

C0. Introduction

C0.1

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

“Health for all, hunger for none” – putting an end to hunger and helping everyone lead a healthy life, while at the same protecting ecosystems. That’s what we aspire to achieve, guided by our corporate purpose “Science for a better life.” The major issues of our time can only be addressed if we work together. Our campaigns #voranbringen in Germany and “This is why we science” in the United States underscore our approach. We are a life science company and a global leader in health care and nutrition. Our innovative products support efforts to overcome the major challenges presented by a growing and aging global population. We help prevent, alleviate and treat diseases. We also aim to ensure the world has a reliable supply of high-quality food, feed and plant-based raw materials. As part of this endeavor, the responsible use of natural resources is always a top priority.

We aim to enhance our company’s earning power and create value for customers, patients, shareholders, employees and society. Growth and sustainability are integral parts of our strategy, guided by our corporate values of Leadership, Integrity, Flexibility and Efficiency, or LIFE for short.

This culture ensures a common identity throughout the Bayer Group.

The management structure of the Bayer Group comprises three divisions – Pharmaceuticals, Consumer Health and Crop Science – which are also our reporting segments. We operate sites around the world, and some are used by multiple segments. As of December 31, 2020, the Bayer Group comprised 385 consolidated companies in 83 countries.

The portfolio and structural measures announced in late 2018 led to the following changes in the corporate structure: (1) The sale of our Animal Health business unit, agreed in August 2019, was completed and has therefore no longer been a part of the Bayer Group since August 2020. As a result, it no longer constitutes a reportable segment and has been accounted for retroactively for 2018 and 2019 as a discontinued operation. (2) The services previously performed by Business Services are gradually being transferred to the enabling functions and divisions as part of the Group restructuring.

As in our previous CDP reports, we are reporting according to the operational control approach to provide an accurate picture of Bayer’s life science businesses.

Forward-Looking Statements

This report may contain forward-looking statements based on current assumptions and forecasts made by Bayer management. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Bayer’s public reports which are available on the Bayer website at www.bayer.com. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2020	December 31 2020	No	<Not Applicable>

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

- Argentina
- Belgium
- Brazil
- Chile
- China
- Finland
- France
- Germany
- Guatemala
- India
- Italy
- Mexico
- Netherlands
- Romania
- Spain
- 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.

Operational control

C-CH0.7

(C-CH0.7) Which part of the chemicals value chain does your organization operate in?

Row 1

Bulk organic chemicals

Bulk inorganic chemicals

Other chemicals

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(s)	Please explain
Chief Sustainability Officer (CSO)	The highest level of responsibility for climate-related issues lies with Bayer's CEO who also functions as Bayer's Chief Sustainability Officer (CSO). As CSO he is RESPONSIBLE FOR THE GROUP-WIDE SUSTAINABILITY PROGRAM INCLUDING CLIMATE-RELATED TARGETS AND MEASURES. EXAMPLES OF CLIMATE-RELATED DECISIONS: Since climate is one of the core commitments of Bayer, the CSO decided to commit the Bayer AG to the Science Based Targets Initiative in 2019. In 2020, the CSO decided to set the target to achieve net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C. In 2019, Bayer's Board of Management including the CSO adopted an advanced sustainability strategy along with new non-financial Group targets and key performance indicators. This strategy includes, e.g. ambitious climate measures to become a completely climate-neutral company by 2030. In this process, the role of the Chief Sustainability Officer was handed over from the board member responsible for Human Resources, Technology and Sustainability to the Chairman of the Board of Management (CEO) to ensure that climate-related risks and opportunities are identified at Group-level and climate-related targets and measures are driven Group-wide and integrated into Bayer's business strategy. To achieve our sustainability strategy, the Board of Management including the CSO decided in 2020 to adapt the long-term incentive (LTI) of eligible managers to the LTI of the Board of Management. This means that 20% of LTI of eligible managers incl. the Board of Management is linked to the Group sustainability targets of which 50% are connected to climate protection. In his role as Chief Sustainability Officer, the Chairman of the Board of Management is supported by the Public Affairs, Science & Sustainability (PASS) enabling function. He is the superior of the Head of Public Affairs, Science & Sustainability who is responsible for Bayer's sustainability strategy including Bayer's CLIMATE STRATEGY and TARGETS. Relevant topics in the field of sustainability incl. climate-related topics are discussed during their regular meetings. The implementation of our sustainability targets including CLIMATE-RELATED TARGETS is a KEY ELEMENT OF THE ANNUAL PERFORMANCE OBJECTIVES of both.

