather events; 8) management of media coverage of corporate responsibility regarding climate change; 9) engaging public and private actors in sustainable mobility through the Movin'on ecosystem (Movin'on Summit and Movin'on LAB) and the Transport Decarbonization Alliance; 10) managing SBTi-approved targets for raw materials suppliers; 11) R&D projects and partnerships for energy-efficient materials, products and services; 12) stakeholder materiality assessments.
Medium-term	5	15	This time horizon is aligned with operations/support divisions' management of strategic risks and business units' management of strategic planning. It applies to 1) industrial footprint restructuring and decisions about energy usage and energy-efficient technologies in manufacturing; 2) strategic planning for CO2 quotas in emissions trading systems; 3) research and development cycle for new tire projects addressing energy efficiency/materials/mass in concert with the other key tire performances; 4) strategic anticipation analysis of mobility trends; 5) strategic plans related to norms and regulations related to vehicle/tire energy efficiency, CO2 emissions, long-lasting performance; 6) climate change scenarios analysis by business units, operations/support divisions and the Group Executive Committee (GEC) in line with the recommendations of the Task Force on Climate-related Financial Disclosure; 7) managing SBTi-approved targets for manufacturing and upstream and downstream supply chain; 8) assessing physical risks of climate change and developing adaptation plans; 9) supporting actions for reducing GHG emissions from transport and related UN Sustainable Development Goals under the SuM4All consortium (https://www.sum4all.org/who-we-are) and through the Transport Decarbonization Alliance (TDA, https://tda-mobility.org/).
Long-term	15	30	This time horizon applies to 1) developing a corporate SBT roadmap under a below 2 °C and 1.5 °C scenarios for long-term reductions to CO2 emissions from manufacturing and upstream and downstream value chain activities; 2) climate change scenarios analysis by business units, operations/support divisions and the Group Executive Committee (GEC) in line with the recommendations of the Task Force on Climate-related Financial Disclosure; 3) assessing physical risks of climate change and developing adaptation plans.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

For Michelin, a risk corresponds to the possibility of an event occurring, regardless of the probability of occurrence, whose consequences could affect its objectives, particularly as concerns its financial position, reputation or impact on people or the environment. A substantive financial or strategic impact on business is defined by the Group Management Committee (GMC) as a risk that has an adverse effect on annual operating income (low risk = less than 150 M €, medium risk = between 150 M and 400 M€, high risk = more than 400 M€). For opportunities, no hard-and-fast threshold exists. The portfolio of opportunities is developed through an array of programs and initiatives (see C2.2) and managed by business units in their strategic planning process. Anticipated positive impacts for major initiatives are announced annually in Michelin's strategic plan as communicated through its annual financial and sustainability report. Smaller initiatives are developed in incubation mode or as business ventures.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered
Direct operations
Upstream
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Risk management framework: Michelin's enterprise risk management (ERM) framework is based on a review of risks that could have a material adverse effect on direct, up/downstream operations, financial position, reputation or impact on people or the environment. It is in line with the standards set by the Committee of Sponsoring Organizations of the Treadway Commission. The risk map is comprised of 14 risk families which are the basis for reassessing risks, identifying emerging risks and steering risk reduction actions. It is reviewed annually by the Group Executive Committee (GEC). Climate-related risks are evaluated over the short, medium and long-term.
Responsibility: The process is steered by the Corporate Risk Department involving a/bottom-up risk assessment, b/external risk watch and c/internal audit, culminating in a status report and recommendations to the GEC. Each operational and business entity establishes and updates its risk portfolio and sets its action plans. Results are reviewed and approved by the designated risk governance committees covering the risk map. All climate-related risks and opportunities related to operations are reviewed twice a year by the Environmental Governance, while those related to products and services are overseen at a minimum in the annual strategic planning process by the GEC and on an ad-hoc basis. The GEC oversees the risk management process, regularly reviewing risks with a substantive financial or strategic net impact. The Supervisory Board Audit Committee checks the effectiveness of the management process.
Status of climate-related risks: The ERM process can trigger significant updates of risk families, as was the case for the environmental risk family, completely overhauled and aligned with TCFD risks in 2020. As a result, 5 climate-related risk factors were identified as relevant: a new risk factor 1) acute and chronic physical impacts of climate change on continuity of operations and raw material/components supplies; and 4 existing risk factors 2) legal/regulatory non-compliance/cost of compliance (e.g. CO_2 quotas); 3) impact on reputation from inability to meet environmental commitments (e.g. failure to meet voluntary CO_2 reduction targets); 4) failure to anticipate scientific/technological and societal/market changes (e.g. new forms of mobility of people and goods); 5) media or NGO attack regarding CSR policies (e.g. greenwashing CO_2 performance claims). The first 3 risks above represent potential substantive financial or strategic impacts and are thus reported in C2.3a. The newest risk factor "acute and chronic physical impacts of climate change on continuity of operations and raw material/components supplies" underwent a company-wide internal audit in 2021 to map systemic risks. Audit follow-up involves applying forward-looking climate scenarios to physical assets and key raw materials to determine the maximum financial impact. These are the first steps in an iterative risk management process to understand the complexities of physical risks, decide on acceptable risk level, apply risk reduction measures and monitor & check. This process is now led by a Climate Change Adaptation Risk Manager since the beginning of 2023.
CASE STUDY ON PHYSICAL RISKS: The potential impact from increased severity and frequency of extreme weather on the availability of raw materials and components was identified as a risk factor 10 years ago through bottom-up risk assessment and added as a potential cause of supply disruption in the Corporate Purchasing Department risk portfolio. The risk response involves a/training employees on improving risk planning, b/diversifying the supplier base, c/maintaining strategic buffer inventory for critical products, d/seeking substitute products for scarce commodities. The internal audit cited above provided an estimate of the maximum potential impact related to upstream supply chain disruptions. Climate change scenarios now are being applied to determine specific vulnerabilities and opportunities for adaptation/resilience measures.
Risks and opportunities for business units: A flexible approach empowers business units to use the available resources to identify, assess and act on opportunities and risks under Michelin's "All Sustainable Approach" to reach net-zero emissions in 2050 in scopes 1, 2&3 (excluding the in-use phase). The high-priority opportunities and risks are incorporated into their 5-year (short-term) strategic plans which are reviewed and approved on an annual basis by the GEC. The strategic planning process is steered by the Corporate Strategy Department. Inputs and insights to support short- and medium-term strategic planning by business units are drawn from: 1) Corporate Innovation Board (CIB)–defines the innovation strategy from a cross-functional perspective to focus research priorities, obtain rapid customer/market feedback, and accelerate innovation/incubation stages. 2) Advanced research teams– pursue projects validated by the CIB or GEC, often with external partnerships to complement in-house expertise. 3) Strategic Foresight team – provides climate scenario analysis tools and forward-looking business trends analysis covering climate change issues. 4) Michelin Innovation Lab (MIL) – develops non-tire growth opportunities. 5) Public Affairs – anticipates regulatory changes related to CO_2 emissions and low-carbon products; 6) Norms & Regulations – develops and implements strategies to set common industry/sector rules to promote low-carbon products and services; 7) Movin'on ecosystem – Michelin-created sustainable mobility ecosystem over 30 corporate and institutional partners and an array of private and public actors for enabling business model development around decarbonization of the mobility sector, transport system efficiency, multimodal mobility and preserving resources. The main opportunities having substantive financial or strategic impacts are reported in C2.4a.
CASE STUDY ON TRANSITION OPPORTUNITY: The maritime transport industry's need to decarbonize is driving Michelin's innovation in wind-powered solutions for freight and passenger ships: WISAMO, an inflatable sail installed on existing or new ships to harness wind energy, delivering 10-20% CO_2 reduction. The GEC set materials innovation as a strategic growth area; the CIB defined research priorities in non-road mobility. A French-Swiss R&D advanced research team collaborated with external partners to develop WISAMO. As of 2020, MIL manages the project from incubation to a commercial offer. Following the WISAMO launch at the 2021 Movin'on Summit, external partners play a key role in confirming the technological and business model. Navigator Michel Desjoyeaux conducted extensive tests in winter maritime conditions in early 2022, following an initial phase of testing on Lake Neuchâtel in 2021. The Compagnie Maritime Nantaise - MN is supporting testing in 2022 on merchant ships running between England, France and Spain.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Michelin is subject to regulations including but not limited to a/ CO2 emissions reporting in multiple countries, b/ energy regulation & taxation in multiple countries, c/ EU Emissions Trading Scheme (ETS), d/ China ETS, e/ EU Taxonomy Regulation. Due to the significance of such regulations to our business, topic specialists at the corporate and regional levels closely monitor and assess risks associated with any changes through their inclusion in our Enterprise Risk Management process. Operating costs are primarily impacted by the EU ETS, which are projected to increase from 9.4M€ in 2021 to 18.5M€ in 2025. Example of a specific risk considered: the financial impact of emissions trading systems regulations in Europe and Shanghai. The level of risk is assessed, and risk reduction is managed by the CO2 Allowances Management Committee, established in 2005 and bringing together specialists at both corporate and applicable country levels in greenhouse gases (GHG), energy buying, energy efficiency, finance and accounting. The committee monitors CO2 allowances applied under the EU and Chinese regulations cited above and their current and forecasted costs and makes recommendations to the corporate head of finance on optimal management of allowances.
Emerging regulation	Relevant, always included	We continually monitor, review, and assess proposed and upcoming regulatory change to mitigate and manage potential impacts on our business and operations, particularly on decisions about products and their design and managing additional costs impacting manufacturing and logistics. The main risks are related to a/ CO2 emissions and climate strategy reporting (examples are the EU Fit for 55 and EU Corporate Responsibility Reporting Directive, b/ energy regulation & taxation, c/ expanded emissions trading systems, d/ product energy performance standards. Due to the significance of such regulations to our business, topic specialists at the corporate and regional levels closely monitor and assess risks associated with any changes through their inclusion in our Enterprise Risk Management process. Example of a specific risk considered: Product design could be impacted by vehicle tailpipe CO2 emissions standards, tire performance thresholds and/or tire labelling/grading systems at country level. In the US, the government may weaken tailpipe standards. Under UN vehicle regulations, signatory countries are putting in place tire performance regulations; for example, Japan is expected to do so by 2024. Michelin's activities in these two markets could be impacted.
Technology	Relevant, always included	Technology is deemed a relevant risk for 2 reasons: increasing pressures to improve the sustainability of the transport of people and goods and because of rapid changes to forms and usage of mobility systems, both individual and collective. Failure to innovate effectively or use technological advancements to make our products and operations more sustainable may decrease our competitive abilities, impacting sales and growth. Example of a specific risk considered: whether to enter into vehicle electrification market, a complex & dynamic yet fragmented global market with diverse players and competitors in a rapidly changing technological environment. Michelin has been developing hydrogen fuel cell technologies, partnerships and business models for over 15 years, with risk and opportunity assessments conducted at each stage, thus shaping a 2019 decision with Faurecia to create a joint venture for Symbio to become a world leader in hydrogen fuel cell systems as a technology partner to OEMs and sustainable mobility decision makers. In 2022, a key technological synergy was secured with a joint venture between Symbio and Schaeffler to produce fuel cell bipolar plates for global mobility and energy solutions.
Legal	Relevant, always included	As a provider of vehicle equipment and services, climate-related legal risks mainly stem from false performance claims, which is particularly relevant to the car manufacturing sector as a whole, in a post-“diesel-gate” context. Legal risks are monitored and assessed at the both the corporate and entity-level through a worldwide network of legal specialists through their inclusion in our Enterprise Risk Management process. Example of a specific risk considered: As regulations are promulgated on CO2 tailpipe emissions standards, compliance is relevant for vehicle manufacturers, but not for tire manufacturer like Michelin. Yet because tire rolling resistance contributes significantly to vehicle energy efficiency and therefore to reducing CO2 emissions generated by the vehicle, Michelin does strongly advocate for the use of real rolling resistance values, for the use of measurement methods that are as representative as possible of the actual use conditions, and not just theoretical values, in the determination of vehicle CO2 emissions. The reliability of CO2 measurements is critical for ensuring transparency and reducing legal liability, direct or indirect. Example of a specific risk considered: New product launches involve extensive publicity campaigns with performance claims. Companies must comply with regulations on truthful advertising and publicity. Michelin assesses and manages risks of this nature to ensure that product launches are accompanied by ad campaigns that are compliant with regulations, as well as and governmental policy and recommendations, and void of unsupported performance claims.
Market	Relevant, always included	Market risks are relevant for 3 reasons: a/ B2B customers - an increasing number are including climate-related (e.g., net zero) criteria in tenders and supplier awards, as well as requesting environmental audits of Michelin sites and those of Michelin’s suppliers that include energy efficiency and CO2 emissions; b/ investors – an increasing number are requesting information on CO2 emissions and decarbonization strategy; c/ in the diversified B2C markets, consumers’ behavior on preferred modes of mobility are rapidly evolving. An inability to meet changing consumer demands could impact upon our ability to win work and ultimately our revenues and reputation. Market risks are assessed by business units with support from several departments (e.g., corporate sustainability, EHS, strategic anticipation, norms & regulations, public affairs, purchasing) with decisions made on substantive risks within the Enterprise Risk Management process, or turning risks into opportunities through the strategic planning process. Example of a specific risk considered: Following requests from several OEMs to supply tires produced in net-zero CO2 production systems, a process was put in place to develop the necessary production capacity over the short- and medium-term. Market risks are assessed by business units with support from several departments: corporate sustainability, strategic anticipation, norms & regulations, public affairs, purchasing. Jointly they also assess the level of risks, with the business units deciding on how to manage them. All decisions on market risks that are evaluated above the thresholds for substantive Group-level risks are made by the business units whose respective risk management plans and 5-year strategic plans are overseen and approved by the Group Executive Committee (management board) through the annual strategy planning process.
Reputation	Relevant, always included	As an international company with a worldwide presence in the automobile and mobility sector, the two main risks are 1) failure to communicate transparently on product or operational performance, resulting in claims of greenwashing from the public at large or from watchdog organizations; and 2) failure to demonstrate responsibility regarding climate change mitigation, resulting in an impact on our share price (through investor confidence) and sales (through tendering processes which require clear sustainability credentials). Example of specific risk considered: Media criticism or even attacks from non-governmental organizations, both in the traditional press and on social network platforms. Due to the potential impact from reputational risks, topic specialists at the corporate and regional levels closely monitor and assess risks associated with any changes through their inclusion in our Enterprise Risk Management process.
Acute physical	Relevant, always included	Because our company operates worldwide, acute climate risks in the form of extreme weather events have the potential to significantly impact operational assets and supply chain processes. Such events could create unsafe conditions for employees, delays in our supply chain, and/or our ability to supply our customers. Consequences could include an impact upon our cash flow and/or brand reputation. As an emerging risk, acute physical impacts are in the process of being integrated in our Enterprise Risk Management process. In parallel, opportunities to meet societal needs for safe mobility during extreme weather events, for example, are addressed in the strategic planning process. Example of a specific risk considered: monsoon flooding in Asia and tornadoes in North America impact our employees’ ability to travel to work safely, damage assets and disrupt operations, requiring emergency management plans adapted to each location, and vulnerability assessments to determine prevention actions for increased resilience.
Chronic physical	Relevant, always included	Long-term changes to earth systems from climate change present both risks and opportunities for our business, with physical assets located on every continent and significant geographical coverage throughout the supply chain. This could cause increased costs in our supply chain and operations, loss of revenue but also new revenue streams. As an emerging risk, chronic physical impacts are in the process of being integrated in our Enterprise Risk Management process. In parallel, opportunities to meet societal needs for safe mobility in the context of long-term environmental trends and societal changes are considered over through our strategic anticipation process. Example of a specific risk considered: as global temperatures rise the geographic distribution of crops and vegetation will shift. This could have an impact on production of natural rubber, a key raw material for making tires. Geographic areas of optimum versus suitable rubber production will evolve. Current predictions, however, involve long-term hypotheses with high levels of uncertainty, requiring a diversified and agile global management method.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Market	Other, please specify (Changing shareholder and customer requirements)

Primary potential financial impact
Other, please specify (Decreased operating income due to higher cost of capital and/or decreased revenues due to reduced demand for products)

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
RISK DRIVER: The number of questions from shareholders and customers relating to net zero GHG emissions has significantly increased in number and specificity since 2019. Failure to achieve "net zero" could therefore present a risk to our ability to win new contracts and/or retain shareholders. This risk driver is reflected in one of the top 12 risk factors for the Group, published in the annual report -- 2022 Universal Registration Document: "environmental transition risks", specifically including transition risks related to climate change, from an external stakeholder perspective. The potential impacts of this risk for Michelin stem from two scenarios: 1) that the pace of decarbonization of overall operations, with regards to investors, and at certain production plants, with regards to customers, is not sufficient to retain their capital or their business, respectively; 2) that corporate reporting and information provided externally is not sufficient to ensure institutional investors and customers that Michelin is preparing a net-zero transition.

COMPANY-SPECIFIC CASE STUDY - SHAREHOLDERS: The number of questions Michelin has received from its institutional shareholders on its 1) carbon trajectory being aligned with the Paris Agreement and 2) capex requirements to achieve decarbonization has more than tripled since 2019. COMPANY-SPECIFIC CASE STUDY - CUSTOMERS: In the last year, the Group received specific requests from 8 OEM customers, with worldwide operations, for Michelin to align with their own net-zero objectives by ensuring net-zero emissions in the production of tires (Scopes 1 and 2). Example: In 2020 Mercedes-Benz, a founding member of the Transform to Net Zero initiative, issued a letter of intent to its partners and suppliers, including Michelin, requiring the provision of CO2-neutral products effective 2039. This trend has continued with specific requests from these OEMs with the obligation to guarantee a certain level of decarbonization linked to the products sold, with detailed roadmaps to achieve targets. GEOGRAPHICAL IMPACT: This could potentially impact manufacturing operations at over one third of the production base located in the EU, Canada, the United States, Mexico, Brazil, Thailand and China.

Time horizon
Medium-term

Likelihood
Unlikely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
400000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The figure reported is the upper threshold for a medium-level Group risk (see C2.1b). As such, it is an initial estimation made following a major update of the Group risk map in 2020. It encompasses not only the climate change-related risk factor reported here but also all other environmental risk factors in scenarios involving corporate policy not meeting external stakeholder expectations. It therefore represents their combined impacts on operational results from higher cost of capital, loss of revenues from B2B and B2C customers, and outlays for environmental reparations. Moving forward, this particular risk factor stemming from expectations for net zero emissions will be refined in terms of impact scenarios and their potential financial consequences.
Estimating financial consequences is an iterative process that requires taking in new information and refining.

Cost of response to risk
62000000

Description of response and explanation of cost calculation
MANAGEMENT OF RISK: 1) The risk is mitigated by a CO2 reduction roadmap and oversight. In 2020 the Environmental Governance (EG) approved a CO2 reduction trajectory for Scopes 1 & 2 to achieve net zero emissions by 2050, covering the worldwide manufacturing base. It also approved the technical-financial roadmap to achieve the interim target of -50% from 2010 to 2030. The actionable levers for decarbonization are a/ improving energy efficiency (11 distinct energy efficiency initiatives covering insulation, electrification, closed loops, leak prevention, metering, and process efficiency), b/ reducing the CO2 emission factor (renewable energy, both purchased and on-/off-site projects, coal phase-out at 5 plants), c/ scoping out long-term carbon capture and storage opportunities. To support implementation, the EG approved an internal carbon price increase for capex projects from 50 to 100 € /tonne in early 2021. Roadmap implementation is overseen by a network of on-site energy experts and the corporate Energy and CO2 Mitigation Expert Team (EEECO2) which reports on progress 2-3x/yr to the EG. All key decisions and outstanding issues are reviewed at least 3x/yr between the Group Management Committee and the Group Executive Committee. The Supervisory Board CSR Committee provides an additional high-level review of the CO2 reduction strategy. 2) The risk is controlled by transparently communicating with investors and customers: a/ replies to all investor questions submitted prior to the annual shareholder meeting are published at www.michelin.com, b/ all CO2 targets are communicated to shareholders prior to or during the annual shareholder meeting, c/ a new sustainability web site was launched in 2021 that covers the climate change strategy, d/ the OEM business team increased its staffing to better handle CO2 reduction requests from its customers.
CASE STUDY: To reinforce shareholder confidence Michelin signed a EUR 2.5bn Multicurrency Revolving Credit Facility with 19 banks in October 2020, amended and restated in 2021, linking its pricing to a set of 3 "Sustainability Performance Targets" among which is the reduction of Scope 1&2 greenhouse gas emissions.
EXPLANATION OF COSTS OF MANAGEMENT: Estimated 54 M€ in average annual capex for energy efficiency projects and coal phase-out from 2022-30; estimated 5 M€ in annual Opex overcost for procuring renewable energy; 3 M€ in full-time equivalent staffing annually (57 FTE at an average cost 51.7 k€), so total = 62M€.

Comment

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Current regulation	Carbon pricing mechanisms

Primary potential financial impact
Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
RISK DRIVER: Michelin manufacturing operations are subject to carbon taxes and CO2 allowances. Failure to manage the cost of regulatory compliance could drive up operating costs.

COMPANY-SPECIFIC CASE STUDY: The European Emissions Trading System (ETS) closed out Phase III in 2020 and entered Phase IV 2021-2025/2026-2030. Phase IV brings an end to the status of "sector exposed to a significant risk of carbon leakage" for the tire industry. For Michelin this translates to a 75% reduction of free CO2 quotas in 2021 compared to 2020, and drawing down to zero free quotas in 2030, with the exception of one production site that will retain its protected status.
Forecasting indicates that the CO2 market average price will increase from 55 €/t in 2021 to 93 €/t in 2026. Even with 3 sites exiting the EU ETS in 2021 (1 in Spain and 2 in France), the residual costs for the 15 production sites regulated by the EU ETS could represent about 1/3 of estimated annual capex required to reduce CO2 emissions across the worldwide manufacturing base, making this a relevant risk. While this risk is not among Michelin's top 11 risk factors, it is part of the Group risk map as a regulatory compliance scenario in the environmental risk family "Inadequate management of environmental impacts" and is thus subject to a managed process and oversight. GEOGRAPHICAL IMPACT: Carbon tax in France on the purchase of natural gas and coal covering about 15% of worldwide Scope 1 emissions from 11 production sites and 1 R&D site in France; CO2 allowance systems in two jurisdictions -- 15 sites production sites in the European Union and 2 in Shanghai.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
9300000

Potential financial impact figure – maximum (currency)
18500000

Explanation of financial impact figure
The figures represent the estimated annual costs of CO2 allowances from 2021 (minimum impact figure) to 2025 (maximum impact figure). The estimates are based on: 1) projected reductions in CO2 emissions within the scope of 15 concerned plants, taking into account the planned exit of several manufacturing plants from the EU ETS as well as a major energy operational modification at the site in Poland; 2) the sharp reduction of CO2 allowances attributed at no cost, applying the new rules of the EU ETS Phase IV, particularly regarding reduction of exposed sectors; 3) the forecasted annual costs of CO2 allowances in the EU ETS market; 4) optimizing options for banking, pooling, purchasing and selling. There is not a simplified formula that can be presented here. The figures are a result of data collection, analysis and hypothesis-based projections.