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	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<Not Applicable>	<p>i) WHO BRIEFES THE BOARD ON WHAT: In REGULAR JOUR FIXES, the Chief Sustainability Officer (CSO) and the Head of Public Affairs, Science & Sustainability (PASS) discuss operational topics in the field of sustainability, incl. climate-related issues. Climate-related strategic decisions are brought up in board discussions by the Head of PASS or the CSO as needed. In REGULAR MEETINGS of the Board of Management, the Supervisory Board and the Sustainability Council the Group-wide sustainability strategy incl. climate-related issues is discussed. In addition, the Head of PASS informs the board about environmental KPIs incl. climate-related KPIs and target achievement in the context of the annual board meeting dedicated to the approval of our Annual Report (AR). The CSO and the CFO are informed several times by the AR taskforce during the reporting cycle from Aug to Feb. The Head of PASS monthly reports HSE KPIs to the CSO. As our Crop Science business has major dependencies and potentials for climate also the division head of Crop Science brings up climate related topics. ii) CONTRIBUTION TO BOARD OVERSIGHT: The governance mechanisms selected contribute to an informed view of the board on climate-related issues and ensure a coherent and Group-wide response, if needed. EXAMPLE 1 (Governance mechanisms "setting performance objectives", "monitoring implementation and performance of objectives" or "progress against goals and targets"): In 2020, the CSO decided to set the target to achieve net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C. Through the reporting of climate-related KPIs described above, the board can ensure a Group-wide response in case of any deviations of CO2 emissions or energy efficiency KPIs from the required values. As the climate-related targets are part of the board compensation there is an additional pull to stay informed on progress and measures. EXAMPLE 2 (Governance mechanisms "Reviewing and guiding annual budgets" / "major plans of action" / "risk management policies" / "strategy"): Through the integration of climate-related issues in major investment decisions, the regular review of climate-related risks, and the integration of climate-related issues in the review of strategic decisions or R&D priorities, the board can ensure e.g. an adequate inclusion of climate risks and opportunities in our business, sustainability or risk management strategy. E.g. all capital expenditures above EUR 10 million undergo an ecological assessment; CAPEX above EUR 20 million go into the board.</p>

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

i) POSITION IN THE CORPORATE STRUCTURE:

As Bayer's CEO, the Chief Sustainability Officer is the Chairman of the Board of Management. In this position, he and the other members of the Board of Management report to the Supervisory Board. The CEO is the direct superior of the Head of Public Affairs, Science & Sustainability (PASS) leading the Group-wide Public Affairs, Science & Sustainability function. There are regular meetings with the Head of PASS, in which sustainability topics are discussed.

ii) RESPONSIBILITIES REGARDING THE ASSESSMENT AND MONITORING OF CLIMATE-RELATED ISSUES:

The Chief Sustainability Officer carries DIRECT RESPONSIBILITY FOR the Group-wide sustainability program incl. CLIMATE-RELATED TARGETS AND MEASURES. For example, in 2020 the CSO decided to set the target to achieve net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C. The Chief Sustainability Officer is CONTINUOUSLY INFORMED ABOUT THE STATUS OF CLIMATE-RELATED TARGETS AND MEASURES during his regular meetings with the Head of Public Affairs, Science & Sustainability, who monitors all relevant topics in the field of sustainability and environment. The Head of PASS is the direct superior of the Head of Sustainability, who is responsible for the day-to-day management of climate-related targets and measures, their monitoring, reporting and verification of related milestones.