Cost of response to risk
114000

Description of response and explanation of cost calculation
MANAGEMENT OF RISK: Mitigation and control. The main mitigation measure is to continually reduce CO2 emissions to decrease the number of CO2 allowances required, as detailed in risk 1. The second mitigation measure is to correctly apply the complex set of EU ETS rules to minimize the cost of purchasing CO2 allowances. This along with controlling the risks are under the responsibility of the CO2 Allowances Management Committee (CO2AMC), created in 2005. Comprising specialists in greenhouse gases (GHG), energy buying, energy efficiency, finance and accounting, its role is to define principles and guidelines of CO2 allowances management, ensure their proper application, regularly consolidate and review CO2 allowances and emissions, track legislation governing carbon markets and taxes in all Michelin host countries, conduct the necessary forecasting studies on allowances and costs, make recommendations to the corporate head of finance on major decisions to buy, sell or hold allowances and to execute the decisions. This work is done for short- and medium-term time horizons, supported by the public affairs department to anticipate regulatory changes and publication of guidelines. Any issues not resolved by the corporate finance department would be taken to the Environmental Governance body and, if necessary, to the Group Management Committee for final decision.

CASE STUDY: An example of controlling risks is the preparation done from 2018 to 2020 for the start of Phase IV in 2021: 1) taking into account all 3rd party verification reports on maintaining robust CO2 measurements, monitoring and accounting at 15 plants in Spain, France, Italy, Germany, Poland and Romania; 2) factoring in the rules for annually lowering the allowance ceiling, revising applicable technological benchmarks, applying the criteria for exposed sectors; 3) centralizing and streamlining the process of purchasing CO2 allowances in order to anticipate and lower costs through economies of scale. The result was an optimization of the CO2 allowances management process under which residual costs were accepted and budgeted for 2021 and anticipated through 2025.

EXPLANATION OF COSTS OF MANAGEMENT: The estimation represents 2 full-time equivalent personnel per year covering the CO2AMC and site- and EU-level specialists coordinating bottom-up CO2 emissions monitoring and allowances accounting. The average cost for 1 FTE in 2021 was 51,700 € x 2 = 114 000€ in average.

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Other, please specify (Cold wave/frost, typhoon, drought, flood (coastal, fluvial, pluvial, groundwater), storms)

Primary potential financial impact
Other, please specify (Decreased revenues due to reduced production capacity)

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
RISK DRIVER: Michelin has a worldwide customer base and operations that could be significantly impacted by higher frequency of storms, floods, drought and other natural hazards exacerbated by climate change. Failure to adapt to these conditions could cause delays in our supply chain and operations and impact upon our cash flow and revenues. The activities that could be materially impacted by a severe weather event are raw material sourcing, manufacturing and logistics operations. Acute physical risk was managed under "natural disasters", applying an operational site risk approach until 2020 when it was integrated in the Group risk map as climate change-driven. Following an internal audit in 2021, it was recognized as a systemic risk, given 1) wide exposure to a variety of impacts that could severely disrupt supplies, production operations or demand, with major impacts in terms of quantities, diversity of sources and duration and 2) the many interdependent factors necessary for the manufacture of its products (infrastructure, energy, availability of labor, transportation systems, etc.). For these reasons it was placed in Michelin's top 12 risk factors, thus subject to a managed process, Group Executive Committee and Supervisory Board oversight and regulatory reporting.

COMPANY SPECIFIC CASE STUDY: Recurring drought in southern Brazil has brought risk of water shortages potentially affecting Michelin manufacturing sites in Campo Grande and Resende. From 2014 to 2016, actions were taken to increase water autonomy: 3x more days at the Resende site, and 2x more days at the Campo Grande site. Measures taken include closing water circuits, reducing evaporation, capturing rainwater, and conducting employee training on water conservation practices, at a cost of 450 k€.

GEOGRAPHICAL EXAMPLES: Several Michelin facilities have been impacted in the past 10 years in different geographic regions: more frequent typhoon flooding in the districts surrounding Bangkok, Thailand where 3 plants are located; monsoon flooding the Chennai, India plant in 2015; tornado corridor in the US shifting eastward where more plants are located. Several supplier sites on the US Gulf Coast have also been impacted, for example during the North American hurricane season in 2017. Some transport costs have increased due to reduced capacity for barge transport of industrial goods on the Rhine River, which has been at historically low levels in 3 of the last 5 years due to drought.

Time horizon
Short-term

Likelihood
About as likely as not

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
150000000

Potential financial impact figure – maximum (currency)
400000000

Explanation of financial impact figure
Applying internal rules for financial impacts of systemic risks, the figures presented here are the lower and upper thresholds for a medium-level Group risk (see C2.1b). This level of risk was attributed following a group-wide audit on physical climate risks concluded in 2021 and which confirmed that the risks are systemic*: given Michelin's global reach, in terms of both its industrial facilities and supply chain as well as the many interdependent factors necessary for the manufacture of its products (infrastructure, energy, availability of labor, transportation systems, etc.), there is wide exposure to a variety of impacts that could severely disrupt supplies, production operations or demand, with major impacts in terms of quantities, diversity of sources and duration. Acute physical risks are a recognized emerging risk for which a precise financial impact at Group level has not yet been determined. The financial impact in any given year could be significantly lower than the minimum figure provided. Acute physical climate risks are in the process of being iteratively evaluated with state-of-the art modeling combined with priority-based assessments of asset and supply chain vulnerability. The potential financial impacts will be refined over time as physical climate scenarios are evaluated and vulnerability of direct and indirect operations better understood.

*The systemic risk takes into account external events that are not already considered in relation to standard supply chain or manufacturing disruption risks.

Cost of response to risk
415000

Description of response and explanation of cost calculation
MANAGEMENT OF RISK: Mitigation, control and transfer of residual risk via insurance or acceptance - see points 1 and 2 below. Added to the Group risk map in 2020 as a systemic risk, it is managed under the ERM process: a/ a corporate-wide audit to determine maximum possible impact, current risk management practices and residual risk, concluded in 2021; b/ proof of concept risk evaluation in 2021-2022 conducted by an expert third party to develop a risk & asset vulnerability evaluation methodology adapted to Michelin activities and covering 2 time horizons (2030 and 2050) and 2 global warming scenarios (RCP 4.5 and RCP 8.5). The risk scoring tool was validated in 2022 by the Environmental Governance for deployment to physical assets, supply chain and new activities based on vulnerability priorities. It will enable more comprehensive and long-term adaptation measures to be identified and implemented. 1) Mitigation and control - The corporate purchasing department maintains business continuity plans which a/ ensure a diversity of suppliers in number and location for each type of raw material; b/ include a regular review of vulnerability to energy supply disruptions. CASE STUDY: Hurricane Harvey in 2017 - Michelin worked with its suppliers in other regions to provide the necessary raw materials with no disruption. 2) Mitigation, control and transfer: With production plants located across 25 countries and 5 continents, extreme weather events patterns have thus far impacted only a few facilities for less than 1 month, with non-material impacts. Back-up supplies of finished products can be delivered from other geographic zones, thus limiting risk of shortages. Residual risks are transferred via insurance policies. Based the hypothesis that past extreme weather events will increase in frequency, duration and force, business continuity plans will be reevaluated periodically. CASE STUDY: To control risks following the 2015 monsoon in India, the Chennai plant reinforced emergency management protocols and revised personnel policies to increase the number of employees hired from neighboring locations that remain accessible during flooding, thereby ensuring production continuity.

EXPLANATION OF COSTS OF MANAGEMENT: The estimated cost represents 8 FTE required annually (regional and purchasing risk management, site personnel to manage business continuity plans and in-house insurance specialists). The cost of 8 FTE in 2021 was 415 k€. Insurance costs: confidential.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Opp1

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Shift in consumer preferences

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Climate change, air pollution, massive urbanization and traffic congestion are leading to strong governmental regulations and to increasing pressure to reduce the environmental impact of mobility. As a result, the needs of our customers around the world are changing at an accelerated pace: the Green Deal in Europe, China's plan for net zero emissions in 2060 and a renewed focus in North America are some examples of the drivers of the change that is impacting the mobility landscape. To comply with increasingly demanding regulations on CO2 emissions, car manufacturers are accelerating the electrification of their vehicles.
In 2027, nearly 40% of newly registered vehicles will be electric, tripling their share of the market compared to 2022. The growth in EV demand represents a real opportunity for the Group. To get the most out of an EV's unique features, such as heavy batteries, high engine torque, regenerative braking, limited range and silent running, you need higher-performance tires that are longer lasting and more energy efficient, with a higher load capacity and more comfortable ride. These, of course, are areas where Michelin excels. EVs are also much more connected, an aspect where Michelin has also demonstrated its leadership with predictive maintenance solutions using onboard algorithms. In 2021, Michelin was the first tiremaker to market a connected tire with an integrated sensor. In addition to the pure performance of its tires, Michelin is also committed to limiting their impact throughout their life cycle. This sustainable approach makes the Group a preferred partner of auto manufacturers. Michelin tires have been approved as fittings on nearly 300 EV models made by more than 50 brands around the world.
In 2020 R&D teams worked on two eco-designed projects adapted to EVs : The MICHELIN e.Primacy and the Michelin Pilot Sport EV which have been developed with a complete product life cycle analysis. MICHELIN Pilot Sport EV was launched in February 2021, it is the first tire in the Pilot Sport family purpose engineered for electric sports cars. Michelin also announced the roll-out of the MICHELIN X Incity EV Z tire, the Group's first family of tires designed specifically for electric buses. With the new ranges, Michelin is supporting the transition towards cleaner, more efficient and longer-range electric mobility solutions.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
550000000

Potential financial impact figure – maximum (currency)
1100000000

Explanation of financial impact figure
According to Tire Business, the global tire market was estimated at US$ 180 billion in 2021, with light-vehicle tires accounting for 60% for a total market segment worth US$108 billion. Michelin's market share was 14.6% in 2021;
We estimate that electrified vehicles will account for approximately 45% of the global passenger cars sales worldwide in 2030 (source: Michelin estimation, 2021 full-year results publication). On this segment, Michelin currently has a market share in original equipment that is 1.5 times higher than our total original equipment market share. We estimate that the loyalty to the Michelin brand for further tire purchases will be higher in electrified vehicles that for ICE vehicles as consumers will perceive the benefits brought by their tires on their driving experience in EV. We take the hypothesis that Michelin's market share on the electrified-cars market could reach from 17,5% (minimum hypothesis) to 22% (maximum hypothesis) on this segment. This could lead to an increase in earnings from US$ 550 million (minimum hypothesis) to US$ 1.1 billion (maximum hypothesis)

Cost to realize opportunity
698000000

Strategy to realize opportunity and explanation of cost calculation

Environmental concerns are of critical importance to all Michelin's customers and they are at the core of Michelin's strategy, as expressed in its vision that "Tomorrow, at Michelin, everything will be sustainable".
The rapid electrification of the vehicle parc brings with it a demanding balance of performance for tires: rolling resistance to improve battery range, increased wear life to meet higher torque levels, higher load capacity and/or seat sizes to support battery weight/size, solutions to improve interior noise, while reducing environmental impact.
CASE STUDY: Michelin R&D teams are currently working on specific projects to improve the rolling resistance of tires. The aim is to make them 20% more energy-efficient by 2030 compared to 2010. Michelin is also developing solutions to use renewable or recycled materials to manufacture its tires, while enhancing their performance even more. Moreover, Michelin's HLC (High Load Capacity) tyres will continue to contribute to increasing OEMs' efficiency by enabling vehicles to carry heavy batteries for their new developed EVs. In 2021, Michelin expanded its leadership by launching two tirelines adapted to EVs: the MICHELIN PILOT SPORT EV, the first Sport tire designed for electric vehicles, and the Michelin e.PRIMACY, the first tire on the market, which is accompanied by an Environmental Product Declaration (EPD).
Vehicle manufacturers are looking for more than just a set of tire performances that allow them to meet demanding governmental regulations. They are also looking for partners that can help them decrease their overall environmental footprint. Michelin is a leader in this domain as well and is out front in areas such as the integration of sustainable materials into its tires, carbon neutrality of its factories and innovative design choices driven by Life Cycle Assessments.
Furthermore, convinced that hydrogen is an optimized solution to reduce environmental footprint, Michelin develops partnerships with major players of this market.
The cost to realize opportunity in 2022 corresponds to R&D expenses that stood at €698 million.

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
In a climate scenario, where global warming is limited to 1.5 degrees, it is expected that there will be a significant shift away from high carbon vehicles and toward green technology such as electric cars and hydrogen-powered cars.
Hydrogen is key to achieving Paris Agreement objectives. It's appropriate for all uses and eliminates CO2 emissions, improves air quality and furthers the energy transition.
Michelin has been working on this technology for more than 15 years.
Michelin Hydrogen strategy currently relies on 3 pillars:
• Becoming a global leader in hydrogen fuel cell systems with SYMBIO: In collaboration with Faurecia, SYMBIO is a Faurecia-Michelin Hydrogen Company designed to develop, produce and market hydrogen fuel cell systems for cars, utility vehicles, trucks and other electromobility applications. Created in 2010, SYMBIO aims to become a leader in hydrogen mobility in 2030, selling 200,000 fuel cells stacks per year.
• Developing hydrogen mobility on the regional level by simultaneously developing vehicles and infrastructure: Michelin has been actively involved in developing the initiative called Zero Emissions Valley, a public-private partnership between Region Auvergne-Rhone Alpes in France, Michelin and key partners like Engie and financial institutions.
• Accelerating the deployment of hydrogen mobility thought motorsports which Michelin has always considered as a laboratory for innovation and a showcase for technologies. In June 2020, the Group and Symbio became major partners of MissionH24, a project that is looking to integrate hydrogen-powered technology into endurance race vehicles competing in the 24 Hours of Le Mans.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1500000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Electric mobility demand is expected to increase significantly between now and 2030, with hydrogen powered vehicles accounting for 2 million vehicles of which 350,000 trucks. As the only zero emission solution that complements battery-powered electric cars, hydrogen technology is essential in accelerating the deployment of electromobility and addressing its three major challenges: improving air quality, reducing CO2 emissions and the energy transition.
Mass production is expected in Europe, China, and the United States. SYMBIO, A FAURECIA MICHELIN HYDROGEN COMPANY aims to capture 25% market share and achieve a turnover of around €1.5 billion by 2030.

Cost to realize opportunity
140000000

Strategy to realize opportunity and explanation of cost calculation
To realize this opportunity, SYMBIO targets vehicle segments where hydrogen creates the most value, such as trucks, buses, and light commercial vehicles.
CASE STUDY: The roadmap is on track with the deal announced in 2021 by Symbio and Safran to build as many as 1,500 buses to be fitted with an optimized hydrogen system or the Stellantis, Faurecia, and SYMBIO partnership to develop hydrogen fuel cell light commercial vehicles.
In 2021, it will be the laying of the foundation stone of one of the largest fuel cell factories in Europe, stating its production in 2023. The objective: Divide the fuel cell cost by a factor of 10.
To develop hydrogen mobility, it is necessary to develop both hydrogen vehicles and hydrogen refueling infrastructure.
Michelin is participating in the development of hydrogen mobility at a regional level, by deploying refueling stations in association with other stakeholders, so as to make this

mobility more accessible and usable by many modes of transportation. The “Zero Emission Valley” (ZEV) project clearly illustrates Michelin’s deep commitment to the hydrogen sector. Set up by the Auvergne-Rhône-Alpes regional authority in France, and the Engie group, ZEV is a clean mobility solution deployed on a regional scale to make the area the first European hydrogen-powered mobility zone. This will involve installing 20 stations powered by green hydrogen and deploying 1,200 hydrogen-powered vehicles for businesses to use.
The cost to realize this opportunity is €140 million. It corresponds to the initial investment from Michelin and Faurecia in the venture to speed up the development of next-generation fuel cells, start-up mass production and grow the business in Europe, China and the United States.

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Shift in consumer preferences

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
In an optimistic climate warming scenario, it is expected that there will be increased consumer awareness around sustainability and increased demand for sustainable products. In addition, it is expected that regulation and policy requiring companies to reduce carbon emissions will also increase demand for sustainable products. The EY Future Consumer Index shows that consumers are increasingly mindful of their impact on the planet. They are choosing to make more sustainable purchases. 56% will pay more attention to the environmental impact of what they purchase. In the tire category, consumers are also increasingly concerned about reducing fuel costs and are interested in the role energy efficient tires can play in helping them save money.
Otherwise, with growing urbanization, limited access to cities and the development of vehicle sharing and leasing solutions, Fleets will become central players in tomorrow’s mobility. Fleets have always valued the right tire choice to ensure safety and to optimize their total cost of ownership but have also considered carefully their fuel spend. Michelin meets both the economic and environmental needs of consumers and Fleets.
For consumers and for Fleets, Michelin tyrelines are “made to last” which means they deliver outstanding economic and environmental value to consumers and fleets as they last long and maintain a high level of performance until the end of their life while also delivering fuel savings and reduced CO2 emissions. In 2019, EU institutions have recognized this approach by adding the principle of worn tire testing to the EU regulations in a move endorsed by Michelin. Early replacement of tires leads to the consumption of up to 128 million extra tires in Europe every year, which represents 6.6 million tons of additional CO2 emissions per year and a useless spending of 6.9 billions euros for consumers (Source: EY study, May 2017). In addition, climate change may stimulate consumer demand for tires whose durability, longevity and all-season performance will be highly valued. Michelin is ready to respond to changing customer demand for tire performance capable of responding to changing and new weather conditions. The Michelin's CrossClimate tireline capabilities prevent the need to switch from summer to winter tires and its performances that are “made to last” enables consumers and fleets to enjoy complete safety until the end of the life of the tire, reducing their environmental footprint.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1000000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The global tire market was estimated at US$ 180 billion in 2021, with light-vehicle tires accounting for 60% for a total market segment worth US$100 billion. Michelin’s market share was 14,6% in 2021 ; an increase in market share of just 1% could represent an increase in earnings of US$ 1 billion. This is without considering increased demand for tires. Over the medium term, it is estimated that demand for tires by volume will grow by 0% to 2% per year in mature markets and by 2% to 4% in emerging markets (Source: Michelin estimates).
Note: these financial estimates have been officially published in US$ in the 2020 annual report. Converting them here to euros would not provide a meaningful value given the exchange rate fluctuations.

Cost to realize opportunity
698000000

Strategy to realize opportunity and explanation of cost calculation
Michelin invests in R&D to retain the technological leadership required to meet changing customer demands. The innovation strategy is driven by the Corporate Innovation Board which supervises a process involving: 1/R&D teams and their adoption of new technologies, collaboration with external research centers and cooperation with the marketing teams specialized by business lines; 2/marketing teams in regions to adapt products or service to customers’ needs, while meeting the highest quality.
CASE STUDY: Michelin launched 4 new products over the last 5 years: 1/the all-season Premier A/S tire for the North American market; 2/CrossClimate tire, the first summer tire in the world with a winter certification. A CrossClimate+ with longer lasting performances. 3/CrossClimate SUV and 4/Agilis CrossClimate for Vans. All these products are designed to perform in extreme temperatures from -30°C to +35°C and rely on Michelin EverGrip technologies, a combination of innovations in material and sculpture. In 2021 Michelin launched MICHELIN CrossClimate2. The all-season range has seen strong growth since Michelin introduced the first summer tire certified for winter use in 2015. It is expected to continue to deliver double-digit gains in Europe, particularly in France where winter tires have become mandatory in 48 departments. Michelin has taken a leader role in this segment and will continue in the future, for instance by aiming at homologating with European OEMs this all-season range.
In 2021, Michelin had launched two eco-designed tire lines: The MICHELIN e.Primacy and the Michelin Pilot Sport EV which have been developed with a complete product LCA to make the best balance of performance for both consumers and the planet. Michelin published an Environmental Product Declaration (EPD), as proof of the transparency of its design choices and their environmental impact. MICHELIN e.Primacy is the tyre delivering the lowest fuel consumption (-0.2l/100 kms) and the lowest

CO2 emissions of its category (-174kg end of life). It also allows the highest battery range for EVs (+7%). Both products were launched on a CO2 neutral basis at the time of purchase as Michelin will invest in Livelihood funds to offset CO2 emitted in material extraction, tire production and logistics prior to purchase.
This opportunity has been confirmed by the market response and an industry award.
The cost to realize opportunity in 2022 corresponds to R&D expenses that stood at €698 million.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan
Yes, we have a climate transition plan which aligns with a 1.5°C world

Publicly available climate transition plan
Yes

Mechanism by which feedback is collected from shareholders on your climate transition plan
We have a different feedback mechanism in place

Description of feedback mechanism
The climate transition plan and its 2030 and 2050 roadmaps are reviewed and validated by the CSR Committee of the Supervisory Board,
The Supervisory Board exercises permanent oversight of the Company's management and assesses its quality for the benefit of the shareholders, presenting a report thereon at each Annual Shareholders Meeting. The CSR Committee, examine the Group's strategy, ambitions, policies and commitments in terms of ethics and compliance, Human rights, hygiene / health / safety of persons and environment, including climate change and biodiversity, and make recommendations in this regard.