During the official sign-off process of the Annual Report, the CSO is responsible for all content within his area of responsibility. As CSO he is therefore directly RESPONSIBLE FOR the entire non-financial section of our Annual Report including our CLIMATE-RELATED REPORTING. For example, in Bayer's Annual Report 2020, he was responsible for signing-off the description of our climate-related measures and key performance indicators (e.g. GHG emissions and energy) described in the chapter Environmental Protection. The CSO is informed several times by the Annual Report taskforce during the reporting cycle from Aug to Feb.

The CSO is further informed on progress on climate related KPI as they are part of the board compensation targets.

The CSO is also responsible for SIGNING OFF BAYER'S RESPONSE TO THE CDP CLIMATE CHANGE REQUEST.

iii) RATIONALE FOR WHY RESPONSIBILITY LIES WITH THAT POSITION:

As part of Bayer's corporate strategy, sustainability is firmly established at board level. Board-level as well as management-level responsibility for the Group's sustainable orientation lies with the Chief Sustainability Officer. This POSITION WAS SELECTED on management-level for oversight of all climate-related issues to ensure that climate-related targets and measures are monitored and driven on Group-level to ensure a comprehensive and cohesive approach to climate protection.

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	Bayer remunerates employees in accordance with a transparent and fair system that includes fixed and variable salary components. For employees responsible for our climate-related strategy or management, climate-related issues form part of the variable salary component. Additionally, in 2019 the Board of Management decided to use sustainability criteria including climate action measures as additional criteria for individual one-time payments (Top Performance Award). Non-financial targets, including our climate-related targets, constitute components of the short-term and long-term variable compensation of the Board of Management. In 2020, the Board of Management decided to adapt the long-term incentive (LTI) of eligible managers to the LTI of the Board of Management. This means that 20% of LTI of eligible managers incl. the Board of Management is linked to the Group sustainability targets which include climate protection targets.