Frequency of feedback collection
Annually

Attach any relevant documents which detail your climate transition plan (optional)
Michelin Transition Plan_Excerpt of the Universal Registration Document 2022 Chapter 4.1.1.1 p 163 - 178
Michelin_Transition Plan_DEU_2022.pdf

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future
<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios: RCP 2.6	Company-wide	<Not Applicable>	How the scenario was identified, inputs, assumptions, and analytical methods: To accelerate the Scope 1 &2 CO2 reduction roadmap, Michelin chose the IPCC AR5 RCP 2.6 climate scenario's middle range pathway which corresponds to a goal of net zero emissions by 2050. The modelling under this scenario is both linear and non-linear, the former allowing implementation of known technologies to be planned over time, and the latter for anticipating technological/market/socio-economic conditions, particularly in the area of renewable energy availability. The actionable levers for decarbonization are a/ improving energy efficiency (11 distinct energy efficiency initiatives covering insulation, electrification, closed loops, leak prevention, metering, and process efficiency), b/ reducing the CO2 emission factor (renewable energy, both purchased and on-/off-site projects, coal phase-out at 5 plants), c/ scoping out CCS opportunities. Time horizon: 2021-2030 covering next two 5-year strategic planning cycles Areas of the organization considered in the scenario analyses: Worldwide manufacturing base (95.5% of all Scope 1&2 GHG emissions) Results of the scenario analysis: A new target of 27.5% absolute emissions reduction from 2019 to 2030 (2.5% reduction per year on average over the period), was developed with a detailed technical and cost roadmap of levers to implement, with a priority on optimizing energy efficiency, and complemented by gradual ramping up of renewable energies. It was validated by SBTi in January 2023. How the scenario analysis results informed business objectives and strategy: The new near-term target was approved by the Environment Governance (EG) and publicly announced in the 2020 annual report. The EG also approved the emission reduction levers and the capex and opex forecast to 2030, which together constitute the Target Roadmap, the basis for the corporate manufacturing division to set its 5-year strategic plan. Case study of how the scenario analysis results directly influenced business objectives and strategy: In a commitment to sustainably reduce the Group's carbon footprint, strategies have been deployed over the past several years to increase the use of renewable energies. These biomass, solar power and wind power projects often have long maturity cycles. Today, 21 Group facilities are equipped with renewable energy installations. In all, 23% of the energy used by the Group in 2022 was from renewable sources (2021: 18%).
Transition scenarios: Customized publicly available transition scenario	Company-wide	1.6ºC – 2ºC	How the scenario was identified: 2020 TCFD guidance on ""disorderly transition scenario"", aligned to 1.7°C. Developed in-house using state-of-the art information (e.g., 2019 critical review of public scenarios published by The Shift Project, input from exerpts at CDP, The Shift Project, other international companies). 2021: basis for qualitative analysis of Michelin's strategic plan. Models used: The IEA SDS and to a lesser degree IEA NZE 2050 were used for deployment of green technologies. The hypothesis regarding societal practices (travel/mobility & food consumption) correspond to the public scenario ADEME S1 ""Frugal generation"". Time horizons: 2035: description & quantitative indicators, worldwide map of countries where the scenario is predominant 2050: detailed narrative of everyday life Drivers: Informed by the STEEP method (Social, Technology, Economic, Environmental and Policy): 1/ landscape of environmental crises and shocks having an impact on society (climate change, plus resource depletion, biodiversity collapse, pollution); 2/ economic system and economic growth; 3/ pace of energy decarbonization; 4/ development of technological inventions and strategies; 5/ predominant lifestyles and consumer spending patterns; 5/ political regime and its priorities. The drivers are characterized qualitatively and quantitatively to describe a world in which the equivalent of a ""war effort"" is made to reduce GHG emissions and limit resource consumption, with frugality being the mandated standard for all. Quantitative parameters: GDP & population growth, energy consumption (TWh), carbon intensity of energy (kg CO2/kWh), people & goods mobility (billions of km-p) Assumptions (constants): Population forecasts; self-interest as the predominant behavior; political & socio-economic fragmentation; irreversibly digitalized world; coexistence with 3 other scenarios Main data sources: Decarbonization (GHG emissions, energy factors & use, economic output and demography), societal (consumption/production, ecological footprint, development/well-being indices, migration, political regimes/interventionism, technology, food & agriculture, mobility): The World Bank Open Data and Carbon Pricing Dashboard, The Oxford Martin School/Oxford University Global Change Data Lab, Climate Watch data, Global Footprint Network, Yale University/Columbia University Environmental Performance Index, International Organization for Migration Data Portal, The Economist Intelligence Unit.
Transition scenarios: Customized publicly available transition scenario	Company-wide	2.1ºC - 3ºC	How the scenario was identified: 2020 TCFD guidance on "disorderly transition scenario", aligned to 2.5°C. Developed in-house using state-of-the art information (e.g., 2019 critical review of public scenarios published by The Shift Project, input from exerpts at CDP, The Shift Project, other international companies). 2021: basis for qualitative analysis of Michelin's strategic plan. Models used: Similar to the public scenario ADEME S3 "Green Technologies" (https://www.ademe.fr/en/futures-in-transition/scenarios) and constructed to contrast to the 3 other in-house models described herein. Time horizons: 2035: description & quantitative indicators, worldwide map of countries where the scenario is predominant 2050: detailed narrative of everyday life Drivers: Informed by the STEEP method (Social, Technology, Economic, Environmental and Policy): 1/ landscape of environmental crises and shocks having an impact on society (climate change, plus resource depletion, biodiversity collapse, pollution); 2/ economic system and economic growth; 3/ pace of energy decarbonization; 4/ development of technological inventions and strategies; 5/ predominant lifestyles and consumer spending patterns; 5/ political regime and its priorities. The drivers are characterized qualitatively and quantitatively to describe a world in which technological solutions pervade all levels of society to reduce GHG emissions and resource consumption, maintaining similar lifestyles as today. Quantitative parameters: GDP & population growth, energy consumption (TWh), carbon intensity of energy (kg CO2/kWh), people & goods mobility (billions of km-p) Assumptions (constants): Population forecasts; self-interest as the predominant behavior; political & socio-economic fragmentation; irreversibly digitalized world; coexistence with 3 other scenarios Main data sources: Decarbonization factors (GHG emissions, energy factors, energy use, economic output and demography), societal factors (consumption/production, ecological footprint, development/well-being indices, migration, political regimes/interventionism, technology, food & agriculture, mobility): The World Bank Open Data and Carbon Pricing Dashboard, The Oxford Martin School/Oxford University Global Change Data Lab, Climate Watch data, Global Footprint Network, Yale University/Columbia University Environmental Performance Index, International Organization for Migration Data Portal, The Economist Intelligence Unit.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios: Customized publicly available transition scenario	Company-wide	3.1ºC - 4ºC	How the scenario was identified: 2020 TCFD guidance on "disorderly transition scenario", aligned to 3.2°C and 3.7°C, respectively. Developed in-house using state-of-the art information (e.g., 2019 critical review of public scenarios published by The Shift Project, input from exerpts at CDP, The Shift Project, other international companies). 2021: basis for qualitative analysis of Michelin's strategic plan. Models used: IEA STEPS and IEA 4DS Time horizons: 2035: description & quantitative indicators, worldwide map of countries where the scenario is predominant 2050: detailed narrative of everyday life Drivers: Informed by the STEEP method (Social, Technology, Economic, Environmental and Policy): 1/ the landscape of environmental crises and shocks having an impact on society, including resource depletion, collapse of biodiversity and various forms of pollution in addition to climate change; 2/ the economic system and economic growth; 3/ the pace of energy decarbonization; 4/ the development of technological inventions and strategies; 5/ predominant lifestyles and consumer spending patterns; 5/ the political regime and its priorities. The drivers are characterized qualitatively and quantitatively to describe 2 differents worlds: one in which major legislated policies are made throughout the world to reduce GHG emissions and resource consumption, while private individuals and companies change their respective behaviors marginally; the other in which "business as usual" reigns in public and private spheres and consumer behaviors continue on their current trends, triggering environmental and social chaos. Quantitative parameters: GDP & population growth, energy consumption (TWh), carbon intensity of energy (kg CO2/kWh), people & goods mobility (billions of km-p) Assumptions (constants): Population forecasts; self-interest as the predominant behavior; political & socio-economic fragmentation; irreversibly digitalized world; coexistence with 2 other scenarios Main data sources: Same as the 2 scenarios described above.
Physical climate scenarios: RCP 3.4	Company-wide	<Not Applicable>	How the scenario was identified, inputs, assumptions, and analytical methods: To set an initial target for reducing Scope 1&2 emissions, in 2018 Michelin chose the IPCC AR5 RCP3.4 climate scenario's lowest-range pathway that limits global warming to ~2°C. The modelling under this scenario was both linear and non-linear, the former allowing implementation of known technologies to be planned over time, and the latter for anticipating technological/market/socio-economic conditions, particularly in the area of renewable energy availability. The actionable levers for decarbonization are a/ improving energy efficiency (identified energy efficiency initiatives covering insulation, electrification, closed loops, leak prevention, metering, and process efficiency), and b/reducing the CO2 emission factor (renewable energy, both purchased and on-/off-site projects, coal phase-out at 5 plants). Time horizon: 2010-2030 covering two 5-year strategic planning cycles (2019 to 2029) Areas of the organization considered in the scenario analyses: Worldwide manufacturing base (95% of all Scope 1&2 GHG emissions) Results of the scenario analysis: A target was developed to reduce absolute emissions by 38% from 2010 to 2030, equivalent to a linear 1.9% reduction per year on average, with a detailed technical and cost roadmap of levers to implement, with a priority on optimizing energy efficiency, and complemented by gradual ramping up of renewable energies. It was formally approved by SBTi in April 2020. How the scenario analysis results informed business objectives and strategy: This target was approved by the Environment Governance (EG) in 2018. The EG also approved the emission reduction levers and initial capex and opex forecasts for the following 5-year business strategy cycle. Case study of how the scenario analysis results directly influenced business objectives and strategy: Ending use of coal for thermal energy is one of the primary CO2 reduction levers. For this reason, in 2018 the EG approved eliminating all direct and indirect coal use by 2030. The corporate Energy and CO2 Mitigation Expert Team began opportunity and feasibility studies on 4 of the 5 manufacturing plants that use coal. Under Michelin policy, the coal replacement options must include at least one renewable energy option, if available, in addition to natural gas. In 2019, the Olsztyn, Poland plant took the first step towards phasing out coal by installing a gas boiler supplying 20% of its heating needs.
Physical climate scenarios: RCP 4.5	Company-wide	<Not Applicable>	This scenario is used to assess our vulnerability by 2030 and 2050 on the value chain to climate change physical risks, when it comes notably to health and safety of people and business continuity management. The models used are based on AR6 with the lastest CMIP6 data.
Physical climate scenarios: RCP 8.5	Company-wide	<Not Applicable>	This scenario is used to assess our vulnerability by 2030 and 2050 on the value chain to climate change physical risks, when it comes notably to health and safety of people and business continuity management. The models used are based on AR6 with the lastest CMIP6 data.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

Rationale for selecting the scenarios disclosed in C3.2a:
The 4 scenarios selected for analysis are fully in line with the principles set out in TCFD "Guidance on Scenario Analysis for Non-Financial Companies", October 2020, and state-of-the art practices. Rather than looking at each scenario individually on a worldwide basis, the 4 scenarios were analyzed together based on a worldwide map displaying the scenario or blend of scenarios considered most likely for each country. The rationale for this approach is grounded in the fundamental assumption that the 4 scenarios will coexist over the coming decades in the different countries of the world. In 2021 the set of 4 climate scenarios was analyzed at two levels of the company:
1/ by the Group Executive Committee, to compare them to the Group's strategic plan and to analyze its resilience with regard to future climate change and associated environmental, economic and socio-political transitions.
2/ by the major business lines, regional organizations, operating division, corporate departments and other units as part of strategic thinking and ideation exercises to spur innovation.
List of focal questions:
The focal questions for the Group Executive Committee were:
a/ Do the 4 scenarios challenge our strategic choices?
b/ If so, what are main strengths & weaknesses of the current strategy regarding each scenario?
The focal question for the business lines, regional organizations, operating division, corporate departments was also about the main strengths & weaknesses of the current strategy under each scenario? This focal question is asked for each major component of the business/tactical plan: innovation program, commercial offer, skills and competencies level, supply chain processes, risk management process, etc. It aims to produce a detailed analysis of the "strategic fit" of the organization under each of the 4 scenarios.

Results of the climate-related scenario analysis with respect to the focal questions

Results of the company-wide scenario analysis:
1/ Concluding observations
-Validation by the Group Executive Committee of the 4 scenarios as plausible trajectories, to different degrees depending on the geography/region, each complex and paradoxical, as are the choices to be confronted.
-Agreement by the Group Executive Committee members on the relevance of the assumption of co-existing scenarios or blend of scenarios playing out over time on a country-by-country basis, driven by governmental decisions.
2/ Decisions regarding the strategic plan:
-Retention of business strategy fundamentals: ever-increasing connectivity, the necessity of key external partnerships, and a set of trends that are favorable as concerns vehicle fleets, urban mobility, micromobility and intermodality and unfavorable as concerns environmental degradation.
-Climate-related questions are to be addressed systematically in the annual strategic planning process. Scenario analysis for focus areas is to be done on an ad hoc basis as needed, while scenario analysis at the company-wide level is to be done at a regular interval set by the Group Executive Committee.
3/ Actions taken following the analysis
-Several innovation priorities were identified, including developing offers for managing end-of-life tires and means to adapt tire products and operations to higher temperatures.
Results of the scenario analysis by business lines, regional organizations, operating division, corporate departments:
1/ Concluding observations: Integrating dynamic trends related to climate change and complexities of reaching planetary limits is a crucial underpinning of business strategy and tactical plan development.
2/ Decisions regarding strategic planning: integrate the inflections from the "strategic fit" scenario analysis into 5-year business & operational strategies.
3/ Actions taken following the analysis: varying depending on the mission of the organization, but center on bringing CO2 mitigation solutions to customers and adapting supply chain operations to reduce/better manage physical and transition risks, direct and indirect.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Rationale: Michelin's predominant products in terms of sales revenues are tires for a multitude of uses (passenger car, truck & bus, two-wheel, off-road). Regardless of type, the use phase represents between 70 and 97% of the life cycle CO2 emissions of tires. The same is true for the use phase of vehicles. As downstream mobility users seek opportunities to reduce their CO2 footprint, Michelin has opportunities to develop product and service offers that deliver CO2 reductions to its customers. Beyond tires, opportunities for low-carbon mobility have given momentum to developing new products and services. How strategy has been influenced: Climate change opportunities stemming from regulation and extreme weather have reinforced historic activities: a/ continued development of long-lasting, energy-efficient tires to benefit from thresholds and grading for tire energy efficiency and vehicle emission standards, mainly in Europe and Japan (mitigation-related activity); b/ innovative offers for fleets to improve fuel efficiency (mitigation-related); and c/ all-weather tires (adaptation-related). The historic activity strategy is articulated over the medium-term time horizon. Opportunities for low-carbon mobility, mainly from regulation and changing market expectations (investors, customers) coupled with risks from limited resources have influenced strategy: new business ventures have been launched around hydrogen-powered mobility, transport-as-a-service, and advanced materials built on closed- and open-loop models for using end-of-life tires and diverse plastic wastes as feedstock. Case study of a substantial strategic decision: Opportunities for new low-carbon mobility (mitigation-related) have confirmed a long-term strategy: In 2019, following 15 years of R&D in hydrogen fuel cells and building public & private partnerships, Michelin made a strategic decision to enter this emerging market by acquiring Symbio and joining with Faurecia to create a joint venture with an initial investment of €140 million. Known as Symbio, A Faurecia Michelin Hydrogen Company, the JV will develops, produces and markets hydrogen fuel cell systems for cars, utility vehicles, trucks and other electromobility applications. 2030 objective: produce 200,000 hydrogen systems a year. In 2021, construction of a fuel cell plant in France was launched.
Supply chain and/or value chain	Yes	Rationale: The CO2 footprint from raw materials, transportation & distribution, and end-of-life treatment is significant, account for virtually all of Scope 3 emissions, excluding the use phase of products and services. Reducing emissions in these areas represents an opportunity to generate new efficiencies as well as revenue streams and meet external stakeholder expectations. At the same time, acute physical impacts from extreme weather events present an increasing risk to supply chain operations. How strategy has been influenced: 1/ Michelin has aligned its Scope 3 CO2 reduction targets with the Paris Agreement. Two targets have been set and approved by SBTi, one for suppliers of raw materials and the other for transport and end-of-life treatment. The time horizon for the raw material suppliers target is short-term (2024) and for the other targets medium-term (2030). 2/ Climate-related risks were fully integrated into the Group risk map in 2020, aligned with TCFD risk types. Potential for impact in the supply chain from extreme weather events is identified as one of the main risk factors. Case studies of substantial strategic decisions: 1/ To deliver CO2 reductions in the upstream value chains, Michelin coordinated the launch of a major European project: BlackCycle. The 13-member public-private consortium aims to create a closed loop for producing tires: collection of end-of-life tires and selection of feedstock, optimization of pyrolysis, refining and recovery of the oil, optimization of the kiln processes and performance evaluation of the sustainable tires produced with the recovered materials. The project's goal is to reduce the CO2 emission factor of key raw materials by 30%. 2/ Following a corporate-wide audit of acute and chronic physical risks related to climate change covering all operations, direct and indirect with value chain partners, to determine maximum possible impact, current risk management practices and residual risk, proof-of-concept risk evaluation tools for key raw materials were developed in 2021.
Investment in R&D	Yes	Rationale: The CO2 footprint of tires and other forms of mobility is largely in the use phase, along with significant emissions from raw materials. To develop product and service offers that deliver CO2 reductions, investment in R&D is essential. How strategy has been influenced: 1/Existing opportunities have been maintained and expanded in 3 strategic growth pillars including: a/continual improvement of tire energy efficiency, b/resource-saving, low-carbon services and solutions for fleets, and c/innovations in new power trains (e.g. hydrogen fuel cell). This strategy will continue over the medium time horizon. In 2020, around 18% of the total R&D budget was allocated to continuously improving tire energy efficiency and developing hydrogen mobility technologies. 2/New opportunities: The challenges of reducing the use of fossil fuels and materials derived from them has highlighted opportunities to develop high-performance materials from renewable or recycled feedstock. Investor and customer expectations have also driven changes at the strategic level. This context lead Michelin in 2016 to establish the area of advanced materials as a strategic growth driver over the medium time horizon. To underpin the strategy, the Group set a long-term objective of using 100% sustainable materials in 2050 and a medium-term target of 40% in 2030. Case study of a substantial strategic decision: In 2020 Michelin launched a 5-year R&D project called EMPREINTE with a budget of €74.6M, including €13.4M of French government aid and 4 objectives: a/develop new materials derived from waste recovery and new processes to obtain them, focusing on polymers, fillers, chemicals and metal reinforcements; b/design and develop sustainable tires that integrate these new materials, while guaranteeing performance suitable for tomorrow's vehicles and new mobility uses; c/optimize the impact of tire use through connectivity and predictive maintenance and develop new mobility services; d/optimize tire assembly processes to adapt to these new products through a flexible, efficient and economically viable manufacturing process. In October 2022, Michelin unveiled new tires designed by this project that feature 45% sustainable materials in the passenger car tire and 58% in the bus tire. In both cases, this represents a 50% increase in the sustainable material content compared with current tires.
Operations	Yes	Rationale: Climate change risk and opportunities, particularly around regulatory changes, rising energy costs, increased availability of renewables and increasing societal expectations for corporate stewardship, have changed how Michelin sources and uses energy in its manufacturing and logistics operations. How strategy has been influenced: 1) Michelin has aligned its Scope 1, 2 & 3 CO2 reduction targets with the Paris Agreement, and they have been approved by SBTi. The time horizon for the Scopes 1&2 target is medium-term (2030) and for the 2 Scope 3 targets short-term (2024) and medium-term (2030), respectively. These targets are the foundation of emission reduction roadmaps that identify actionable levers, costs and implementation timeframe. The roadmaps are validated by the Environment Governance body. They serve as key inputs to the 5-year strategic planning process for the manufacturing and supply chain operations corporate divisions. 2) Climate-related risks were fully integrated into the Group risk map in 2020, aligned with TCFD risk types. Potential for impact on operations (manufacturing plants, logistics warehouses, and transportation routes) from extreme weather events is identified as one of the main risk factors. Case studies of substantial strategic decisions: a/ To reduce CO2 reductions in logistics operations, Michelin signed a letter of commitment in 2021 for maritime transport with NEOLINE, a French shipowner relying on main propulsion by wind energy for its 136m-long cargo ships equipped with 4200 m2 of sails. The commitment encompasses the transport of Michelin-produced tires loaded in containers from Halifax (Canada) to Saint-Nazaire - Montoir de Bretagne (France) on the first transatlantic line to be opened by NEOLINE in 2023. With the arrival of a second vessel, scheduled a year later, the Michelin will gradually entrust NEOLINE with at least 50% of the group's containers transported on this line. 2/ Following a corporate-wide audit of acute and chronic physical risks related to climate change covering all operations, direct and indirect with value chain partners, to determine maximum possible impact, current risk management practices and residual risk, a proof-of-concept risk evaluation tool was developed in 2021.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital Assets	Revenues: Risks and opportunities are inherent in rapidly evolving mobility markets in which B2B and B2C preferences and behavior can drive the willingness to pay for low carbon products and services upwards or downwards thereby influencing revenues. Case study: Opportunities for low carbon products and services have influenced revenues in a positive direction. As a market leader in connected tires and digital fleet management, Michelin offers its corporate customers services and solutions to reduce their carbon footprints, in addition to other key benefits (e.g., enhancing safety performance, simplifying maintenance). The goal for the services and solutions business unit is to double revenue over 5 years, by new and expanded fleet management solutions. Pressure to decarbonize will lead to increasing needs from fleets for such service, thus increasing Michelin future revenues. Sales of tire-related services and solutions totaled €219 M in 2022. With 1.1 million vehicles currently under Michelin Group contract, this number is expected to grow about +15% CAGR by 2030. More than 5M transactions are expected per year, with more than 10 000 services providers. 50 connected offers/yr are planned to be launched. Time horizon:short-term. Direct & indirect costs:Influenced by the CO2 reduction roadmap approved by the Environment Governance (EG) and the risk of not meeting external stakeholder expectations for net zero emissions. Direct costs come from projects to reduce energy consumption and procurement of renewable energy, and indirect costs from CO2 allowances and carbon taxes. Case study: Future purchase of CO2 allowances under the EU ETS (€9.3M in 2021 and estimated €18M in 2025) for 15 sites and additional costs expected in the medium-term under the China ETS system. Forecasted increases in CO2 allowances are determined by the CO2 Allowances Management Committee, a cross-functional team tasked with optimizing compliance costs. Its findings are communicated to the impacted manufacturing sites so that the forecasts can be balanced with capex and opex for projects to reduce energy consumption and CO2 emissions. The optimal strategy from a financial and CO2 reduction perspective can be integrated into the sites' 5-year strategic plan. Time horizon: short-term Capital expenditures:Capex planning is influenced by the CO2 reduction roadmap approved by the EG and the risk of not meeting external stakeholder expectations for net zero emissions. Case study: To guarantee annual progress against CO2 reduction targets and anticipate regulatory costs of CO2 emissions, Michelin raised the internal carbon price from 50 to 100 €/metric ton CO2, approved by the EG in 2021. Project leaders must submit 2 scenarios, with and without the internal carbon price. Project sponsors can compare the payback calculated with a carbon market price (now zero in every host region except Europe and Shanghai) and the payback calculated with the projected carbon price over the lifetime of the equipment being purchased today. The internal price is regularly reviewed based on analysis of external carbon pricing trends. Time horizon: short-term Capital allocation:This element is influenced by the CO2 reduction roadmap approved by the EG and the risk of not meeting external stakeholder expectations for net zero emissions. Managing this risk thus involves allocating capital at the corporate level for manufacturing operations and logistics operations. Case study:An annual target is set for investments in manufacturing energy efficiency projects, an average of € 54M per year from 2022 to 2030. Each year the 5-year strategic plan at regional manufacturing level is reviewed and readjusted to include an investment budget corresponding to the energy efficiency projects that have been prioritized according to three criteria: 1) technical feasibility, 2) cost and return on investment, and 3) contribution to meeting Michelin's 2030 CO2 reduction target for Scopes 1 & 2 of -50% in absolute value (2010 baseline). Time horizon: medium-term Acquisitions and divestments: Financial planning is influenced by the strategic plan ""Michelin in Motion"" to grow "Around Tires"" and ""Beyond Tires" which takes into consideration risks and opportunities driven by evolving market needs to reduce materials extraction - and the associated carbon footprint – and the carbon footprint of products and services particularly in the use phase. Case study: Acquisitions to generate growth ""Around Tires"" focus on digital technologies/services to supporting zero-emission fleets by optimizing operations and easing the transition to electrification with data analytics. Main acquisitions in recent years include Sascar, NexTraq, Masternaut, Maestro Marketplace. These companies serve 70,000 customers in 48 countries covering 300 million trips a year, with continued acquisitions planned in a global fleet management market projected to grow 15% a year through 2030. Acquisitions to generate growth ""Beyond Tires"" focus on advanced materials, including bio-based and recycled feedstocks, and hydrogen-powered mobility. Main acquisitions include Lehigh Technologies, specializing in micronized rubber powders derived from recycled end-of-life tires and other rubber-based industrial products; strategic partnerships with Enviro, Carbios and Pyrowave to develop innovation recycling technologies around waste plastics and end-of-life tires; and a joint venture with Faurecia to create Symbio, a leader in hydrogen-powered mobility. Time horizon: short-term Access to capital:This element is influenced by the risk of negative shareholder feedback regarding corporate climate change strategy. Michelin regularly discusses the sustainability strategy with shareholders and potential investors. Given Michelin's strong ESG performance as evaluated by extra-financial rating organizations, several of which use information reported to the CDP, access to financial capital remains open, if not more accessible. Case study: Michelin uses its ESG status as an opportunity. In 2020, the Group signed a EUR 2.5bn Multicurrency Revolving Credit Facility with a group of 19 banks, linking its pricing to a set of 3 ""Sustainability Performance Targets"" among which the reduction of Scope 1&2 emissions. Time horizon: short-term Assets: influenced by the CO2 reduction roadmap approved by the EG and the risk of not meeting external stakeholder expectations for net zero emissions. Case study: Michelin has 4 production sites that use steam produced from coal-fired boilers, 3 in Europe, 1 in North America. The boilers are potentially stranded assets under climate change scenarios compatible with the Paris Agreement. Michelin is pursuing its coal exit strategy for manufacturing to achieve a 50% reduction of CO2 emissions from 2010-2030. Annual capital investment required ranges from €12 M to €30 M per year, depending on the coal replacement choices made at each location. Time horizon: medium-term