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	Type of incentive	Activity incentivized	Comment
Chief Sustainability Officer (CSO)	Monetary reward	Emissions reduction target	Bayer remunerates employees in accordance with a transparent and fair system that includes fixed and variable salary components. The variable component is determined by the company performance, the divisions, corporate functions and business services performance and by the individual employee's achievements. In 2020, the CSO received the majority of his remuneration as a variable income component consisting of short-term and long-term incentives. Within the short-term incentives, the performance of board members of Bayer AG is evaluated individually with regard to the performance in their respective areas of responsibility. This board member is ACCOUNTABLE FOR THE AREA OF SUSTAINABILITY. His individual target attainment is determined by the Supervisory Board. Board members are incentivized on the attainment of sustainability KPIs, 30% of the divisional component within variable compensation is based on the attainment of qualitative targets in areas such as innovative progress, safety, compliance and sustainability. Additionally individual goals for board members include sustainability e.g. for 2020: Implementing our sustainability and social responsibility strategy. This strategy includes, e.g. ambitious climate measures to become a completely climate-neutral company by 2030. From 2021 onward sustainability will also be part of the long-term incentives for all board members including the CSO. Therefore, the Supervisory Board defines sustainability targets including our CLIMATE TARGETS over a 4-year span. These targets are incorporated into the long-term incentives with a weighting of 20%.
Board/Executive board	Monetary reward	Emissions reduction target	Board members are incentivized on the attainment of sustainability KPIs, 30% of the divisional component within variable compensation is based on the attainment of qualitative targets in areas such as innovative progress, safety, compliance and sustainability. Additionally individual goals for board members include sustainability e.g. for 2020: Implementing and integrating our sustainability and social responsibility strategy including our climate-related measures. This strategy includes, e.g., ambitious climate measures to become a completely climate-neutral company by 2030. From 2021 onward sustainability will be part of the long-term incentives for all board members. Therefore the Supervisory Board defines sustainability targets over a 4-year span. These targets are incorporated into the long-term incentives with a weighting of 20%. At the beginning of each four-year tranche, the Supervisory Board determines a minimum value, a target corridor and a maximum value for the individual sustainability goals. The specific sustainability targets are disclosed in the Compensation Report. An explanation of how the achievement of the individual sustainability targets was determined will be published subsequently in a Compensation Report.
Management group	Monetary reward	Emissions reduction target	For eligible managerial employees quantitative sustainability targets will be integrated as an additional parameter into the long-term variable compensation (LTI) from 2021, similar to the compensation of the Board of Management. It will account for 20% of the target attainment within the long-term incentive.
Executive officer	Monetary reward	Efficiency target	The Head of Public Affairs, Science & Sustainability is directly reporting to the board member responsible for sustainability. As part of his variable income component he receives financial incentives that are directly linked to the success of our climate-related targets. Performance indicators include agreed milestones and set TARGETS with respect to our emission reduction targets.
Executive officer	Monetary reward	Efficiency target	The Head of Corporate Sustainability, reporting to the Head of Public Affairs, Science & Sustainability, receives financial incentives that are directly linked to the success of our climate-related targets as a part of her variable income component. Performance indicators include agreed milestones and set TARGETS with respect to our emission reduction targets.
Environment/Sustainability manager	Monetary reward	Efficiency project	Managers from Bayer's Corporate Sustainability (CS) department receive financial incentives related to climate protection. For example, the annual performance targets of the department head for CS Strategy and Performance Management include the IMPLEMENTATION OF CLIMATE-RELATED TARGETS as a key measure.
Energy manager	Monetary reward	Energy reduction target	Bayer's GHG EMISSION REDUCTION TARGETS are cascaded down through the organization and translated into energy efficiency targets for energy/site managers. These energy efficiency targets form part of the performance indicators within their variable income component. According to the implementation strategy of ISO 50001, energy managers receive their short-term incentives dependent, amongst other, on the DEGREE OF ENERGY MANAGEMENT SYSTEM IMPLEMENTATION.
All employees	Monetary reward	Efficiency project	Bayer has implemented the Bayer Ideas Pool, an employee suggestion program, which honors improvement ideas from employees with monetary bonus payments. The Ideas Pool also acknowledges ideas that lead to ENERGY SAVINGS and thus incentivizes ideas for ENERGY EFFICIENCY AND CO2 REDUCTION, which helps Bayer achieve its GHG EMISSIONS TARGETS. Since 2019 the Board of Management decided to use sustainability criteria including climate action measures as additional criteria for individual one-time payments (Top Performance Award).
All employees	Non-monetary reward	Other (please specify) (Climate-related projects)	Bayer has introduced the worldwide innovation platform "WeSolve" to strengthen the innovation culture in all business areas and to enhance worldwide collaboration. All Bayer employees globally can contribute to this platform to develop solutions, including those referring to CLIMATE PROTECTION. Innovation coaches accompany the process starting from the submission of the idea until the finding of the solution. This process refers to all challenges, including climate-related topics.

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	1	
Medium-term	1	5	
Long-term	5	10	

C2.1b

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

The Bayer Group has implemented a holistic and integrated risk management system designed to ensure the continued existence and future target attainment of the Group through the early identification, assessment and treatment of risks. The Bayer Group's risk management system is aligned to internationally recognized standards and principles such as the ISO 31000 risk management standard. Risk owners decide on a targeted risk level and define a risk management strategy and risk management measures.