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	Yes, we identify alignment with a sustainable finance taxonomy	At both the company and activity level

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's climate transition.

Financial Metric
Revenue/Turnover

Type of alignment being reported for this financial metric
Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported
EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported
Climate change mitigation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)
0

Percentage share of selected financial metric aligned in the reporting year (%)

0

Percentage share of selected financial metric planned to align in 2025 (%)
0

Percentage share of selected financial metric planned to align in 2030 (%)
0

Describe the methodology used to identify spending/revenue that is aligned
Tires may be deemed to contribute substantially to the climate change mitigation objective, considering that tire rolling resistance is directly related to a vehicle's fuel efficiency and emissions. For a passenger car releasing 133 g of CO2 per kilometer, 27 g or 20% are attributable to the rolling resistance of its tires, if they perform in line with the European market average (class D according to the new European labeling system). If it were equipped with class C tires, the vehicle's emissions would decline by 4 g/km, or by 7 g/km with class B tires and by 11 g/km with class A tires.

Thus, under activity '3.6 Manufacture of other low carbon technologies', Michelin has identified that tires on rolling resistance classes A and B can contribute substantially to the climate change mitigation objective as they "demonstrate substantial life-cycle GHG emission savings compared to the best performing alternative technology/product/solution available on the market."

The taxonomy-aligned sales, hence, included:
• Activity 3.6: sales of Passenger car, Light truck and Truck tires with rolling resistance rated A and B (the most energy efficient tires on the market).
• Activity 8.2: sales of fleet management solutions meeting the following two conditions: (1) the solution's information and communication technology is used primarily to supply data and analytics enabling a reduction in greenhouse gas emissions; and (2) where an alternative solution or technology is available on the market, the solution demonstrates substantial life-cycle GHG emissions savings compared to the best performing alternative solutions/technology.

13% of Michelin's 2022 sales were aligned with the upper substantial contribution criteria, demonstrating the ability of the Group's products and services to help reduce transportation-related CO2 emissions more substantially than the best performing alternatives on the market.

Financial Metric
CAPEX

Type of alignment being reported for this financial metric
Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported
EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported
Climate change mitigation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)
0

Percentage share of selected financial metric aligned in the reporting year (%)
0

Percentage share of selected financial metric planned to align in 2025 (%)
0

Percentage share of selected financial metric planned to align in 2030 (%)
0

Describe the methodology used to identify spending/revenue that is aligned
To assess aligned capital expenditure, the following criteria were used:

For activity 3.6: capital expenditure committed to introduce technologies designed to improve the rolling resistance of our tire products; capital expenditure related to the molds for the new tire lines that reduce rolling resistance compared to the previous generations; indirect capital outlays enabling the production of the aligned proportion of sales.

For activity 8.2: the amount of aligned capital expenditure is calculated pro rata to the aligned sales. Given the amounts involved to date, a further analysis of capital expenditure would not lead to a significant change in the proportion of aligned capital expenditure at Group level.

19% of Michelin's 2022 capital expenditure aligned with the substantial contribution criteria, demonstrating the ability of the Group's products and services to lead the way to future performance in line with the Group's objective of improving the energy efficiency of its products by 20% between 2010 and 2030.

Financial Metric
OPEX

Type of alignment being reported for this financial metric
Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported
EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported
Climate change mitigation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)
0

Percentage share of selected financial metric aligned in the reporting year (%)
0

Percentage share of selected financial metric planned to align in 2025 (%)
0

Percentage share of selected financial metric planned to align in 2030 (%)
0

Describe the methodology used to identify spending/revenue that is aligned
In accordance with the European Taxonomy, the only operating expenses disclosed in this report are direct non-capitalized costs relating to research and development, building renovations, maintenance and repair, short-term leases and any other direct expenses related to the day-to-day servicing of the property, plant and equipment assets. Eligible/aligned operating expenses are calculated proportionally to the percentage of eligible/aligned sales.

C3.5b

(C3.5b) Quantify the percentage share of your spending/revenue that was associated with eligible and aligned activities under the sustainable finance taxonomy in the reporting year.

Economic activity
Manufacture of other low carbon technologies

Taxonomy under which information is being reported
EU Taxonomy for Sustainable Activities

Taxonomy Alignment
Taxonomy-eligible but not aligned

Financial metric(s)
Turnover
CAPEX
OPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)
<Not Applicable>

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year
<Not Applicable>

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year
<Not Applicable>

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year
<Not Applicable>

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)
14772000000

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year
52

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)
<Not Applicable>

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year
<Not Applicable>

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year
<Not Applicable>

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year
<Not Applicable>

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)
1579000000

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year
60

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)
<Not Applicable>

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year
<Not Applicable>

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year
<Not Applicable>

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year
<Not Applicable>

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)
868000000

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year
52

Type(s) of substantial contribution
<Not Applicable>

Calculation methodology and supporting information
TURNOVER : Turnover data concerned sales of Passenger car, Light truck and Truck tires, corresponding to Taxonomy activity 3.6. These data exclude sales of tires with class E rolling resistance and sales of motorsports tires, specialty tires and any other tires that do not meet the definition of the eligible tire activity described above. These sales are included in the Group's consolidated sales, as reported in the consolidated financial statements, to calculate the percentage of eligible and aligned sales.

CAPEX : Some of the Group's capital expenditure is directly committed to each activity. For other capital expenditure (in infrastructure shared by several activities, for

example, or in semi-finished goods production units serving several activities), the Group uses an allocation method based on each activity's proportion of use of the assets concerned. The capital expenditure reported for a given activity is therefore all of the capital expenditure directly committed to it plus the indirect capital expenditure allocated to it, less capital expenditure on corporate projects. In the case where some capital expenditure is associated with an activity that is not marketed by the Group, these outlays are reported separately to avoid double counting. In compliance with the Article 8 Delegated Act, the capital expenditure denominator used to calculate eligible and aligned portions include additions to tangible and intangible assets resulting from business combinations. As a result, it differs from the amount of capital expenditure usually reported by the Group.

OPEX: The expenses detailed in C3.5a, which constitute the denominator by which the eligible and aligned expenses will be divided to determine the KPI, are recorded in the Group's information systems at the level of the consolidated financial statements. They are not recorded on a more granular level, however, making it impossible to calculate the total amount included in the numerator to determine the proportion of eligible and aligned operating expenses without performing complex estimates, which would in any case be too approximate to be meaningful. Eligible/aligned operating expenses are therefore calculated proportionally to the percentage of eligible/aligned sales.

Technical screening criteria met
Yes

Details of technical screening criteria analysis
Michelin can contribute to meeting the targets for reducing GHG emissions in the transportation industry, as tires play an important role in a vehicle's energy efficiency. Known as rolling resistance, this aspect accounts for up to 20% of emissions from an internal combustion passenger car and more than 30% from a truck. By improving tire rolling resistance, technological innovation in the tire industry can contribute to the climate change mitigation objective. Michelin has, thus, identified that its economic activity can fall under "3.6 Manufacture of other low-carbon technologies".

Rolling resistance was a clear choice as a technical screening criterion for tires, in light of: its direct link to the potential for reducing a vehicle's emissions; the text of the Delegated Act of the Taxonomy Regulation mentioning tires and rolling resistance in the description of the "do no significant harm" screening criteria for urban transport-related activities 6.3 and 6.5; its selectivity, given that choosing rolling resistance as a technical screening criterion effectively excludes from eligibility so-called specialty tires (for farm machinery, mining equipment, aircraft and two-wheelers).

Compliance of eligible tires with the "low carbon intensity" concept is based on: the direct link between tire rolling resistance and the potential for reducing emissions from the transportation industry; Michelin's long track record of steadily reducing the rolling resistance of its tires to improve fuel efficiency and thereby decarbonize the transportation industry; the exclusion from eligible activities of tires with class E rolling resistance, which is the least efficient.

Michelin has calculated an alignment criterion for the tire business by analogy with the specifications in the Delegated Act of the Taxonomy Regulation mentioned above, while restricting it to the two highest rolling resistance classes on the market. The European classes have been translated into minimum rolling resistance standards, expressed in kg/t, so that every tire sold around the world can be compared to a universal criterion. As a result, only the most energy efficient tires on the market (respecting the selective rolling resistance ceilings) will be considered as aligned. This approach reflects the spirit of the alignment criterion in activity 3.6, which requires that the technological solution reduce carbon emissions more substantially than the best performing alternatives on the market.

Do no significant harm requirements met
No

Details of do no significant harm analysis
Climate change adaptation: Michelin has identified the relevant climate phenomena with respect to its activities and the relevant sites for assessment. Diagnostics were initiated in 2021 and continued in 2022 (28 sites to date). Solutions have already been identified and implemented as part of the supply and business continuity risk management process, and additional solutions derived from the diagnostics will be fully defined by 2024/ 2025.

Sustainable use and protection of water and marine resources: Michelin has identified two material risks, water stress and water quality. Michelin operates in full compliance with local legislation in every host country and impact studies are performed in compliance with national legislation for every project likely to have a significant impact on the environment.

Transition to a circular economy, waste prevention and recycling: Michelin is engaged in making better use of resources and is leveraging its 4R (Reduce, Reuse, Recycle, Renew) approach to incorporate a growing percentage of sustainable materials into its products. To reach that goal, the Group has made use of several levers: eco-design, improving tires' mass efficiency, and investing in solutions for end-of-life treatment of sold products. By 2050, the goal is to reduce the amount of waste produced per ton of total output by 50% compared to 2020 (in kilograms per ton of semi-finished and finished product).

Pollution prevention and control: Michelin complies with relevant European regulations (POPs, REACH, etc) and therefore meets the criteria defined by the European Taxonomy in paragraphs a) to e) of Appendix C. Michelin has also defined a Chemical Risk Management policy designed to protect human health and the environment from the harmful effects of chemical use. Because the objective criteria for assessing whether the use of these products is essential for society have not been defined, Michelin cannot comment on this aspect of the regulation. As a result, in assessing alignment with the European Taxonomy in respect to 2022, compliance with criteria f) and g) cannot be asserted.

Protection and restoration of biodiversity and ecosystems: for sites/operations located in or near biodiversity-sensitive areas, an appropriate assessment, where applicable, has been conducted and based on its conclusions, the necessary mitigation measures have been implemented.

Minimum safeguards compliance requirements met
Yes

Details of minimum safeguards compliance analysis
Michelin upholds the highest international human rights standards in conducting its business and across its value chain. It has been a signatory of the UN Global Compact since 2010. The Group's approach is rooted in recognized international standards, in particular the Universal Declaration of Human Rights, the United Nations Guiding Principles on Business and Human Rights and the fundamental conventions of the International Labour Organization (ILO), in particular as concerns child labor, forced labor, non-discrimination and freedom of association and collective bargaining.

Since 2014, the approach has been coordinated by a multidisciplinary Operational Committee, overseen at the highest level of the Company by a Human Rights Governance Body chaired by the Executive Vice President & Chief Personnel Officer with input from the Executive Vice President, Manufacturing, both of whom are members of the Group Executive Committee. Every year since 2017, Michelin has published a Duty of Care Plan, which describes the main human rights risks incurred by the Group and its suppliers in their operations, along with the measures in place to prevent them.

In 2017, Michelin became a member of Businesses for Human Rights (EDH), a French association that supports companies in their human rights commitment.

The Michelin Duty of Care Plan and the Master Policy on Human Rights may be found on the Michelin website:
https://www.michelin.com/en/documents/duty-of-care-plan-2021/
https://www.michelin.com/en/documents/michelin-master-policyon-human-rights/

In addition, Section 4.1.4.1 of Michelin's Universal Registration Document describes the Group's commitment to ethical business practices, including: the global ethical framework; preventing corruption; protecting employee privacy and personal data; combating tax evasion; and upholding competition law.

Economic activity
Data-driven solutions for GHG emissions reductions

Taxonomy under which information is being reported
EU Taxonomy for Sustainable Activities

Taxonomy Alignment
Taxonomy-eligible but not aligned

Financial metric(s)
Turnover
CAPEX
OPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)
<Not Applicable>

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year
<Not Applicable>

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year
<Not Applicable>

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year
<Not Applicable>

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)
226000000

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year
1

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)
<Not Applicable>

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year
<Not Applicable>

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year
<Not Applicable>

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year
<Not Applicable>

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)
98000000

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year
4

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)
<Not Applicable>

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year
<Not Applicable>

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year
<Not Applicable>

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year
<Not Applicable>

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)
13000000

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year
1

Type(s) of substantial contribution
<Not Applicable>

Calculation methodology and supporting information
TURNOVER : Sales of the fleet management services and solutions, corresponding to Taxonomy activity 8.2 (e.g., the Masternaut, Sascar, NexTraq and Watèa businesses). The fleet management business, which relies heavily on the collection, processing and reporting of requisite data, focuses on lowering customer fuel consumption, for example by offering solutions to optimize routes or driving practices. These sales are included in the Group's consolidated sales, as reported in the consolidated financial statements, to calculate the percentage of eligible and aligned sales.

CAPEX: Some of the Group's capital expenditure is directly committed to each activity. For other capital expenditure (in infrastructure shared by several activities, for example, or in semi-finished goods production units serving several activities), the Group uses an allocation method based on each activity's proportion of use of the assets concerned. The capital expenditure reported for a given activity is therefore all of the capital expenditure directly committed to it plus the indirect capital expenditure allocated to it, less capital expenditure on corporate projects. In the case where some capital expenditure is associated with an activity that is not marketed by the Group, these outlays are reported separately to avoid double counting. In compliance with the Article 8 Delegated Act, the capital expenditure denominator used to calculate eligible and aligned portions include additions to tangible and intangible assets resulting from business combinations. As a result, it differs from the amount of capital expenditure usually reported by the Group.

OPEX: The expenses detailed in C3.5a, which constitute the denominator by which the eligible and aligned expenses will be divided to determine the KPI, are recorded in

the Group's information systems at the level of the consolidated financial statements. They are not recorded on a more granular level, however, making it impossible to calculate the total amount included in the numerator to determine the proportion of eligible and aligned operating expenses without performing complex estimates, which would in any case be too approximate to be meaningful. Eligible/aligned operating expenses are therefore calculated proportionally to the percentage of eligible/aligned sales.

Technical screening criteria met
No

Details of technical screening criteria analysis
Given the priority focus in 2022 on clarifying the alignment of activity 3.6 with the screening criteria of "no significant environmental harm" and "minimum safeguards," calculation of the aligned portion of the activity 8.2 KPIs, based on the technical screening criteria of "substantial contribution" has been deferred to a later date.

Do no significant harm requirements met
No

Details of do no significant harm analysis
Climate change adaptation: Michelin has identified the relevant climate phenomena with respect to its activities and the relevant sites for assessment. Diagnostics were initiated in 2021 and continued in 2022 (28 sites to date). Solutions have already been identified and implemented as part of the supply and business continuity risk management process, and additional solutions derived from the diagnostics will be fully defined by 2024/ 2025.

Sustainable use and protection of water and marine resources: Michelin has identified two material risks, water stress and water quality. Michelin operates in full compliance with local legislation in every host country and impact studies are performed in compliance with national legislation for every project likely to have a significant impact on the environment.

Transition to a circular economy, waste prevention and recycling: Michelin is engaged in making better use of resources and is leveraging its 4R (Reduce, Reuse, Recycle, Renew) approach to incorporate a growing percentage of sustainable materials into its products. To reach that goal, the Group has made use of several levers: eco-design, improving tires' mass efficiency, and investing in solutions for end-of-life treatment of sold products. By 2050, the goal is to reduce the amount of waste produced per ton of total output by 50% compared to 2020 (in kilograms per ton of semi-finished and finished product).

Pollution prevention and control: Michelin complies with relevant European regulations (POPs, REACH, etc) and therefore meets the criteria defined by the European Taxonomy in paragraphs a) to e) of Appendix C. Michelin has also defined a Chemical Risk Management policy designed to protect human health and the environment from the harmful effects of chemical use. Because the objective criteria for assessing whether the use of these products is essential for society have not been defined, Michelin cannot comment on this aspect of the regulation. As a result, in assessing alignment with the European Taxonomy in respect to 2022, compliance with criteria f) and g) cannot be asserted.

Protection and restoration of biodiversity and ecosystems: for sites/operations located in or near biodiversity-sensitive areas, an appropriate assessment, where applicable, has been conducted and based on its conclusions, the necessary mitigation measures have been implemented.

Minimum safeguards compliance requirements met
Yes

Details of minimum safeguards compliance analysis
Michelin upholds the highest international human rights standards in conducting its business and across its value chain. It has been a signatory of the UN Global Compact since 2010. The Group's approach is rooted in recognized international standards, in particular the Universal Declaration of Human Rights, the United Nations Guiding Principles on Business and Human Rights and the fundamental conventions of the International Labour Organization (ILO), in particular as concerns child labor, forced labor, non-discrimination and freedom of association and collective bargaining.

Since 2014, the approach has been coordinated by a multidisciplinary Operational Committee, overseen at the highest level of the Company by a Human Rights Governance Body chaired by the Executive Vice President & Chief Personnel Officer with input from the Executive Vice President, Manufacturing, both of whom are members of the Group Executive Committee. Every year since 2017, Michelin has published a Duty of Care Plan, which describes the main human rights risks incurred by the Group and its suppliers in their operations, along with the measures in place to prevent them.

In 2017, Michelin became a member of Businesses for Human Rights (EDH), a French association that supports companies in their human rights commitment.

The Michelin Duty of Care Plan and the Master Policy on Human Rights may be found on the Michelin website:
https://www.michelin.com/en/documents/duty-of-care-plan-2021/
https://www.michelin.com/en/documents/michelin-master-policyon-human-rights/

In addition, Section 4.1.4.1 of Michelin's Universal Registration Document describes the Group's commitment to ethical business practices, including: the global ethical framework; preventing corruption; protecting employee privacy and personal data; combating tax evasion; and upholding competition law.

C3.5c

(C3.5c) Provide any additional contextual and/or verification/assurance information relevant to your organization's taxonomy alignment.

Additional information concerning the 2022 calculation of the aligned portion of activity 8.2 (sales, capital expenditure and operating expenses): Given the priority focus in 2022 on clarifying the alignment of activity 3.6 with the screening criteria of "no significant environmental harm" and "minimum safeguards," calculation of the aligned portion of the activity 8.2 KPIs, based on the technical screening criteria of "substantial contribution" and "no significant environmental harm," has been deferred to a later date. The information presented in C3.5b therefore concerns the analysis of eligibility in activity 8.2 and of eligibility and alignment in activity 3.6.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?
Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number
Abs 1

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
2°C aligned

Year target was set
2018

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Market-based

Scope 3 category(ies)
<Not Applicable>

Base year
2010

Base year Scope 1 emissions covered by target (metric tons CO2e)
1854670

Base year Scope 2 emissions covered by target (metric tons CO2e)
2022603

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)
<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
3877273

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
96

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
96

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
96

Target year
2030

Targeted reduction from base year (%)
38

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
2403909.26

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
1177326.038

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
1126537.676

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
2303863.714

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
106.790281536316

Target status in reporting year
Replaced

Please explain target coverage and identify any exclusions
The target Abs 1 has been replaced by a more ambitious target that has been approved by SBTi in January 2023 (Abs5) . This new target aimes to reduce absolute Scope 1 and 2 emissions by 27,5% by 2030 vs 2019 and is alignend with a well below 2 degrees scenario. This target includes recent acquisitions (Fenner, Camso and Multistrada), what triggered an update of the target values and an update of the reference year 2019.

Plan for achieving target, and progress made to the end of the reporting year
<Not Applicable>

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Abs 2

Is this a science-based target?
Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition
Other, please specify (Race to Zero - Business Ambition for 1.5°C)

Year target was set
2019

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Market-based

Scope 3 category(ies)
<Not Applicable>

Base year
2010

Base year Scope 1 emissions covered by target (metric tons CO2e)
1854670

Base year Scope 2 emissions covered by target (metric tons CO2e)
2022603.32

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)
<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
3877273

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
96

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

96

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
96

Target year
2050

Targeted reduction from base year (%)
100

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
0

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
1177326.038

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
1126537.676

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
2303864

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
40.5802996074819

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
In 2019, Michelin has set a new long-term ambition to reach Zero Net Emissions on scopes 1 and 2 by 2050 (Abs2). This target is aligned with Race to Zero - Business Ambition for 1.5°C (option 2) because it commits the Group to reach net zero no later than 2050 and comes with a mid term (2030) SBTi WB2D target involving a pace of progress better than 2.5 percent per year.
Exclusions: The emissions from the recent acquisitions (Fenner, Camso and Multistrada) are excluded from the Scope 1 & 2 base year and reporting year emissions, because no reliable data were available when this target was set.

A new intermediary target, in line with the new 2050 target, was set in the second half of 2020 to guide this process, based on a linear reduction pathway (Abs5). This target has been validated by SBTi in January 2023.

Plan for achieving target, and progress made to the end of the reporting year
As part of its commitment to achieving net-zero carbon emissions across its entire production base by 2050, the Group has set an intermediate target of reducing its scope 1 and 2 emissions by 50% by 2030 compared to 2010. In addition to improving energy efficiency, the Group is exploring a wide array of sustainable solutions to use renewable sources to generate not only electricity but also heat by burning biomass and biogas as fuel. The latter is a more difficult challenge, as the commercial supply of sustainably produced biogas and biomass is not growing as fast as the supply of electricity from guaranteed renewable sources.

For 2030, the Group's objectives are to:
▶ reduce emissions from Group production facilities by 50% versus 2010 in absolute terms (indicator: tonnes of Scope 1 and 2 CO2 released);
▶ eliminate the use of coal to generate own or purchased heat (indicator: % of coal in our heat sources);
▶ improve production plant energy efficiency by 37% versus 2010 (indicator: MWh used per tonne produced).

Since 2020, the technical levers to be activated over the current decade have been identified and organized into three families:
1. Applications of best technical practices.
2. Process electrification.
3. Heating plant and utility decarbonization projects.

Together, these projects are expected to improve energy efficiency by 37% in 2030 compared to 2010.

In 2022, total CO2 emissions from the Group's production plants were down 21% compared with 2019, for a 41% reduction since 2010. The ratio of CO2 emissions per tonne of output stood at 0.26, versus 0.32 in 2019.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Abs 3

Is this a science-based target?
Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition
Well-below 2°C aligned

Year target was set
2020

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Market-based

Scope 3 category(ies)
<Not Applicable>

Base year
2010

Base year Scope 1 emissions covered by target (metric tons CO2e)
1854670

Base year Scope 2 emissions covered by target (metric tons CO2e)
2022603.32

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)
<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
3877273

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
96

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
96

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
96

Target year
2030

Targeted reduction from base year (%)

50

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
1938636.5

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
1177326

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
1126538

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
2303863.71

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
81.160614173931

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
This intermediary target is in line with the new long-term ambition to reach Zero Net Emissions on scopes 1 and 2 by 2050 (Abs2), and was set in the second half of 2020 to guide this process, based on a linear reduction pathway.
Alignement with WB2D : This target is aligned with SBTi WB2D because it involves a pace of progress better than 2.5 percent per year. Besides, it comes with a net-zero target no later than 2050 (Abs 2) so it is also aligned with Race to Zero - Business Ambition for 1.5°
Please see C6.4 a for more details about these 3 entities under integration.

Recaculation of base year emissions for SBT submission:
As described in our 2015 registration document (p 178), the same emission factor was used until 2014 for all of the sites purchasing steam, regardless of the primary energy or technology used by the vendor.
As of 2015, in order to more accurately depict foreseeable developments in energy sourcing, we decided to use three emissions factors, one for each primary energy used (coal, fuel oil and gas), including reasonable energy efficiency and loss assumptions.
Now, in the framework of preparing our submission to Science Based Targets Initiative, we recalculated our 2010 (base year) emissions with the new emission factors (EF) applied to steam purchases: with the new EFs, our 2010 emissions would have been 3 850 000 tonnes instead of 4 067 000. or simplicity reasons in our internal

communication and target setting, until the end of 2020, our short term, non-submitted to SBTi 2020 target was based on our historical 2010 emission value (4 067 000 tonnes). However, the recalculated 2010 base-year emissions (3,850,000 tonnes) was the base for our SBTi submission (2030 and 2050 targets). We also incorporated the emissions of two, newly acquired sites.

Plan for achieving target, and progress made to the end of the reporting year
As part of its commitment to achieving net-zero carbon emissions across its entire production base by 2050, the Group has set an intermediate target of reducing its emissions by 50% by 2030 compared to 2010. In addition to improving energy efficiency, the Group is exploring a wide array of sustainable solutions to use renewable sources to generate not only electricity but also heat by burning biomass and biogas as fuel. The latter is a more difficult challenge, as the commercial supply of sustainably produced biogas and biomass is not growing as fast as the supply of electricity from guaranteed renewable sources.

For 2030, the Group's objectives are to:
▶ reduce emissions from Group production facilities by 50% versus 2010 in absolute terms (indicator: tonnes of Scope 1 and 2 CO2 released);
▶ eliminate the use of coal to generate own or purchased heat (indicator: % of coal in our heat sources);
▶ improve production plant energy efficiency by 37% versus 2010 (indicator: MWh used per tonne produced).
Since 2020, the technical levers to be activated over the current decade have been identified and organized into three families:
1. Applications of best technical practices.
2. Process electrification.
3. Heating plant and utility decarbonization projects.
Together, these projects are expected to improve energy efficiency by 37% in 2030 compared to 2010.

In 2022, total CO2 emissions from the Group's production plants were down 21% compared with 2019, for a 41% reduction since 2010. The ratio of CO2 emissions per tonne of output stood at 0.26, versus 0.32 in 2019.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Abs 5

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
Well-below 2°C aligned

Year target was set
2022

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Market-based

Scope 3 category(ies)
<Not Applicable>

Base year
2019

Base year Scope 1 emissions covered by target (metric tons CO2e)
1493879

Base year Scope 2 emissions covered by target (metric tons CO2e)
1730420

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)
<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
3224299

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
96

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
96

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
96

Target year
2030

Targeted reduction from base year (%)
27.5

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
2337616.775

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
1246855

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
1317234

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
2564089

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

74.4584679139136

Target status in reporting year
New

Please explain target coverage and identify any exclusions
A new near term target, in line with our 2050 target, has been submitted in 2022 in the framework of the Race to 0 - 1,5°C Campaign - it includes recent aquisitions. This target was approved mid January 2023.
Compared to Abs3, new acquisitions (Camso, Fenner and Multiestrada) have been included, what triggered an update of the target values and an update of the reference year 2019. Please see C6.4 a for more details about these 3 entities under integration.
Operations excluded: Retail distribution (2,29 %) are excluded because they are not material against our primary operations. HFC (0,36%) are excluded because the quantities emitted are not material compared with primary operations. Facilities excluded: Wholesale distribution Michelin-owned warehouses are excluded because they are not material against our primary operations and industrial sites (0.35 %). Operations excluded : Michelin Air Service (0.19 %) are excluded because they are not material against our primary operations.
Our estimate of all potential exclusions amounts to 3,18%, or less than 5% which is the maximum allowed according to the Greenhouse Gas Protocol.

Plan for achieving target, and progress made to the end of the reporting year
In addition to improving energy efficiency, the Group is exploring a wide array of sustainable solutions to use renewable sources to generate not only electricity but also heat by burning biomass and biogas as fuel. The latter is a more difficult challenge, as the commercial supply of sustainably produced biogas and biomass is not growing as fast as the supply of electricity from guaranteed renewable sources.

The 2030 roadmap includs:

▶ eliminate the use of coal to generate own or purchased heat (indicator: % of coal in our heat sources);
▶ Since 2020, the technical levers to be activated over the current decade have been identified and organized into three families:
1. Applications of best technical practices.
2. Process electrification.
3. Heating plant and utility decarbonization projects.
Together, these projects are expected to improve energy efficiency by 37% in 2030 compared to 2010. (indicator: MWh used per tonne produced).

In 2022, total CO2 emissions from the Group's production plants were down 21% compared with 2019, for a 41% reduction since 2010. The ratio of CO2 emissions per tonne of output stood at 0.26, versus 0.32 in 2019.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Abs 4

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
Well-below 2°C aligned

Year target was set
2022

Target coverage
Company-wide

Scope(s)
Scope 3

Scope 2 accounting method
<Not Applicable>

Scope 3 category(ies)
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 4: Upstream transportation and distribution
Category 9: Downstream transportation and distribution
Category 12: End-of-life treatment of sold products

Base year
2018

Base year Scope 1 emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 2 emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)
746963

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)
1213652

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)
934590

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)
3717842

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)
6613047

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
6613047

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
<Not Applicable>

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
4

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)
7

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)
5

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)
21

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
38

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
38

Target year
2030

Targeted reduction from base year (%)
15

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
5621089.95

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)
517830

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
1193976

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
826715

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)
3717842

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)
6256364

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
6256364

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
35.9575044100952

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
Company-wide target that covers 38% of Scope 3 emissions. It focuses on the largest categories most relevant to our business activities: fuel and energy-related activities, upstream and downstream transportation and distribution and end-of-life treatment of sold products. (The largest category -- purchased goods and services -- is covered under a different SBTi-approved target for supplier engagement; it covers 53% of Scope 3 emissions, for a total of 91% coverage between the 2 targets.) The minor categories have been excluded; emission reduction activities for these categories are managed at a local level, as opposed to the corporate level for this target.

Plan for achieving target, and progress made to the end of the reporting year
Cat 3: Fuel and energy-related activities: greater use of renewable energy, both purchased steam and purchased electricity.
Cat 4 & 9: Optimization of logistics systems (maximizing truck and container fill rates, avoiding empty & redundant trips, shortening point-to-point distance traveled etc.), increasing the use of multi-modal transport (e.g., train, canal/river/ocean barges, etc.), increasing local sourcing, increasing the use of transport using low-carbon energy (natural gas replacing fuel, hydrogen & wind replacing fossil fuel), engaging continuously with transport providers to find new solutions to reducing GHG emissions.
Cat 12: While measuring the impact of our actions remains a challenge, we are moving forward on sector-level actions to support lower carbon end-of-life product recovery and recycling solutions and deploying circular economy models. In addition, to actively pursuing the implementation of several business models based on the recycling of tires and plastics, Michelin has launched two major projects since 2020:
1) BlackCycle, an EU-funded research project launched in 2020 that is developing technologies to recover high-quality secondary raw materials from scrap tires. These raw materials could be used not only by the tire industry, but also in other technical applications, by closing resource loops and supporting the development of a circular economy. Initial projections from the project show a one-kilogram reduction in CO2 releases for every kilogram of substituted material.
2) Joint call to action by Michelin and Bridgestone in November 2021 to enrich the recycling ecosystem for end-oflife tires and promote the circular economy within the rubber industry. Michelin and Bridgestone are working together to lead this transition by defining strict technical standards, harmonizing government regulations and policies, building a coalition of partners and promoting processes that can be upscaled in recycling ecosystems.
The emissions covered under this target actually decreased in 2022 compared to 2018 by 5.4%.
The progress has been made in the categories 3, 4 and 9, that are well on track to their 2030 target.
Because Cat. 12 is strongly indirect in terms of influence and subject to low data availability and high uncertainty (+/-30%), we are unable to calculate an update for Year 2022; the emissions were held static. Nevertheless the explanations above make us confident to be on track to our 2030 target on Cat. 12.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Abs 6

Is this a science-based target?
No, but we are reporting another target that is science-based

Target ambition
<Not Applicable>

Year target was set
2022

Target coverage
Company-wide

Scope(s)
Scope 3

Scope 2 accounting method
<Not Applicable>

Scope 3 category(ies)
Category 6: Business travel

Base year
2019

Base year Scope 1 emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 2 emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)
43676

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target (metric tons CO2e)
43676

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
43676

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
<Not Applicable>

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
<Not Applicable>

Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)
0.3

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)
<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)
<Not Applicable>

Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
0.3

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
0.3

Target year
2025

Targeted reduction from base year (%)
30

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
30573.2

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)
43676

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)
43676

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
43676

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
0

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
This target is a company-wide target covering all the business travel (Scope 3 - Cat 6). Although it is relatively small at the company scale, business travel permits to many employees to contribute directely for the carbon footprint reduction. For this reason, the company sets itself the objective of reducing its Cat 6 emissions by 40% in absolute value in 2025, compared to the base year 2019.

Plan for achieving target, and progress made to the end of the reporting year
Cat 6 : Use of videoconference to reduce the number of travels ; reduce the number of events requiring business travel.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Target(s) to increase low-carbon energy consumption or production
Net-zero target(s)
Other climate-related target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number
Low 1

Year target was set
2020

Target coverage
Company-wide

Target type: energy carrier
All energy carriers

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Base year
2010

Consumption or production of selected energy carrier in base year (MWh)
8612

% share of low-carbon or renewable energy in base year
0.2

Target year
2030

% share of low-carbon or renewable energy in target year
45

% share of low-carbon or renewable energy in reporting year
23

% of target achieved relative to base year [auto-calculated]
50.8928571428572

Target status in reporting year
Underway

Is this target part of an emissions target?
Abs 1, 2, 3 and 5

Is this target part of an overarching initiative?
Science Based Targets initiative

Please explain target coverage and identify any exclusions
This target covers the complete manufacturing perimeter (consistent with our scope 1 & 2 emission reporting), including upstream activities such as elastomer or steel cord production.

Plan for achieving target, and progress made to the end of the reporting year
In 2022, the share of renewable energy has progressed from 15% in 2021 to 23%. Specifically, the share of renewable electricity has progressed from around 45% in 2021 to 52%.
The target is part of our 2030 target (Abs5, in line with SBTi WB2D criteria and validated by SBTi), as well as of our 2030 SBTi target (Abs1, validated by SBTi as 2DS) and of our 2050 target to reach zero net CO2 emission vs 2010 (Abs 2, in line with Race to Zero - Business Ambition for 1.5°C).

This target has not been set as a target in itself, but as a projection of what will be needed to reach our targets in absolute value by 2030 (Abs 3).

The target is not part of RE100, but the criteria of our purchasing agreements to buy Guaranties of Origin and, increasingly, electricity from renewable sources with bundled EAC where they exist, are in line with RE 100 criterias.

List the actions which contributed most to achieving this target
<Not Applicable>

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number
Oth 2

Year target was set
2021

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Engagement with suppliers	Other, please specify (Purchasing spend amount covered by CSR assessments)

Target denominator (intensity targets only)
<Not Applicable>

Base year
2021

Figure or percentage in base year
60

Target year
2030

Figure or percentage in target year
70

Figure or percentage in reporting year
66

% of target achieved relative to base year [auto-calculated]
60

Target status in reporting year
Underway

Is this target part of an emissions target?
Not part of emissions target

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
Since 2012, Michelin has evaluated the CSR performance of its key suppliers through EcoVadis. The Group assures a regular follow up of suppliers with which it works with through evaluations of their performance including CSR performance. The Group Sustainable Purchasing Policy released in 2021 introduced a new goal for 2030 to have 70% of the purchasing spend covered by supplier CSR surveys, covering the whole Group.

Plan for achieving target, and progress made to the end of the reporting year
End of 2022, about 66% of the purchasing spend covered by supplier CSR surveys. Coverage increases as we are requesting more companies to respond to the CSR surveys, and are taking action to make sure that suppliers do respond.

List the actions which contributed most to achieving this target
<Not Applicable>

Target reference number
Oth 3

Year target was set
2020

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Engagement with suppliers	Percentage of suppliers (by emissions) with a science-based target

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
0

Target year
2024

Figure or percentage in target year
70

Figure or percentage in reporting year
30

% of target achieved relative to base year [auto-calculated]
42.8571428571429

Target status in reporting year
Underway

Is this target part of an emissions target?
Not part of emissions target

Is this target part of an overarching initiative?
Science Based Targets initiative – approved supplier engagement target

Please explain target coverage and identify any exclusions

This target is part of the SBT target that has been approved by the SBTi. The approved target is the following : "Michelin commits that 70% of its suppliers by emissions covering purchased goods and services will have science-based targets by 2024." Purchased goods and services emissions are represented by the Scope 3 category 1 emissions, per GHG protocol.

Plan for achieving target, and progress made to the end of the reporting year
We have achieved 30%. However we have received formal commitments from most of the targeted suppliers to set a SBT by 2024.

List the actions which contributed most to achieving this target
<Not Applicable>

Target reference number
Oth 4

Year target was set
2016

Target coverage
Site/facility

Target type: absolute or intensity
Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Land use change	Other, please specify (Area (ha) of degraded landscape planted with rubber trees)

Target denominator (intensity targets only)
<Not Applicable>

Base year
2016

Figure or percentage in base year
0

Target year
2027

Figure or percentage in target year
25000

Figure or percentage in reporting year
23900

% of target achieved relative to base year [auto-calculated]
95.6

Target status in reporting year
Underway

Is this target part of an emissions target?
Not part of emissions target

Is this target part of an overarching initiative?
Remove deforestation

Please explain target coverage and identify any exclusions
This target corresponds to the sustainable land use (including reforestation) of 3 concessions totaling 88,000 ha in the provinces of Jambi and East Kalimantan in Indonesia which have been affected by deforestation. In addition to protecting the remaining forest, up to 25,000 hectares of non-HCV and non-HCS area will be planted with rubber trees by 2027. This target was revised from earlier targets due to operational complexities on the ground, which include allocating adequate time for free, prior and informed consent processes with local communities.

Plan for achieving target, and progress made to the end of the reporting year
• Our Indonesia sites of RLU (Royal Lestari Utama) continues to implement planting activity in accordance with HCV and HCS assessment results.
• Planting activities follow the direction of the Chief Agricultural Officer, and consist of high-performing rubber tree varieties.
• 23,900 hectares of rubber trees have been planted by the end of 2022.

List the actions which contributed most to achieving this target
<Not Applicable>

Target reference number
Oth 1

Year target was set
2019

Target coverage
Company-wide

Target type: absolute or intensity
Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Energy consumption or efficiency	GJ

Target denominator (intensity targets only)
Other, please specify (metric ton of semi-finished and finished product)

Base year
2019

Figure or percentage in base year
4.398

Target year
2030

Figure or percentage in target year
3.346

Figure or percentage in reporting year
4.35

% of target achieved relative to base year [auto-calculated]
4.56273764258556

Target status in reporting year
New

Is this target part of an emissions target?
The target is part of our 2030 SBTi target (Abs2) and of our 2050 target to reach zero net CO2 emission vs 2010 (Abs 3) and of our recent SBTi submission (Abs 5).

Is this target part of an overarching initiative?
Science Based targets initiative - other

Please explain target coverage and identify any exclusions
This target covers the complete manufacturing perimeter (consistent with our scope 1 & 2 emission reporting), including upstream activities such as elastomer or steel cord production.

Plan for achieving target, and progress made to the end of the reporting year
In 2022, the Group's energy consumption stood at 4,35 GJ per tonne of semi-finished product+finished product.
The ratio of CO2 emissions per tonne of output stood at 0.26 in 2022, versus 0.32 in 2019.
The plan to achieve the target is supported by the following levers:
1. Applications of best technical practices.
2. Process electrification.
3. Heating plant and utility decarbonization projects.
Together, these projects are expected to improve energy efficiency by 37% in 2030 compared to 2010. In 2022, the process electrification projects were accelerated in response to the energy crisis

List the actions which contributed most to achieving this target
<Not Applicable>

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Abs2

Target year for achieving net zero
2050

Is this a science-based target?
Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Please explain target coverage and identify any exclusions
1/ The target is company-wide for scopes 1 and 2, except the 5 percent exclusion accepted by SBTi.
2/ Michelin has prepared science-based targets on scopes 1,2 and 3 and submitted them to SBTi in October 2019. The targets were validated in May 2020 (Michelin submitted for all 3 scopes since scope 3 emissions are greater than 40% of the total). On scopes 1 and 2, Michelin committed to reduce absolute scope 1 and 2 GHG emissions by 38% by 2030 from a 2010 base year (abs1). Since then, Michelin has set a new long-term ambition to reach Net Zero Emission on scopes 1 and 2 by 2050 (Abs2). A new intermediary target, in line with the new 2050 target, was set in the second half of 2020 to guide this process, based on a linear reduction pathway (Abs3). We aim at reaching both targets (2050 and 2030) on scopes 1 and 2 without offseting (compensation). Using sustainably sourced biomass to produce thermal energy is part of our strategy
3/ Alignement with WB2D : This target is aligned with SBTi WB2D because it commits the Group to reach net zero no later than 2050 and comes with a mid term (2030) target involving a pace of progress better than 2.5 percent per year.
Operations excluded: Retail distribution (3 %) are excluded because they are not material against our primary operations. HFC (0,34%) are excluded because the quantities emitted are not material compared with primary operations. Facilities excluded: Wholesale distribution Michelin-owned warehouses are excluded because they are not material against our primary operations and industrial sites (0.61 %). Operations excluded : Michelin Air Service (0.22 %) are excluded because they are not material against our primary operations.
In the framework of our proposed science-based targets, validated by the SBTi in April 2020, we updated our estimate of all potential exclusions: together they represents 4.25%, or less than 5% which is the maximum allowed according to the Greenhouse Gas Protocol.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?
Yes

Planned milestones and/or near-term investments for neutralization at target year
No planned milestone or near term investments for neutralization included in our current roadmaps. Priority will be given to mitigation down to zero. We are studying the feasibility of CCS (Carbon Capture and Storage).