All relevant risks worldwide, incl. climate change-related risks, are recorded and monitored at an early stage in our risk management system. We regard risks as negative deviations from projected or target values for potential future developments.

i) DEFINITION FOR DIRECT OPERATIONS AND VALUE CHAIN

Bayer DEFINES a risk as having a SUBSTANTIVE FINANCIAL IMPACT, if the identified risk is relevant for the respective risk owner and/or function.

With regard to our Product Supply Function, a potential impact of EUR 7 MILLION CASH FLOW is regarded to be substantive and monitored in the database.

INDICATORS / THRESHOLDS:

Risks are classified as high, medium or low to assess their materiality regarding the overall risk portfolio. Impact is rated according to quantity and/or quality. The quantitative assessment reflects the possible loss of cash flows. Risks are evaluated with regard to their potential impact and likelihood of occurrence, taking into account established mitigation measures, in a 5x5 matrix. The likelihood of occurrence is assessed on a scale ranging from very unlikely (<10%), unlikely (10%-30%), possible (30-50%), likely (50-70%), very likely (>70%) over a period of 10 years. The potential impact is determined on a scale from moderate (> EUR 150-250 million), medium (> EUR 250-750 million), significant (> EUR 750-1,500 million), major (> EUR 1,500-2,500 million) to severe (> EUR 2,500 million). With regard to our Product Supply Function, a potential impact of EUR 7 MILLION CASH FLOW is regarded to be substantive and monitored in the database.

A qualitative assessment is based on criteria such as the impact on our strategy or reputation, the potential loss of stakeholder confidence, and the potential violation of sustainability principles. The higher rating, qualitatively or quantitatively, determines the overall assessment.

Risks with a potential impact of > EUR 5,000 million are separately examined by the Bayer Assurance Committee to determine their potential to endanger the company's continued existence. A report on the risk portfolio is submitted to the Board of Management and the Audit Committee of the Supervisory Board at least once a year.

The definition applies to our direct operations and to our value chain. Risks are reviewed in our risk management system, incl. climate change-related risks.

ii) DEFINITION FOR SUPPLIERS

Suppliers have the potential to have a SUBSTANTIVE IMPACT on the business if they are classified as strategically important or potential high-risk suppliers.

INDICATORS / THRESHOLDS:

1) Strategically important suppliers are defined as suppliers that have a major influence on business, incl. procurement spend and long-term collaboration prospects (3-5 years).

2) The risk definition for potential high-risk suppliers is based on country and business category sustainability risks. This process was revised in 2020 with the support of an external consultancy, enabling a more detailed view of the risks in the categories environment (e.g. climate and energy), social standards (e.g. child labor) and corporate governance (e.g. data protection). This more targeted analysis by individual risk criteria increases transparency in our supply chain. The risk categorization is based on an internationally recognized classification of country risks such as that applied by the World Bank and of category risks such as that employed by the United Nations.

The definition applies to our entire supply chain. Data are reviewed and updated continuously. Strategically important and potentially high-risk suppliers' sustainability performance, incl. climate change-related aspects, is evaluated via assessments and on-site audits.

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

i) **RISK AND OPPORTUNITY IDENTIFICATION AND ASSESSMENT PROCESS:** Bayer has implemented a holistic and INTEGRATED RISK MANAGEMENT SYSTEM designed to ensure the continued existence and future target attainment of the Group through the early identification, assessment and treatment of risks. The risk management system is aligned to internationally recognized standards and principles such as the ISO 31000 risk management standard. Our risk management process consists of risk identification, assessment, treatment, reporting and process monitoring and improvement. All relevant risks worldwide, incl. climate change-related risk, are recorded and monitored at an early stage in our risk management system. The risks are monitored CONTINUOUSLY by the risks owners in the operational divisions and functions. The risk portfolio is reviewed REGULARLY by the Bayer Assurance Committee. Our HSE and Sustainability managers monitor climate-related legislative changes and academic publications. Climate-related risks that apply to individual facilities are evaluated within our HSE management process. Potential physical risks related to climate change are covered and monitored by Bayer's Emergency Response System (BayERS), which is a mandatory element of the integrated HSE management system at Bayer's production sites. All risks worldwide, incl. climate change-related risks on asset level, that could significantly impact the achievement of our financial and non-financial objectives, are recorded and monitored at an early stage in our risk management system. Industrial marketing managers CONTINUOUSLY monitor market developments and indicate upcoming OPPORTUNITIES to the R&D departments, considering climate-related customer and market needs in R&D e.g. regarding the need of adaptation to climate change in agriculture. The identified opportunities and risks are updated at REGULAR conferences and incorporated into strategic and operational planning, e.g. as part of the ANNUAL strategic planning cycle. The core phase of our strategic planning process starts with a comprehensive market analysis. The divisions build on this by analyzing their market environments to identify opportunities including climate-related opportunities. Climate-related opportunities are also identified by management and employees through DAILY OBSERVATION of internal processes and markets. Potential climate-related risks and opportunities are reported to the Head of Public Affairs, Science & Sustainability and the Head of Sustainability, who are accountable for their identification and evaluation. Risks are classified as high, medium or low to assess their materiality regarding the overall risk portfolio. Impact is rated according to quantity and/or quality. The quantitative assessment reflects the possible loss of cash flows. Risks are evaluated with regard to their potential impact and likelihood of occurrence, taking into account established mitigation measures, in a 5x5 matrix. The likelihood of occurrence is assessed on a scale ranging from very unlikely (<10%), unlikely (10%-30%), possible (30-50%), likely (50-70%), very likely (>70%) over A PERIOD OF 10 YEARS. The potential impact is determined on a scale from moderate (> EUR 150-250 million), medium (> EUR 250-750 million), significant (> EUR 750-1,500 million), major (> EUR 1,500-2,500 million) to severe (> EUR 2,500 million). Regarding our Product Supply Function, a potential impact of €7 million cash flow is regarded to be SUBSTANTIVE. A QUALITATIVE ASSESSMENT is based on criteria such as the impact on our strategy or reputation, the potential loss of stakeholder confidence, and the potential violation of sustainability principles. The higher rating, qualitatively or quantitatively, determines the overall assessment. Also, Bayer identifies and prioritizes sustainability-related opportunities and risks, incl. those related to climate change, by considering the expectations of important stakeholders. These are matched up with an internal assessment, deriving the relevant fields of action for Bayer. The findings are documented in a materiality matrix, which includes different fields of actions, e.g. climate protection rated very high in terms of both: stakeholder relevance and relevance for Bayer. Risks with a potential impact of > EUR 5,000 million are separately examined by the Bayer Assurance Committee to determine their potential to endanger the company's continued existence. A report on the risk portfolio is submitted to the Board of Management and the Audit Committee of the Supervisory Board AT LEAST ONCE A YEAR.

ii) **CASE STUDIES: PHYSICAL OPPORTUNITY:** For about 20 years Crop Science analyzes the market for vector-control products in the context of Bayer's annual strategic planning cycle. The analysis includes, e.g., the market potential for bed nets and indoor residual spray and trends impacting the vector-control market. One of the relevant trends is the expected climate change-related geographic expansion of vector-borne diseases such as malaria, dengue fever, chikungunya and Zika. Crop Science identified the latter as one potential driver of growing demand for vector-control solutions as it could result in another 40 to 60 mio. people globally being exposed to the risk of vector-borne diseases. In 2013, analyses showed the resistance in mosquitoes to have increased significantly and the decision was taken in Bayer's Portfolio Review Meeting to develop new insecticide resistance-breaking substances for control of both malaria and dengue vectors. In 2019, Bayer introduced Fludora® Fusion, the first product to combine two modes of action for use in malaria indoor residual spray programs. In 2020, Bayer introduced a new active substances combination under the trade mark Fludora Comax, to fight dengue fever. **TRANSITIONAL RISK:** The manager responsible for monitoring climate-related legislation identified the risk from the changed interpretation of the EEG law regarding capacity layer models in January 2017. Together with Bayer's legal team the risk was evaluated as about as likely as not in terms of likelihood and relevant in terms of potential impact. The risk was then reported to the CHS Leadership Team and the responsible board member as well as to Accounting. Relevant options to address the risk were derived and presented to the board and other relevant bodies in order to achieve endorsement for the proposed path forward. To reduce the magnitude of this climate-related regulatory risk Bayer decided to conduct a thorough analysis including the involvement of external law firms and expertise to assess the situation and help Bayer plead its position. The transmission system operator has launched a judicial review of the existing "self-generation model" in QIV 2019. These court proceedings are continued. Bayer decided to make use of the amnesty regulation as part of the latest EEG amendment in 2021 and thus to abandon the EEG-free capacity layer model.