Planned actions to mitigate emissions beyond your value chain (optional)
No offsetting planned to counterbalance Scope 1 & 2 emissions.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.
Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	8	106400
To be implemented*	77	467757.12
Implementation commenced*	5	74540.5
Implemented*	3	86835
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in buildings	Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)
2073

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
7092

Investment required (unit currency – as specified in C0.4)
2364

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment

Initiative category & Initiative type

Energy efficiency in buildings	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
3911

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
8920

Investment required (unit currency – as specified in C0.4)
4460

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Waste heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)
119

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
340

Investment required (unit currency – as specified in C0.4)
136

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)
3369

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

19210

Investment required (unit currency – as specified in C0.4)
3842

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)
459

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
3930

Investment required (unit currency – as specified in C0.4)
524

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Reuse of water

Estimated annual CO2e savings (metric tonnes CO2e)
485

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
4424

Investment required (unit currency – as specified in C0.4)
553

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Reuse of steam

Estimated annual CO2e savings (metric tonnes CO2e)
984

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
7293

Investment required (unit currency – as specified in C0.4)
1122

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Smart control system

Estimated annual CO2e savings (metric tonnes CO2e)
538

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
3678

Investment required (unit currency – as specified in C0.4)
613

Payback period
4-10 years

Estimated lifetime of the initiative
11-15 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)
3766

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
30065

Investment required (unit currency – as specified in C0.4)
4295

Payback period
4-10 years

Estimated lifetime of the initiative
11-15 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Utilities)

Estimated annual CO2e savings (metric tonnes CO2e)
63935

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
235952

Investment required (unit currency – as specified in C0.4)
29494

Payback period
4-10 years

Estimated lifetime of the initiative
>30 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Change management on site)

Estimated annual CO2e savings (metric tonnes CO2e)
538

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
919

Investment required (unit currency – as specified in C0.4)
613

Payback period
1-3 years

Estimated lifetime of the initiative
3-5 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Bp curing and mixing)

Estimated annual CO2e savings (metric tonnes CO2e)
3082

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
8787

Investment required (unit currency – as specified in C0.4)
3515

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Process electrification)

Estimated annual CO2e savings (metric tonnes CO2e)
3576

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
54010

Investment required (unit currency – as specified in C0.4)
10802

Payback period
4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for energy efficiency	In 2022, the energy efficiency improvement program was supported by €62 million in capital expenditure.
Internal price on carbon	In 2015, the Group made the decision to introduce an internal CO2 price in its return on investment (ROI) analysis tools as a decisionmaking element. As of 2016, the price has been set at €50 per ton of CO2. In April 2021, it was updated to €100 per ton of CO2.
Dedicated budget for low-carbon product R&D	Michelin is gradually rolling out a process to systematically assess the environmental footprint of all its new product projects based on eco-design principles (see URD p182).
Employee engagement	The Climate Fresk workshop was chosen as the preferred tool to impart knowledge and a shared language on global warming issues among group employees and has been rolled out worldwide. By 2022, the workshop had brought together more than 4,000 people across the Group. To maintain the pace of deployment at all levels of the organization, more than 150 facilitators have been trained.
Other (Engagement with energy project managers.)	Method: Engagement with energy project managers. On each energy-saving project, the impact of CO2 reductions on the Michelin Environmental Footprint (I-MEP) is highlighted.
Other (Energy portfolio oversight.)	Method: Energy portfolio oversight. The corporate Energy and CO2 Expert Team, covering all industrial operations in its scope, oversees all projects involving energy transformation or major energy efficiency gains.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation
Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon
The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Other	Other, please specify (Low-rolling-resistance tires)

Description of product(s) or service(s)
EU-Taxonomy eligible tires comply with the “low carbon intensity” concept, based on:
▶ the direct link between tires' rolling resistance (RR) and the reduction in emissions for the transportation industry,
▶ Michelin's decades-long track record of steadily reducing the RR of its tires to improve fuel efficiency and there by decarbonize the transportation industry, and its commitment to continue improving the energy efficiency of its products (targeted 10% improvement over the 2021-2030 decade);
▶the exclusion from eligible activities of passenger car, light truck and truck tires with class E -RR, which is the least efficient. The European classes have been translated into minimum RR standards, expressed in kg/t, so that every tire sold around the world can be compared to a universal criterion.
Michelin has calculated an alignment criterion for the tire business by analogy with the specifications in the Delegated Act (EU) 2021/2178 of the Taxonomy Regulation, while restricting it to the two highest rolling resistance classes on the market.
The European classes have been translated into minimum RR standards, expressed in kg/t, so that every tire sold around the world can be compared to a universal criterion. As a result, only the most energy efficient tires on the market, with RR within the upper limits defined in the table below, will be considered as aligned.
In 2022 52% of sales were Taxonomy-eligible, and 13% aligned with the substantial contribution criteria,

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
13

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?
Yes, an acquisition

Name of organization(s) acquired, divested from, or merged with
Fenner PLC, Camso, PT Multistrada Arah Sarana TBK

Details of structural change(s), including completion dates
Fenner and Camso: acquired in 2018, both with majority financial control, and integrated into GHG inventory as of year 2019, per GHG Protocol "financial control" criteria regarding the organizational boundary.
Multistrada: acquired in 2019 and integrated into the GHG inventory as of year 2019, per GHG Protocol "financial control" criteria regarding the organizational boundary.

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.1c

(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?

	Base year recalculation	Scope(s) recalculated	Base year emissions recalculation policy, including significance threshold	Past years' recalculation
Row 1	Yes	Scope 1 Scope 2, market-based	The Abs5 target includes Fenner, Camso and Multistrada. The base year of Abs5 target is 2019, and the total emissions in 2019 have been recalculated to include the emissions of these 3 acquisitions.	No

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
1832384

Comment

Scope 2 (location-based)

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
2237051

Comment

Scope 2 (market-based)

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
2234380

Comment
Recalculation of base year emissions carried out for SBT submission:
As described in our 2015 registration document (p 178), the same emission factor was used until 2014 for all of the sites purchasing steam, regardless of the primary energy or technology used by the vendor.
As of 2015, in order to more accurately depict foreseeable developments in energy sourcing, we decided to use three emissions factors, one for each primary energy used (coal, fuel oil and gas), including reasonable energy efficiency and loss assumptions.
Now, preparing our submission to Science Based Targets Initiative and, in this framework, we recalculated our 2010 (base year) emissions with the new emission factors (EF) applied to steam purchases: with the new EFs, our 2010 emissions would have been 3 850 000 tonnes instead of 4 067 000. For simplicity reasons in our internal communication and target setting, our 2020 target set is still based on our historical 2010 emission value (4 067 000 tonnes). However, the recalculated 2010 base-year emissions (3 850 000 tonnes) is the base for our SBTi submission (2030 targets) on the 2010 industrial footprint perimeter. The recalculated 3 850 000 tonnes consists in 1,833,070 tonnes in scope 1 (unchanged) and 2 015 503 tonnes in market-based scope 2.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
9398623

Comment

Scope 3 category 2: Capital goods

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
547509

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
746963

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
1213652

Comment

Scope 3 category 5: Waste generated in operations

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
342948.955

Comment

Scope 3 category 6: Business travel

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
43676

Comment

Scope 3 category 7: Employee commuting

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
213483

Comment

Scope 3 category 8: Upstream leased assets

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
42172

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
934590

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
This caterory is irrelevant for Michelin.

Scope 3 category 11: Use of sold products

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
127533671.011

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
3717842.477

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
This category is irrelevant for Michelin.

Scope 3 category 14: Franchises

Base year start
January 1 2018

Base year end
December 31 2018

Base year emissions (metric tons CO2e)
229441.06

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
This category is irrelevant for Michelin.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
This category is irrelevant for Michelin.

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
This category is irrelevant for Michelin.

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
1177326.037

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment
Until 2015, we reported that our scope 2 emission figure was location-based, which we now understand was mistaken: in 2016, we thoroughly studied the Guide "Accounting of scope 2 emissions, Technical notes for reporting to CDP Climate Change and Supply Chain in 2016" and consulted with a CDP recommended service provider. As a result we now understand that our scope emissions have always been calculated in line with the market-based approach.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based
1824809.402

Scope 2, market-based (if applicable)
1126537.676

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?
Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source of excluded emissions
Tire distribution centers, retail and wholesale

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (market-based)

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
<Not Applicable>

Relevance of market-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of Scope 3 emissions from this source
<Not Applicable>

Date of completion of acquisition or merger
<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents
2.3

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
Retail distribution (2.29 %) are excluded from the Scopes 1&2 inventory because they are not material against our primary operations.

Explain how you estimated the percentage of emissions this excluded source represents
Facilities and operations : inventory estimate of quantities of energy consumed multiplied by Emission factor

---

Source of excluded emissions
HFC gases

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (market-based)

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
<Not Applicable>

Relevance of market-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of Scope 3 emissions from this source
<Not Applicable>

Date of completion of acquisition or merger
<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents
0.3

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
HFC (0.36%) are excluded because the quantities emitted are not material compared with primary operations.

Explain how you estimated the percentage of emissions this excluded source represents
Facilities and operations : inventory estimate of quantities of energy consumed multiplied by Emission factor

---

Source of excluded emissions
Michelin-controlled warehouses

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (market-based)

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
<Not Applicable>

Relevance of market-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of Scope 3 emissions from this source
<Not Applicable>

Date of completion of acquisition or merger
<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents
0.4

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
Wholesale distribution Michelin-owned warehouses are excluded from Scopes 1&2 because they are not material against our primary operations and industrial sites (0.35%).

Explain how you estimated the percentage of emissions this excluded source represents
Facilities and operations : inventory estimate of quantities of energy consumed multiplied by Emission factor

---

Source of excluded emissions
Michelin Air Service (France-based corporate airlines)

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (market-based)

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
<Not Applicable>

Relevance of market-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of Scope 3 emissions from this source
<Not Applicable>

Date of completion of acquisition or merger
<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents
0.2

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
Michelin Air Service (0.19 %) are excluded from the Scopes 1&2 inventory because they are not material against our primary operations.

Explain how you estimated the percentage of emissions this excluded source represents
Facilities and operations : inventory estimate of quantities of energy consumed multiplied by Emission factor

---

Source of excluded emissions
Recent acquisition (CAMSO)

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (market-based)
Scope 3: Purchased goods and services
Scope 3: Capital goods

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: Upstream leased assets
Scope 3: Downstream transportation and distribution
Scope 3: Processing of sold products
Scope 3: Use of sold products
Scope 3: End-of-life treatment of sold products
Scope 3: Downstream leased assets
Scope 3: Franchises
Scope 3: Investments

Relevance of Scope 1 emissions from this source
Emissions are relevant and calculated, but not disclosed

Relevance of location-based Scope 2 emissions from this source
<Not Applicable>

Relevance of market-based Scope 2 emissions from this source
Emissions are relevant and calculated, but not disclosed

Relevance of Scope 3 emissions from this source
Emissions excluded due to a recent acquisition or merger

Date of completion of acquisition or merger
December 31 2018

Estimated percentage of total Scope 1+2 emissions this excluded source represents
4.7

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
We are working on improving the reliability of CO2 emission figures for Camso

Explain how you estimated the percentage of emissions this excluded source represents
The percentage of emissions was calculated using primary data from the facilities' energy bills and standardized CO2 emission factors. The reliability of these assessments needs to be further improved.

Source of excluded emissions
Recent acquisition (FENNER)

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (market-based)
Scope 3: Purchased goods and services
Scope 3: Capital goods
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: Upstream leased assets
Scope 3: Downstream transportation and distribution
Scope 3: Processing of sold products
Scope 3: Use of sold products
Scope 3: End-of-life treatment of sold products
Scope 3: Downstream leased assets
Scope 3: Franchises
Scope 3: Investments

Relevance of Scope 1 emissions from this source
Emissions are relevant and calculated, but not disclosed

Relevance of location-based Scope 2 emissions from this source
<Not Applicable>

Relevance of market-based Scope 2 emissions from this source
Emissions are relevant and calculated, but not disclosed

Relevance of Scope 3 emissions from this source
Emissions excluded due to a recent acquisition or merger

Date of completion of acquisition or merger
December 31 2018

Estimated percentage of total Scope 1+2 emissions this excluded source represents
1.8

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
We are working on improving the reliability of CO2 emission figures for Fenner

Explain how you estimated the percentage of emissions this excluded source represents
The percentage of emissions was calculated using primary data from the facilities' energy bills and standardized CO2 emission factors. The reliability of these assessments needs to be further improved.

Source of excluded emissions
Recent acquisition (MULTISTRADA)

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (market-based)
Scope 3: Capital goods
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: Upstream leased assets
Scope 3: Downstream transportation and distribution
Scope 3: Processing of sold products
Scope 3: Use of sold products
Scope 3: End-of-life treatment of sold products
Scope 3: Downstream leased assets
Scope 3: Franchises
Scope 3: Investments

Relevance of Scope 1 emissions from this source
Emissions are relevant and calculated, but not disclosed

Relevance of location-based Scope 2 emissions from this source
<Not Applicable>

Relevance of market-based Scope 2 emissions from this source
Emissions are relevant and calculated, but not disclosed

Relevance of Scope 3 emissions from this source
Emissions excluded due to a recent acquisition or merger

Date of completion of acquisition or merger
December 31 2019

Estimated percentage of total Scope 1+2 emissions this excluded source represents
4.8

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
We are working on improving the reliability of CO2 emission figures for Multistrada

Explain how you estimated the percentage of emissions this excluded source represents
The percentage of emissions was calculated using primary data from the facilities' energy bills and standardized CO2 emission factors. The reliability of these assessments needs to be further improved.

Source of excluded emissions
Recent acquisition (Royal Lestari Utama (RLU))

Scope(s) or Scope 3 category(ies)
Scope 1
Scope 2 (location-based)
Scope 2 (market-based)
Scope 3: Purchased goods and services
Scope 3: Capital goods
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: Upstream leased assets
Scope 3: Downstream transportation and distribution
Scope 3: Processing of sold products
Scope 3: Use of sold products
Scope 3: End-of-life treatment of sold products
Scope 3: Downstream leased assets
Scope 3: Franchises
Scope 3: Investments
Scope 3: Other (upstream)
Scope 3: Other (downstream)

Relevance of Scope 1 emissions from this source
Emissions excluded due to a recent acquisition or merger

Relevance of location-based Scope 2 emissions from this source
Emissions excluded due to a recent acquisition or merger

Relevance of market-based Scope 2 emissions from this source

Emissions excluded due to a recent acquisition or merger

Relevance of Scope 3 emissions from this source
Emissions excluded due to a recent acquisition or merger

Date of completion of acquisition or merger
June 21 2022

Estimated percentage of total Scope 1+2 emissions this excluded source represents
<Not Applicable>

Estimated percentage of total Scope 3 emissions this excluded source represents
<Not Applicable>

Explain why this source is excluded
Michelin, which previously held 49% shares, has bought a further 51% of the capital of Royal Lestari Utama (RLU), a joint venture with Barito Pacific Group, thus becoming the sole owner of RLU. The process of integrating RLU's operations has begun. Data will be gradually integrated into the Group's reporting over the next few years.

Explain how you estimated the percentage of emissions this excluded source represents
<Not Applicable>

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
8426000

Emissions calculation methodology
Hybrid method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
20

Please explain
i. Data used:
Two types of data are used for the calculation of category 1: - Raw materials : An extraction of the the total global raw materials, broken down into ~70 purchasing families. For each line, the weight in tons purchased is provided. - Services and other purchases. An extraction of the total purchases of other goods and services, broken down into ~250 purchasing families, and a selection of the relevant families. Purchases are expressed in monetary terms, with the amount purchased expressed in euros. For each category, a GHG EF (secondary data) from a representative product/service is selected. EFs were obtained from 2 sources: 1) from ecoinvent and drawing on the environmentally-extended Input-Output Model Exiobase database; 2) some emission factors were provided by Michelin's LCA expertise team, following studies to develop more specific EFs rather than rely on generic EFs.
ii. Methodology:- Raw materials. The mass purchased is multiplied by the selected EF. The database used is ecoinvent v.3, with a modelisation adapted by the LCA specialists for most of the raw materials. Global Warming Potential used comes from IPCC 2013 GWP 100-year values. Some EFs are based on specific EFs for Michelin raw materials. Some significant changes to EFs were made to 2018-2021 data compared to 2016 data. In addition, more Michelin-developped EFs have been used since 2016.
- Services and purchases of other goods. Each sub-category or flow within the categories is associated with an economic sector from the environmentally-extended Input-Output Model Exiobase. The model provides data for the year 2018,which was used for calculations made for years 2018 to 2021 with no correction regarding inflation or efficiency. The amount spent in each sub-category is then multiplied by the sector unit GHG EF. An exception is the EF for industrial gases (such a nitrogen) which was calculated from supplier data gather through the CDP Supply Chain questionnaires.
iii. Quality:The quality of the primary data used is considered high. All purchases were assessed with an emission factor. Simplifications of modeling remain highly reduced. The results quality is therefore also considered high. Uncertainty is estimated at +/-15%.
iv. Verification:The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020 and again in 2022.

Capital goods

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
500000

Emissions calculation methodology
Average spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
i. Data used:
The primary data used cover the purchases from fixed assets and supplies for the considered year in monetary terms, which include a selection of a portion of the circa 250 categories mentionned above (cat 1). For each category, a GHG emission factor was selected from the input-output database referenced above.

ii. Methodology:
Each sub-category or flow within the categories is associated with an economic sector from the environmentally-extended Input-Output Model Open IO v1.4. The model, originally developed in 2002, was adjusted for inflation, evolution of the purchasing power parity and of energy efficiency of the global economy for 2019. The amount spent in each sub-category is then multiplied by the sector unit GHG emission factor, except for the negative amounts which, were considered as zero, and for some sub-categories already accounted in other categories.

iii. Quality:
The quality of the primary data used is high. However, due to the simplification involved in the modeling, the quality of the emissions data is considered as medium. In particular, several flows cannot be properly caracterized with existing economic sector of the database, requiring proxys for the assessment. Uncertainty is estimated at +/-30%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020 and again in 2022.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
517830

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
i. Data used:
The primary data used are the types and quantities of fuels, electricity and heat purchased worldwide under scopes 1 & 2 and the allocated emission factors. For quantities, aggregated values for all countries were gathered.

ii. Methodology:
The emissions were calculated by multiplying fuel quantities, electricity and heat purchased by the specific emission factors related to their uptsream production and energy losses from their transformation and distribution for the different countries. Emission factors from the International Energy Agency (IEA) were used in order to be consistent with the Scope 2 calculation. Previously, the 2016 calculation used DEFRA emission factors for electricity.
Now, the Scope 3 electricity EFs are calculated as the difference between Scope 2 EFs (from IEA) and the combined Scope 2&3 EFs (from ecoinvent, including all scope 2 and 3 emissions with all WTT, infrastructure and direct emissions).
Renewable energy emissions are based on the different production technologies of renewable sources, obtained from the French energy agency ADEME Base carbone.
Upstream fuel emission factors are sourced from ADEME Base Carbone.
Only the net energy consumption is considered: electricity and fuel consumed minus the sold energy (Michelin produced energy -- electricity and steam -- from cogeneration).

iii. Quality:
The quality of the primary data used (energy consumption) is high. The quality of the emissions factors is high except for renewable electricity EF, where quality is medium since it is based on an average. Thus, the quality of the category is estimated as high. Uncertainty is estimated at ±15%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020 and again in 2022.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1193976

Emissions calculation methodology
Hybrid method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Please explain
i. Data used:
- Raw material transport
The primary data used is: the quantity of purchased goods provided for category 1 (purchased goods and services), their origin and destination countries, as well as the supply transportation mode. This represents a total of over 2,400 lines of information. Michelin plant locations within each country were taken into account to establish a distance table for each continent, with the estimated distances corresponding to each type of transport taken from www.searates.com and www.maps.google.com. Data still exclude intermediate storage due to lack of supplier data.
- Natural rubber & semi finished products transport
Same as for Category 9.

ii. Methodology:
- Raw material transport
Distances were rounded to represent generic geographical areas (i.e., by continent). For internal transportation (within a country), generic yet realistic distances were chosen.
After analyzing the data, 13% of the lines were identified as "probably inconsistent data". These lines involve intercontinental transport with road transport. The most probable cause is that several means of transport are used for the line item, but only one of them has been filled in. These transport line items were all designated "intermodal", defined as 40% road, 40% water and 20% rail. This approach is more conservative than using an EF for sea transport, resulting in an overestimation of the CO2 impact.
The CO2 impacts were determined by multiplying the amount of transported goods by the estimated distance, and the EF corresponding to the mode of transportation. The EFs associated with each mode of transportation (secondary data) were taken from the ecoinvent v.3 database, and GWP from IPCC 2013 GWP 100-year. A distinction was made between full and partial load vehicles.
- Natural rubber & semi finished products transport
Same as for Category 9

iii. Quality:
The quality of the primary data used is medium (due to inconsistencies) and the quality of the secondary data is high. In addition, some extrapolations (coming from rounding transport distances to continent) produced data considered to be medium quality. On average, the quality of the results is considered medium. Uncertainty is estimated at +/- 30%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020 and again in 2022.