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	i) EXAMPLE: Bayer considers the risk from current regulation, e.g. the impact of cap and trade schemes like the EU Emissions Trading Scheme (ETS), in which Bayer participates. Current legislative discussions in the EU are expected to further increase carbon prices. In this respect, the EU ETS is the main regulatory framework that poses a risk to the European industry. Current trends in certificate price appear to be consistent with the regulator's aim for a much higher certificate price in order to effectively realize steering of energy generation according to climate requirements. In light of this risk, the EU ETS could influence Bayer directly through our own energy generation facilities participating in the EU ETS and indirectly, through our supply chain with regard to energy supply, as we expect the prices for our purchased energy to rise. Between 2020 and 2023, Bayer expects total costs of EUR 55-75 million due to the possible continuous tightening of the EU ETS. We expect this impact to remain low. As life science company we don't have any energy-intensive production in the EU. ii) INCLUSION IN RISK ASSESSMENT: Our energy managers, sustainability managers and our legal team constantly monitor climate-related legislative changes and developments as well as interventions of the EU in the EUA (European Emission Allowances) market and analyze their potential impact on Bayer. Potential risks are reported to the Heads of Public Affairs, Science & Sustainability and Corporate Sustainability, who are accountable for the identification and evaluation of climate-related risks. Also, Enterprise Risk Management is informed about relevant risks within the ERM scope.
Emerging regulation	Relevant, always included	i) EXAMPLE: Due to the recent developments in climate and energy politics and also as a consequence of the Paris Agreement, it is almost certain that the regulatory pressure will increase on a national, an EU and an international level. One example of a new cap and trade scheme that could potentially affect Bayer in the coming years is the Chinese national carbon trading scheme, which was launched in December 2017. ii) INCLUSION IN RISK ASSESSMENT: Our energy managers, sustainability managers and our legal team constantly monitor climate-related legislative changes and developments and analyze their potential impact on Bayer. Potential risks are reported to the Heads of Public Affairs, Science & Sustainability and Corporate Sustainability, who are accountable for the identification and evaluation of climate-related risks. Also, Enterprise Risk Management is informed about relevant risks within the ERM Scope.
Technology	Relevant, sometimes included	i) EXAMPLE: In terms of risks, technology could potentially have an impact on our competitiveness via an increase of operational costs or via effects on our reputation. Examples are current developments in technology in the field of mobility, such as E-Mobility or hydrogen fuel cells. A large part of Bayer's fleet consists of diesel fuel vehicles which are now being prohibited in some cities providing another incentive to consider alternatives. We already have E-Mobility pilot projects underway. We are building up an infrastructure of charging stations. Bike sharing and car sharing for all employees are also launched. ii) INCLUSION IN RISK ASSESSMENT: Our sustainability managers constantly monitor and analyze technological changes and technical developments that could affect Bayer and analyze their potential impact. Potential risks are reported to the Heads of Public Affairs, Science & Sustainability and Corporate Sustainability, who are accountable for the identification and evaluation of climate-related risks. In case of relevance for the ERM scope, Enterprise Risk Management is informed about the risks. Also, we constantly analyze the potential of emerging technologies such as carbon capture and storage in terms of their potential to help us mitigate climate-related risks and help increase our cost position and reduce GHG emissions.