Waste generated in operations

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
342949

Emissions calculation methodology
Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
i. Data used:
The primary data used for this category are the amount of waste generated at production sites in 2017. The total amount of waste was given along with hypothesis on the end-of-life (EoL) destination per type of waste. More dissagregated data has been provided for this year calculation.

ii. Methodology:
An expert consultant developed the overall method. Supplier data were processed to distinguish each waste type and EoL scenario. Each waste flow considered has a specific EoL recovery associated with an emission factor to assess the GHG emissions of the treatment (ecoinvent v.3). For tire waste, EFs based on the Aliapur 2009 LCA study were used, with some modifications made for more accuracy. They distinguish between the emissions of the main components of tires (natural rubber, synthetic rubber, steel and textiles). For the other types of waste, EFs for the recovery processes were updated. For some of the waste recycled, considering the limited information available in LCA databases, proxies were used to estimate the impacts. Transportation to EoL treatment centers was excluded from the modeling except for datasets based on the Aliapur study. Facilities are amortized over several years, so the impacts are marginal at the scale of 1 tonne of waste. Transportation of waste is assumed to be insignificant for the calculation of this category's impacts. For some waste categories (i.e. Others, Mixed Waste, Hazardous waste) recycling EFs are not available and disposal is considered by default to occur via incineration.

iii. Quality:
The quality of the primary data used is medium due to consolidation into Group-level totals for several main recovery outlets. This and the simplification involved in the modeling (i.e., no geographical differentiation of waste treatment) result in the overall quality estimated as medium. Uncertainty is estimated at +/- 30%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020.

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
43676

Emissions calculation methodology
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
i. Data used:
The primary data was collected from different sources:
- Car rental distances and other rental information were provided by Hertz. Emission factors were not provided by the vendor.
- Train and air travel trips from Michelin's corporate travel agency were provided covering the full geographic scope of activities.
- Vehicle leasing data were transferred and used for the Category 8 calculation.

ii. Methodology:
An expert consultant developed the overall method:
- Car rental emissions -- Distances were provided by Hertz. An average emission factor from the ICCT (average emissions of 2018 manufactured vehicles) was used. The emission factor only considers the direct emissions (TTW - Tank To Weel). The same emission factor has been used for all vehicules. The emission factor in kg CO2 eq/km has been multiplied per the traveled distance.
- Air travel -- GHG emissions were directly calculated by Michelin's business travel management provider and were checked by the expert consultant.
- Rail travel -- GHG emissions were directly calculated by Michelin's business travel management provider and were checked by the expert consultant.

iii. Quality:
The overall quality of the emissions is estimated as medium considering the use of an average emission factor for car rental emissions and the non availability of travelled distances by plane and train. Uncertainty is estimated at +/- 30%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020.

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
213483

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
i. Data used:
The primary data used covers the total number of employees per country and region. They were aggregated by geographical regions where Michelin operates.
Several different commuting scenarios were considered for areas where the number of employees was sufficiently high, while a default scenario was used for the remaining areas. It is assumed that these other commuting travels are made according to "outer suburban periphery" statistics.

ii. Methodology:
An expert consultant developed the overall method. 2011 DEFRA Guidelines for Company GHG reporting were used for this category, especially for emission factors, and an assumption regarding the use of personal vehicles by employees. Both ecoinvent and Base Carbone from ADEME (French energy agency) were also used. IPCC 2007 GWP 100-year emission factors were used. Eurostat and specific literature were used to compute the distribution of different modes of transport.

iii. Quality:
Due to the generalization of these calculations, the quality of reported emissions data is medium to high. Uncertainty is estimated to be between ±20% and ±25%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020.

Upstream leased assets

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
42172

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
66

Please explain
i. Data used:
The primary data were collected from several sources:
-Vehicle leasing. Service providers' contract extractions including direct emissions for each vehicle type.
-Machinery and equipement leasing & real estate rentals. An extraction of the total purchases of other goods and services, broken down into 255 purchasing families, valid for 2019. Purchased are expressed in monetary terms (in €). Only leased goods have been included for the calculation of this category.

ii. Methodology:
An expert consultant developed the overall method.
Vehicle leasing: The leasing mileage data from service provider were checked. The contractual distance was used as proxy for the real distance. The distance per contract was multiplied by the EF provided by the service provider (in g CO2 eq / km). When not available, a generic EF was applied. For combustion vehicles, the EF used is the average of the direct emissions from the average combustion emissions of vehicles manufactured in 2018 according to ICCT 2019 data. For electric vehicles, the electricity consumption in kWh/km came from the ecoInvent v3 database. Electricity consumption was multiplied by the country EF (International Energy Agency). In one case, for vehicules missing the annual mileage, an average was used. For electricity, IEA 2018 data from 2016 was used.
Equipment leasing & real estate rentals: Each sub-category or flow within the categories was associated with an economic sector from the environmentally-extended Input-Output Model Open IO v1.4 (2002), adjusted for inflation, purchasing power parity and energy efficiency of the global economy in 2019. Each sub-category spend was then multiplied by the sector unit GHG EF.

iii. Quality:
For vehicle leasing, the quality of the emissions is estimated as medium. Despite the high quality of EFs provided by service providers, some distances and EFs had to be added because information was missing. Actual mileage is not known, requiring the use of contractual mileage. For equipment leasing & real estate rentals, the quality of the primary data used is high. However, due to the simplification involved in the modeling, the quality of the emissions data is considered as medium. Uncertainty is estimated at ±30%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
826715

Emissions calculation methodology
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
i. Data used
Emissions from the transport and distribution of finished products were calculated using EcoTransIT World, compliant with EN 16258 (Methodology for calculation and declaration of energy consumption and GHG emissions of transport services (freight and passengers)) and aligned with the GLEC (Global Logistics Emissions Council) Framework. It is the most widely used software worldwide for automatic calculations of energy consumption, carbon emissions. EcoTransIT World determines the emissions using an energy-based bottom-up approach. That means the emissions are determined on the basis of the energy consumed and the fuel used, in contrast to a top-down approach, in which gCO2e / tkm are multiplied by the freight weight and a distance. The bottom-up approach simulates the complete transport system. This ranges from the type of road, to the vehicle class with corresponding properties, to the fuel. This method makes EcoTransIT World flexible for updates because to map new types of fuel or vehicle technologies, only one parameter needs to be adjusted in the calculation workflow.
The primary data comes from internal supply chain routing information, vehicle and route attributes, freight weight and load, fuel type and distances traveled.
Warehouse-related emissions were accounted for either under Scopes 1 & 2 or under Scope 3 Category 1 (Purchased goods and services).

ii. Methodology:
Carbon emissions were calculated using the EcoTransIT tool, which provides the EFs and the calculation formulas. The steps are 1) determine the internal routing for determination of routes; 2) subdivide the route into calculation sections via split (truck, train, ferry, sea ship); 3) calculate the energy consumed and GHG emissions for each section; 4) totalize all the section results.

iii. Quality:
The overall quality of the emissions is estimated as medium to high considering that EcoTransit takes into account the load levels of each mode of transportation and has more disaggregated EF than ecoinvent. Uncertainty is estimated at +/- 15%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020 and again in 2022.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
No particular processing of sold intermediate products by third parties subsequent to sale is required so this category is not relevant to our organization

Use of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
127533671

Emissions calculation methodology
Methodology for indirect use phase emissions, please specify (See explanation)

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
i. Data used
Use of sold products is evaluated for all ranges of light and heavy tires according to the road transport categories of the International Energy Agency's Mobility Model (https://www.iea.org/areas-of-work/programmes-and-partnerships/mobility-model). Two-wheel and off-road vehicle tires and products under the Michelin Lifestyle Ltd line were not included as their contribution to CO2 impacts is not material (less than 3% of the category). The primary data come from 3 sources: 1) the most recent historical data (year 2015) on worldwide tank-to-wheel CO2 emissions for road transport in the IEA Mobility Model, 2019 Global EV Outlook version; 2) Michelin market share in units of for all ranges of light and heavy tires for year 2019; and 3) growth rate in Michelin tire production from 2015 to 2019.

ii. Methodology:
Allocation of the carbon emissions of road transport vehicles to the tire: fuel consumption (and by proxy CO2 emissions) associated with tire rolling resistance was determined as an average percentage for passenger & light duty vehicles (20% of vehicle fuel consumption) and for light commercial vehicles/medium freight trucks/heavy freight trucks/bus & minibus tires (33% of vehicle fuel consumption), respectively. Then Michelin's 2019 market share was applied to determine the worldwide TTW CO2 emissions allocated to Michelin tires in use. Finally the total was extrapolated from 2015 to 2019 based on Michelin's actual tire production growth rate for this period to produce the final result.

iii.Quality:
The overall quality of the emissions is estimated as medium considering the data source (2019 version of the IEA Mobility Model), which represents a consistent approach to the carbon impacts of transport, and the application of average overall tire energy efficiency, rather than the actual energy efficiency of the many different tire lines put on the market by Michelin during the year. Also, emissions are extrapolated from 2015 data using an average growth rate, but without considering the type of vehicule sold per family (i.e., emissions for passenger cars depend on the type of passenger cars sold).
Uncertainty is estimated at ±30%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020.

End of life treatment of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
3717842

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
i. Data used:
Primary data are the tonnage of tires sold per country by Michelin in 2019. Tonnage is divided per category of tires. End-of-life tire (ELT) statistics were sourced from the study "Global ELT Management – A global state of knowledge on regulation, management systems, impacts of recovery and technologies", WBCSD & Tire Industry Project, December 2019. Other end-of-life products (Michelin Travel Partner and Michelin Lifestyle Limited) were excluded because their contribution was determined as insignificant (2% of the category).

ii. Methodology:
An expert consultant developed the overall method. Raw data from the above ELT study were used to calculate the tonnages per type of end of life outlet (material recycling, energy recovery, civil engineering and backfilling and others/unknown) per geographical area. The study covers 14 geographical areas (83.5 % of the world tire market). 84% of Michelin's sales are covered by geographical areas documented in the study.
Using the per-country tonnages mentioned above, the tonnage of products sold per country was allocated the end-of-life scenario (combination of ELT outlets) of that country on a pro-rata basis. For countries with sold products that were not included in the study, the worldwide average was used. Then, each tonnage was multiplied by the EF specific to each ELT outlet. No benefits were considered because they are not included in the boundaries of the Scope 3 methodology defined by the GHG Protocol. EFs used for the ELT are calculated based on the Aliapur 2009 LCA, covering 9 types of tires end of life). More recent and precise data for ELT EFs do not exist. However, each EF was refined by considering the specific EFs of the main components of the tire: natural & synthethic rubber, metal and textile.

iii. Quality:
The overall quality of the emissions is estimated as medium. On the one hand, more precise tire sales data, per country, were used. On the other hand, the worldwide ELT data in the 2019 report is less complete in coverage compared ot the previous report from January 2018, and data is less accurate, e.g., for China, 61% of tires are recovered with an undetermined EoL (representing 31% of global ELT). Uncertainty is estimated at ±30%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Michelin does not own downstream assets that are leased to other entities not included in Scope 1 or 2 so this category is not relevant to our organization

Franchises

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
229441

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
i. Data used:
Primary data are the number of franchise sites for each country, an electricity consumption audit of French distribution outlets franchises and a report on CO2 emissions of Michelin-owned distribution sites for comparison.

ii. Methodology:
An expert consultant developed the overall method. An average electricity consumption per m2 was calculated from data available in the distribution outlet audit. This file is an audit of energy consumtpion of 20 sites in France. The audit only reflects electricity consumption. An average area per franchise was obtained from this repport. Average fuel and gas consumption was calculated from the study of Michelin-owned sites. This file is a report of emissions from 2012 data. It considers gas, fuel and electricity consumption of distribution centers in 11 countries. The repport considers the total energy consumption, without considering the surface of the sites. A more recent source is not available.
With information from this file and the calculation of the electricity consumption / m2, the average gas and fuel consumption / m2 of distribution centers was estimated. Regarding the number of franchises per country, some figures had to be adjusted to consider just Michelin franchises and not owned stores. The number of stores per country was multiplied per the average area and the average electricicy, fuel and gas consumption per m2 to obtain the total energy consumption. Then, energy consumption was multiplied by IEA emission factors for electricity, and ADEME Base carbone emission factors for fuel and gas consumption.
The IPCC 2013 GWP 100 was used.

iii. Quality:
The overall quality of the emissions is estimated as medium to high. Uncertainty is estimated to be between ±20% and ±25%.

iv. Verification:
The overall method was checked by an expert consultant in 2020. The results were subject to external verification in 2020.

Investments

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Michelin does not provide financial services nor does it's main activity is not relate to investments: it is neither a private financial institution (e.g., commercial banks), nor a public financial institution (e.g., multilateral development banks, export credit agencies, etc.), so this category is not relevant to our organization.

Other (upstream)

Evaluation status
Not evaluated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

Other (downstream)

Evaluation status
Not evaluated

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
Yes

C6.7a

(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	28763	The emissions come from 2 biomass boilers located in 2 plants in France (Cholet & Bourges). Our 2050 targets cover for fossil CO2 only. Our CO2 emissions from biosources are deemed to grow, thanks to invesments in some biomass boilers, as they will replace a part of our fossil fuels.

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure
0.0000805828

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
2303863.71

Metric denominator
unit total revenue

Metric denominator: Unit total
28590000000

Scope 2 figure used
Market-based

% change from previous year
31

Direction of change
Decreased

Reason(s) for change
Other emissions reduction activities
Change in revenue

Please explain
In 2022 Michelin's total revenue (net sales) increased by 20.2% vs 2021. On the other side CO2 emissions decreased by 19,0% in 2022 vs 2021 as a result of the energy efficiency and renewable energy initiatives implemented in 2022 and described in C4.3a and 4.3b.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?
No

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
Europe	645761
Asia, Australasia	30804
Americas	500761

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.
By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Production of passenger car and light truck tires, in Europe	376113.085
Production of truck tires, in Europe	103309.953
Production of two-wheel vehicles, aviation, agriculture and earth-moving engines, heavy-duty equipment, worldwide	81379.304
Production of semi-finished products to make all types of tires marketed by Michelin	302539.473
Research and develop activities, including testing tracks	7340.033
Production of passenger car and light truck tires, in North America	196690.841
Production of truck tires in North America and all kinds of tires in South America	92072.97
Production of all kinds of tires in Asia	17880.379

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Europe	517806.942	123920.455
Asia, Australasia	658374.724	393688.588
Americas	648627.734	608928.633

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Production of passenger car and light truck tires, in Europe	369508.738	87757.258
Production of truck tires, in Europe	116375.309	34026.311
Production of two-wheel vehicles, aviation, agriculture and earth-moving engines, heavy-duty equipment, worldwide	64094.095	49363.656
Production of semi-finished products to make all types of tires marketed by Michelin	269032.501	245446.096
Research and develop activities, including testing tracks	17026.002	11680.039
Production of passenger car and light truck tires, in North America	450091.071	450091.071
Production of truck tires in North America and all kinds of tires in South America	88037.555	50589.773
Production of all kinds of tires in Asia	450644.211	197583.472

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

No

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	213035	Decreased	8	19 Group facilities are equipped with renewable energy installations: • Photovoltaic panels on four facilities in Thailand, six in Germany and one each in India, China, France and Spain; • Biomass-fired boilers at two plants in France; • Purchase of heat generated by a household waste incinerator at two facilities in France; • Purchase of heat from biomass-fired facilities at one plant in France.
Other emissions reduction activities	108658	Decreased	3.7	Energy efficiency improved by 0.71% year-on-year in 2022. This underperformance from last year's forecast target of 2.3% a year was attributable to the energy crisis, which seriously disrupted production plant output, starting in Europe in the first half and spreading worldwide by year-end. Improving energy use flexibility during periods of reduced output is a real challenge. In response to the energy crisis in Europe, the Group launched an energy conservation plan based on the disciplined application of best practices: • recommended thermostat settings by building and by season; • tighter fluid leakage control; • management of production shutdowns and restarts. The company has committed to phase out coal by 2030. For example in Olstyn, Poland, we have installed 2 gas boilers to replace coal-fired boilers.
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output	138187.172	Decreased	5	The total tonnage output of the group has decreased by roughly 5% in 2022, so the CO2 emission decreased accordingly.
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	4909075.27	4909075.27
Consumption of purchased or acquired electricity	<Not Applicable>	2394806	2198825	4593631
Consumption of purchased or acquired heat	<Not Applicable>	64334	1277005	1341339
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	2459139	8384906	10844045

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value
LHV

Total fuel MWh consumed by the organization
71336.93

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Other biomass

Heating value
Unable to confirm heating value

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value
Unable to confirm heating value

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Coal

Heating value
LHV

Total fuel MWh consumed by the organization
1184736.36

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Oil

Heating value
LHV

Total fuel MWh consumed by the organization
65646.72

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Gas

Heating value
LHV

Total fuel MWh consumed by the organization
3644618

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
LHV

Total fuel MWh consumed by the organization
59899.94

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
5026238

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	0	0	0	0
Heat	4152429.2	4152429.2	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Country/area of low-carbon energy consumption
China

Sourcing method
Purchase from an on-site installation owned by a third party (on-site PPA)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
2632.5

Tracking instrument used
I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
China

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2021

Comment

Country/area of low-carbon energy consumption
India

Sourcing method
Purchase from an on-site installation owned by a third party (on-site PPA)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
5119.8

Tracking instrument used
Indian REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
India

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2022

Comment

Country/area of low-carbon energy consumption
Thailand

Sourcing method
Purchase from an on-site installation owned by a third party (on-site PPA)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
4278.29

Tracking instrument used
I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
Thailand

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2022

Comment

Country/area of low-carbon energy consumption
Brazil

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
364211.98

Tracking instrument used
I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
1959

Comment

Country/area of low-carbon energy consumption
China

Sourcing method
Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
266704.54

Tracking instrument used
I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
China

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2016

Comment

Country/area of low-carbon energy consumption
United Kingdom of Great Britain and Northern Ireland

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
3391.73

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
United Kingdom of Great Britain and Northern Ireland

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption

United Kingdom of Great Britain and Northern Ireland

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Other biomass

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
1826.31

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
United Kingdom of Great Britain and Northern Ireland

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
France

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
541312

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
France

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
1968

Comment

Country/area of low-carbon energy consumption
Germany

Sourcing method
Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
110568.31

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Germany

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Hungary

Sourcing method

Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
37165.55

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Hungary

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
India

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
7521.11

Tracking instrument used
Indian REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
Please select

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Italy

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
12152.37

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Italy

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Italy

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Sustainable biomass

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
6272.19

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Italy

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Italy

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
588.01

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Italy

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Poland

Sourcing method
Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
77740.69

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
France

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment
Tthis procurement from France for Poland does not meet the market boundary criteria, but the sourcing contract was signed before this requirement was communicated

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Country/area of low-carbon energy consumption
Poland

Sourcing method
Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
68939.86

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
France

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment
This procurement from France for Poland does not meet the market boundary criteria, but the sourcing contract was signed before this requirement was communicated.

Country/area of low-carbon energy consumption
Romania

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
83798.76

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Romania

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Romania

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
77352.7

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Romania

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Serbia

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
105613.88

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Serbia

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
1970

Comment

Country/area of low-carbon energy consumption
Spain

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
424033.8

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Spain

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Spain

Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
13114.44

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
Spain

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment

Country/area of low-carbon energy consumption
Thailand

Sourcing method
Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Solar

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
91909.18

Tracking instrument used
I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
Thailand

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2018

Comment

Country/area of low-carbon energy consumption
Thailand

Sourcing method
Unbundled procurement of energy attribute certificates (EACs)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
100000

Tracking instrument used
I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute
Thailand

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2014

Comment

Country/area of low-carbon energy consumption
France

Sourcing method
Heat/steam/cooling supply agreement

Energy carrier
Steam

Low-carbon technology type
Sustainable biomass

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
71336.92

Tracking instrument used
GO

Country/area of origin (generation) of the low-carbon energy or energy attribute
France

Are you able to report the commissioning or re-powering year of the energy generation facility?
No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
<Not Applicable>

Comment
The waste of wood comes from forests managed according to PEFC standard

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C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area
Brazil

Consumption of purchased electricity (MWh)
1311163.15

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1311163.15

Country/area
China

Consumption of purchased electricity (MWh)
960136.37

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
960136.37

Country/area
United Kingdom of Great Britain and Northern Ireland

Consumption of purchased electricity (MWh)
18511.4

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
18511.4

Country/area
France

Consumption of purchased electricity (MWh)
1921894.21

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
71336.92

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1993231.13

Country/area
Germany

Consumption of purchased electricity (MWh)
388165.65

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
388165.65

Country/area
Hungary

Consumption of purchased electricity (MWh)
136730

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
136730

Country/area
India

Consumption of purchased electricity (MWh)
188658

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
188658

Country/area
Italy

Consumption of purchased electricity (MWh)
692186.2

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
692186.2

Country/area
Poland

Consumption of purchased electricity (MWh)
633494

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
633494

Country/area
Romania

Consumption of purchased electricity (MWh)
580145.29

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
580145.29

Country/area
Serbia

Consumption of purchased electricity (MWh)
380210

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
380210

Country/area
Spain

Consumption of purchased electricity (MWh)
1573733.71

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1573733.71

Country/area
Thailand

Consumption of purchased electricity (MWh)
1483281.67

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1483281.67

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
REPORT OF ONE OF THE STATUTORY AUDITORS_Michelin_DEU_2022.pdf

Page/ section reference
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Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach
Scope 2 market-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
REPORT OF ONE OF THE STATUTORY AUDITORS_Michelin_DEU_2022.pdf

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Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category
Scope 3: Purchased goods and services
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Downstream transportation and distribution

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
REPORT OF ONE OF THE STATUTORY AUDITORS_Michelin_DEU_2022.pdf

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Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?
Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C6. Emissions data	Year on year change in emissions (Scope 1 and 2)	ISAE3000	100% of the data (Scope 1 and 2) have been verified by a third party providing limited assurance according to the ISAE3000 standard. 2022-URD-Extract.pdf REPORT OF ONE OF THE STATUTORY AUDITORS_Michelin_DEU_2022.pdf
C5. Emissions performance	Year on year emissions intensity figure	ISAE3000	100% of the data (Scope 1 and 2) have been verified by a third party providing limited assurance according to the ISAE3000 standard. 2022-URD-Extract.pdf REPORT OF ONE OF THE STATUTORY AUDITORS_Michelin_DEU_2022.pdf
C8. Energy	Energy consumption	ISAE3000	100% of the data have been verified by a third party providing limited assurance according to the ISAE3000 standard. This data, along with the CO2 emission factors, allows the CO2 emissions to be calculated. 2022-URD-Extract.pdf REPORT OF ONE OF THE STATUTORY AUDITORS_Michelin_DEU_2022.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?
Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.
EU ETS
France carbon tax
Shanghai pilot ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

EU ETS

% of Scope 1 emissions covered by the ETS
42

% of Scope 2 emissions covered by the ETS
9

Period start date
January 1 2022

Period end date
December 31 2022

Allowances allocated
486378

Allowances purchased
534357

Verified Scope 1 emissions in metric tons CO2e
491010

Verified Scope 2 emissions in metric tons CO2e
96220

Details of ownership
Facilities we own and operate

Comment

Shanghai pilot ETS

% of Scope 1 emissions covered by the ETS
0

% of Scope 2 emissions covered by the ETS
19

Period start date
January 1 2022

Period end date
December 31 2022

Allowances allocated
71998

Allowances purchased
67344

Verified Scope 1 emissions in metric tons CO2e
0

Verified Scope 2 emissions in metric tons CO2e
212242

Details of ownership
Other, please specify (Heat purchased from an ETS supplier)

Comment

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

France carbon tax

Period start date
January 1 2022

Period end date
December 31 2022

% of total Scope 1 emissions covered by tax
34

Total cost of tax paid
463142

Comment
The French carbon tax covers the Group's natural gas and coal purchases in France during the reporting year. Percentage of coverage is computed on the basis of the French perimeter.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Our strategy is 1/ To make sure there is a balance between allowances and emissions, including forward purchases of allowances, to smooth the cost impact on production facilities: A corporate CO2 Allowances Work Group is in charge of monitoring the trading scheme and making sure the balance between allowances and emissions is reached. The work group makes decisions on necessary banking, pooling, and purchases. It comprises team members from EHS, energy purchasing, industrial operations, finance, accounting, and norms and regulations departments. It reports to the Environment Governance of the Group Executive Committee's (board-level) Sustainable Development and Mobility Committee.

The work group is supported by two local "mirror" work groups: one in Europe (since 2005) and one in China (created in 2013). Example of action: The Committee has validated the decision to buy allowances on the market in advance of our needs by one year, so as to smooth the cost impact on our production facilities.

2/ Deliver ambition to reduce specific energy consumption by 37 % between 2010 and 2030: A multi-disciplinary team focused on energy efficiency of industrial processes and on the energy mix of industrial sites continues its work. Specialists of all the fields involved in the Group are represented. Michelin has set an ambition to reduce its specific energy consumption by 37 % between 2010 and 2030.

In order to implement energy-efficiency programs, each plant has an appointed energy specialist. To support the very ambitious 2030 roadmap, the Energy competency network has been expanded with the creation of Energy Expert positions per zone and a post dedicated to leading the Energy Efficiency Roadmap deployment program.

In 2022 the plants worked on their fixed energy use, to gain a better understanding of the sensitivity of the process to wide swings in output and to improve their ability to manage facility shutdown and restart procedures.

3/ we apply an internal price on CO2

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Type of internal carbon price
Shadow price

How the price is determined
Alignment with the price of allowances under an Emissions Trading Scheme
Social cost of carbon

Objective(s) for implementing this internal carbon price
Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Stakeholder expectations

Scope(s) covered
Scope 1
Scope 2

Pricing approach used – spatial variance
Uniform

Pricing approach used – temporal variance
Evolutionary

Indicate how you expect the price to change over time
We expect that this internal price on carbon will increase over time.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)
100

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)
100

Business decision-making processes this internal carbon price is applied to
Capital expenditure
Operations

Mandatory enforcement of this internal carbon price within these business decision-making processes
Yes, for all decision-making processes

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan
Since 2016, the Group has incorporated an internal carbon price into its method of calculating return on investment
for projects. In 2021, the carbon price was raised from €50 to €100 a tonne.This improves the pay back of emission reduction projects.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Provide training, support, and best practices on how to set science-based targets

% of suppliers by number
3.7

% total procurement spend (direct and indirect)
65

% of supplier-related Scope 3 emissions as reported in C6.5
85

Rationale for the coverage of your engagement
When we consider the total spend (direct and indirect) we achieve 65% of coverage of spend with our Ecovadis program, as it covers both direct and indirect spend. Note that there is a fuller coverage of the direct spend : more than 90% of our raw material and natural rubber spend is covered with our Ecovadis program. As raw materials represent about 85% of the emissions, the coverage figure of the emissions is much higher.

Impact of engagement, including measures of success
In 2022, a dedicated supplier training module was developed, covering CSR fundamentals. When we onboard suppliers in our Ecovadis and CDP program, we provide information thru webinars and documentation, these include specific guidance about science-based targets. We also provide direct link to material on the CDP and SBTi platform.

It supplements the training already available to suppliers on the EcoVadis platform (EcoVadis Academy) and on the CDP platform, as part of our supplier engagement program thru Ecovadis and CDP.
Impact : 137 suppliers have completed at least one EcoVadis Academy module. Regarding CDP and SBTi, unfortunately it is not possible for companies to know which of their suppliers have accessed the material. However we can measure the progress on the level of maturity of our suppliers with their CDP scoring.
Measure of success : We consider this commitment successful if more than 50% of all suppliers who responded to the CDP climate change questionnaire scored B- or higher.
In 2022 66% of all suppliers who responded to the CDP climate change questionnaire scored B- or higher, vs 60% in 2021 (for raw material only the percentages are respectively 60% and 55%). This demonstrates a growing maturity within our supplier panel.

Comment

Type of engagement
Innovation & collaboration (changing markets)

Details of engagement
Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number
0.1

% total procurement spend (direct and indirect)
8

% of supplier-related Scope 3 emissions as reported in C6.5
27

Rationale for the coverage of your engagement
During the Smithers Recovered Carbon Black Conference on November 22-23, 2021 in Amsterdam, Bridgestone and Michelin delivered a joint perspective on the potential opportunities related to increasing use of recovered carbon black from end-of-life tires in new tire production. The two companies also outlined initial ideas for how the tire industry can work across a diverse group of global stakeholders as a crucial next step in achieving a circular economy for tires. Bridgestone and Michelin have released a position paper focused on their joint initiative to increase the use of recovered carbon black. The position paper outlines the reasoning behind this important call to action and the goals both Bridgestone and Michelin plan to achieve through this collaboration.
This program focuses on carbon black is this raw material is one the raw materials representing the most emissions.

Impact of engagement, including measures of success
Using recovered carbon black in new tires reduces CO2 emissions from carbon black production by 85% compared to virgin materials. Less than 1% of all carbon black used today in new tire production globally is recovered. Generally speaking, increasing rCB utilization by substituting vCB 10% would reduce CO2 emissions globally by up 2M Tons of CO^2 annually. More info on https://rcbrubber.com/

Comment

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect GHG emissions data at least annually from suppliers
Collect targets information at least annually from suppliers
Collect climate-related risk and opportunity information at least annually from suppliers
Collect climate transition plan information at least annually from suppliers
Collect other climate related information at least annually from suppliers

% of suppliers by number
0.3

% total procurement spend (direct and indirect)
22

% of supplier-related Scope 3 emissions as reported in C6.5
65

Rationale for the coverage of your engagement
The CDP questionnaire provides a comprehensive system for disclosing environmental information in order to assess the strategies in place to abate climate change. In 2018, Michelin joined the CDP's Supply Chain Program and engaged its leading raw materials suppliers to participate in it, encouraging them to measure and disclose their greenhouse gas emissions and to develop strategies to reduce them. A CDP Climate change supply chain campaign was conducted in 2020 and every year since then. In 2022 the campaign included 124 suppliers (incl 103 raw material suppliers) . Together, they represented approximately 65% of the emissions from the Group's purchased goods and services category. This program focuses primarly of raw materials, as thet have the highest impact as they represent around 85% of the Purchased goods and services emissions.

Impact of engagement, including measures of success
Response rate of the 2022 campaign was 85%.
Measure of success: 65% of the raw material suppliers who responded to the CDP Climate Change questionnaire scored B or higher, indicating that their emissions abatement systems were fairly mature. (Raw materials have the highest impact as they represent around 85% of the Purchased goods and services emissions). This rate of raw material suppliers score B or higher was 56% in 2021, showing that the maturity on climate change of our most impactful suppliers is progressing. The central CSR team prepared a scorecard for each supplier for the buyers to engage the discussion with the suppliers about their disclosure as well as their GHG actions and targets. These discussions are key to engage suppliers on their journey to tackle climate change.

Comment

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect other climate related information at least annually from suppliers

% of suppliers by number
3.7

% total procurement spend (direct and indirect)
65

% of supplier-related Scope 3 emissions as reported in C6.5
85

Rationale for the coverage of your engagement
The rationale for this approach is to provide an overview of suppliers representing potentially high CSR risks, including on climate change issues. Michelin began to assess the CSR engagement with its suppliers in 2012 using the EcoVadis rating platform. The EcoVadis platform is a cross-industry recognized tool for assessing CSR performance, including climate change issuess. We chose to evaluate suppliers which are the most relevant in terms of: 1) higher CSR risk purchasing categories, 2) high risk countries, 3) high spend. The goal is to ensure that our suppliers are performing well on environmental issues - and, if not, to encourage them to improve their practices. Around 65% of the overal purchasing spend is covered by Ecovadis assessments, and regarding natural rubber or other raw materials the spend coverage is over 90%. While the EcoVadis approach provided a basic understanding of suppliers' maturity in this area, the rationale for a new approach was to engage suppliers more concretely in CO2 mitigation.

Impact of engagement, including measures of success
End of 2022, 87% of the 1121 scored suppliers had achieved a score of 45 or above of the overall rating, and about 81% above the confirmed level for the "environment" rating, therefore meeting the corporate target ahead of schedule and more importantly providing an assurance of supplier awareness and initiative on climate change issues. In 2022 the assessment program will cover over 1200 suppliers. Measures of success: Suppliers which have an overall score <45 are requested to set up corrective actions. A follow-up of corrective action plans is implemented, with appropriate KPIs. This is a lever to improve supplier practices vs environment issues . The careful attention paid to the assessments by both the Group’s purchasing teams and its suppliers is helping to drive steady progress. By year-end 2022, for example, of the approximately 760 suppliers with an assessment track record, 65% had improved on their global score and 20% had maintained their score. The segmentation of our raw materials suppliers takes into account the Ecovadis performance of the suppliers.
We observe that the average Environmental score of Michelin suppliers is well above the average score of all suppliers scored by Ecovadis, showing that the selection of suppliers by Michelin is at or above industry standards.

Comment

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization’s purchasing process?
Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement
Complying with regulatory requirements

Description of this climate related requirement
Compliance with laws and regulations is a Requirement per the Michelin Purchasing Principles. These are included in the Purchasing Terms and Conditions, and in the Michelin contracts with the suppliers.

% suppliers by procurement spend that have to comply with this climate-related requirement
100

% suppliers by procurement spend in compliance with this climate-related requirement
100

Mechanisms for monitoring compliance with this climate-related requirement
Other, please specify (The Michelin Purchasing Principles is included in all Michelin contract as it is part of the General conditions of Purchase and is included in the Contract templates.)

Response to supplier non-compliance with this climate-related requirement
Other, please specify (If the Michelin Principles were not included, the supplier shall provide an equivalent set of Principles to be included in the contract.)

Climate-related requirement
Climate-related disclosure through a public platform

Description of this climate related requirement
Disclosure through CDP (non public answers are accepted)

% suppliers by procurement spend that have to comply with this climate-related requirement
26

% suppliers by procurement spend in compliance with this climate-related requirement
22

Mechanisms for monitoring compliance with this climate-related requirement
Off-site third-party verification

Response to supplier non-compliance with this climate-related requirement
Retain and engage

Climate-related requirement
Setting a science-based emissions reduction target

Description of this climate related requirement
We ask the suppliers that represent the most emissions to set SBT, as it is part of the Michelin SBT target that has been approved by the SBTi. The approved target is the following : "Michelin commits that 70% of its suppliers by emissions covering purchased goods and services will have science-based targets by 2024." Purchased goods and services emissions are represented by the Scope 3 category 1 emissions, per GHG protocol. Our request is formally adressed to raw material suppliers.

% suppliers by procurement spend that have to comply with this climate-related requirement
30

% suppliers by procurement spend in compliance with this climate-related requirement
10

Mechanisms for monitoring compliance with this climate-related requirement
Off-site third-party verification
Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement
Retain and engage

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?
Yes

Attach commitment or position statement(s)
G20-Business-Letter-WMBC_ page 13
STATEMENT: BUSINESS LEADERS FOR THE CLIMATE page 9
G20-Business-Letter-WMBC-Final-25.10.docx
Business leaders for climate_VENG.pdf

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan
Michelin has long been committed to bringing together a wide range of stakeholders around such sustainable mobility issues as minimizing its environmental footprint (GHG emissions, noise and air pollution), optimizing its efficiency, protecting people's health and safety and ensuring universal access.
In 2022, Michelin maintained its active commitment to various major global institutional partnerships, and is now internationally recognized as one of the leading champions of sustainable mobility, even in areas outside its core tire business.
For example, the Group is proud to be the only private-sector representative on the steering committee of the Sustainable Mobility for All (SuM4All) consortium, a major initiative to support countries in the Global South, led by the World Bank and involving a number of UN agencies and multilateral development banks.
Michelin also continued to actively contribute to two new SuM4All projects, one on safe mobility, co-led by the International Road Federation (IRF) with funding from the Michelin Foundation, and the other on gender issues in the transportation industry.
During the year, the Group also expanded its role in the Transport Decarbonisation Alliance (TDA), a coalition of the "3 Cs" (Countries, Cities/Regions and Companies) currently chaired by the state of California, which is advocating for real-world collective solutions for a net-zero emissions transportation industry by 2050.
Michelin also pursued its active support for the Sustainable Low Carbon Transport (SLOCAT) platform, which is seeking to federate non-state transportation stakeholders as the industry's focal point for the UNFCCC(2), tasked with organizing their participation in successive COPs. Over the years, SLOCAT has become one of the Group's leading partners in the international arena.
Lastly, through its Foundation, Michelin is continuing to support the initiatives undertaken by the Climate Chance Association, made up of French and African non-state actors active in the mobility sector and committed to the climate. In particular, it is backing the project to build national transport roadmaps in a number of emerging economies and countries in the Global South, such as Morocco, Côte d'Ivoire and, in 2022, Senegal.
At the COP 27 in Egypt in November, the Group was represented through its partners SLOCAT, SuM4All and TDA.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association
BusinessEurope

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
Business Europe is a very large transectorial association that aims at ensuring the transition to carbon neutrality of the EU. Michelin is not involved in all files that the organisation deals with.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
30000

Describe the aim of your organization's funding
Watch and alert on a wide variety of topics including international relations and sustainable finance

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
European Roundtable of Industrialists (ERT)

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
We contribute to ERT by promoting elements and best practices which provide concrete input for policy makers.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
56000

Describe the aim of your organization's funding

Ensure that the deployment of Green Deal policies can be done whilst preserving and developing a strong industry in Europe.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
International Chamber of Commerce (ICC)

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
ICC is a very large transectorial association that aims at supporting international fair trade considering the net zero emission ambitions. Michelin is involved in energy and environment commission.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
9450

Describe the aim of your organization's funding
Promote a multinational fair trade and sustainable development.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify (European Tyre & Rubber Manufacturers Association)

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
As tyres play a role in CO2 emissions from vehicles, ETRMA contributes to a regulatory framework setting minimum performance regulations based on international standards, and informing users. As a key player within ETRMA, Michelin always pushes to make sure that industry position is ambitious when it comes to climate objectives.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
197000

Describe the aim of your organization's funding
As the leading global tire manufacturer, we aim at ensuring that the European tire sector contribute to the Greendeal including but not limited to climate.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify (Association française des entreprises privées (AFEP))

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
Yes, and they have changed their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
AFEP is a very large transectorial association that aims at ensuring the transition to carbon neutrality of the EU. Michelin is not involved in all files that the organisation deals with. However, when we are involved in specific topics, we always make sure that the position of AFEP is aligned with Paris Agreement objectives.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
77000

Describe the aim of your organization's funding
As an associatyion representing the 120 largest french companies, AFEP is a key and respected stakeholder in the dialogue with french and european authorities.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify (Hydrogen Europe)

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
Hydrogen Europe is the leading organisation in Europe representing all the industries of the H2 value chain from production to end uses, promoting the production and use of low carbon H2. Hydrogen Europe is also the industry pillar of the Clean Hydrogen Partnership, the public private Joint Undertaking. Michelin believes that H2 is one of the solutions to decarbonisation of mobility, and thus contributes to accelerate the development of ad hoc technologies and relevant ecosytems to accelerta the pace of deployment.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
25000

Describe the aim of your organization's funding
Promote public policies that can have an impact on the effectvie deployment of hydrogen mobility.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify (CEFIC)

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
CEFIC is the main EU trade association for the chemical industry. Michelin participates to some working groups, only as a downstream users (no Board/Executive Committee's). Therefore, our contribution is limited.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
33000

Describe the aim of your organization's funding
Get a an accurate monitoring of chemicals policies that may affect us, and provide the perspectives of the downstream users.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In mainstream reports, incorporating the TCFD recommendations

Status
Complete

Attach the document
Michelin_Transition Plan_DEU_2022.pdf
Michelin_DEU_2022_US_MEL_V2.pdf

Page/Section reference
Michelin Transition Plan_ The whole document
Michelin URD 2022 pages 200 - 210

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	Business Ambition for 1.5C Race to Zero Campaign Task Force on Climate-related Financial Disclosures (TCFD) UN Global Compact We Mean Business World Business Council for Sustainable Development (WBCSD)	Race to Zero Campaign and Business Ambition for 1.5C : In July 2021, Michelin joined the "Race To Zero" campaign, answering the call to action led by the SBTi, the UN Global Compact and We Mean Business. Under this commitment, it has defined short-term (2024–2034) milestones and long-term (2035–2050) targets for reduction in all three scopes (excluding the in-use phase) and will neutralize any residual emissions every year to reach net zero by 2050. The Michelin's CEO is signatory for this Ambition. TCFD : Since 2018, the Michelin Group has been gradually applying the recommended guidelines issued on June 29, 2017 by the TCFD and, in 2020, demonstrated its support for the task force as a signatory. UN Global Compact : Michelin has been a signatory of the UN Global Compact since 2010. Member of the French commitee. Member of the Global Compact Working Group on promoting and protecting Human rights. We mean Business : as part as of WBCSD member, we take part in We Mean Business WBCSD : Member of the coalition

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	The Group Executive Committee (GEC), Group Management Committee (GMC) and the Supervisory Board are the 3 board-level committees responsible for biodiversity issues. The GEC –the managing chairman, general manager and the executive VPs– focuses on strategic decisions, such as corporate transformations, business models, acquisitions, performance, brand strategy, and sustainable growth. Two members –executive VPs of manufacturing and R&D, respectively –have delegated responsibility to make decisions on biodiversity-realted risks and opportunities regarding operations through the Environmental Governance (EG) body which represents all operational departments. The GMC is comprised of the GEC plus the heads of Strategy, Purchasing, Corporate Business Services, Finance, Legal Affairs, Quality, Audit, Internal Control and Risk Management, Supply Chain, Information Systems, and the China and North America Regions. The GMC manages transformation, competitiveness, integration of acquisitions and the internal control, quality and risk management processes. It consults with a panel of business units and regions to ensure that its decisions are widely embraced across the organization. It oversees biodiversity-related risk managed through the enterprise risk management system, progress against biodiversity targets, and external engagements. It is briefed 2 times per year by the Chief Sustainability Officer to ensure that all biodiversity related issues overseen by the EG body are reviewed at the highest level of the company. The GEC and GMC are therefore responsible for overseeing assessment and management of risks and opportunities related to climate change for Michelin and its subsidiaries. The role of the Supervisory Board is to exercise permanent oversight of the Group's management and to assess its quality for the benefit of the shareholders. Its 4-member CSR Committee examines the Group's strategy, objectives, policies and commitments regarding environmental issues, and makes recommendations in this regard; ensures the integrity, completeness and exemplary nature of the environmental strategy and initiatives; reviews strategic roadmaps and their implementation.	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Adoption of the mitigation hierarchy approach Commitment to not explore or develop in legally designated protected areas Commitment to respect legally designated protected areas Commitment to avoidance of negative impacts on threatened and protected species Commitment to no conversion of High Conservation Value areas Commitment to secure Free, Prior and Informed Consent (FPIC) of Indigenous Peoples	SDG Other, please specify (act4nature International)

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment
Yes

Value chain stage(s) covered
Direct operations
Upstream

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
SBTN materiality tool

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)
Michelin tested the first two stages in the Science Based Targets for Nature (SBTN) method, which helps first to identify the dependencies and material impacts of Michelin's operations on biodiversity across the value chain and then to map these impacts geographically and define priority actions aligned with local issues. A compilation of feedback
from Michelin and other stakeholders was published (in French) by the Natural Capital Lab in 2022. https://lab-capital-naturel.fr/.

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment
Yes

Value chain stage(s) covered
Direct operations
Upstream

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
SBTN materiality tool

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?
Yes

C15.4a

(C15.4a) Provide details of your organization's activities in the reporting year located in or near to biodiversity -sensitive areas.

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Species management Education & awareness Livelihood, economic & other incentives

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Pressure indicators

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In mainstream financial reports	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Details on biodiversity indicators	UNIVERSAL REGISTRATION DOCUMENT 2022 pages 185 - 189 Michelin_DEU_2022_US_MEL_V2.pdf
In voluntary sustainability report or other voluntary communications	Impacts on biodiversity Details on biodiversity indicators	Intégrer l'entreprise dans les limites planétaires Retours d'expérience sur les méthodologies SBTN et CARE pages 18-22 integrer-l-entreprises-dans-les-limites-planetaires.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Manufacturing Officer, Member of the Group Executive Committee, Member of the Groupe Management Committee and lead chair of the Environment Governance body.	Chief Operating Officer (COO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	28590000000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member
BMW AG

Scope of emissions
Scope 1

Scope 2 accounting method
<Not Applicable>

Scope 3 category(ies)
<Not Applicable>

Allocation level
Company wide

Allocation level detail
<Not Applicable>