Legal	Relevant, always included	i) EXAMPLE: Bayer AG (BAG) considers the risk from climate-related litigation, e.g. due to issues resulting from the interpretation of climate-related regulations. One potential issue that might lead Bayer to litigate is due to a revision to the Renewable Energy Sources Act (EEG). This EEG revision that became effective at the start of 2017 declared that energy generation via capacity layer models is not subject to the burden-free self-generation. For existing facilities an option for "amnesty" exists, if several conditions are met. The burden of proof lies with the participants in the capacity layer model. If the Federal Network Agency does not accept the arguments delivered by the participants EEG-savings of the past (since 2014) and future savings are at risk. Bayer is a participant in a capacity layer model together with other consortium partners since 2008. In light of the new interpretation the 2017 EEG has applied to capacity layer models, this risk of retroactive EEG apportionment payments could influence BAG's direct operations. Based on a timeframe of 5 years (2016-2020) for which potential retroactive payments could become relevant, BAG calculates the financial impact of this risk to be about EUR 120 million. Bayer has already endeavoured to meet all conditions stipulated for amnesty of existing plants but amnesty is not yet confirmed. The transmission system operator (TSO) has launched a judicial review of the existing "self-generation model" in the fourth quarter of 2019. ii) INCLUSION IN RISK ASSESSMENT: The manager responsible for monitoring climate-related legislation identified the risk from the changed interpretation of the EEG law regarding capacity layer models in January 2017 and analyzed the risk together with Bayer's legal team. The risk was evaluated as about as likely as not in terms of likelihood and relevant in terms of potential impact. The risk was reported to the Corporate Health & Safety (CHS) Leadership Team, the responsible board member and Accounting. Based on a thorough analysis relevant options to address the risk were derived and presented to the board and other relevant bodies in order to achieve endorsement for the proposed path forward. To reduce the magnitude of this climate-related regulatory risk BAG decided to make use of the amnesty regulation as part of the latest EEG amendment in 2021 and thus to abandon the EEG-free capacity layer model.
Market	Relevant, always included	i) EXAMPLE: Bayer considers potential market risks, which could potentially affect the demand for our products e.g. through the impact of climate-related reputation. Worldwide, investors, NGOs and the public increasingly focus on how companies are dealing with environmental issues such as climate. Currently, there is no indication that climate-related reputation risks might increase for Bayer. E.g., in 2019 Bayer's inclusion in the FTSE4Good was confirmed – further strengthening Bayer's reputation. In 2020 Bayer was again evaluated by CDP as one of the leading international companies in the area of climate protection. Bayer also monitors market risks regarding an interruption of supply e.g. due to climate change-related extreme weather events. E.g., for one supplier in Japan, the risk of natural disasters is relatively high. Bayer closely monitors this risk and validates that we have enough storage or further suppliers, located in other countries which could supply Bayer in case of a disruption. For Bayer, supply chain risks related to climate change do not represent a substantial threat compared to other supply chain risks. Currently, there is no indication that risks due to climate change-related weather extremes increase relevantly at supplier sites. ii) INCLUSION IN RISK ASSESSMENT: Our sustainability managers constantly monitor our sustainability-related performance incl. climate-related issues. We analyze the sustainability performance of our peers in order to better understand potentially emerging reputational risks. Potential risks are reported to the Heads of Public Affairs, Science & Sustainability and Corporate Sustainability, who are accountable for the identification and evaluation of climate-related risks. Also, Enterprise Risk Management is informed about relevant risks within the ERM scope. Bayer's supply chain transparency tool provides a strong visibility of our supply network. A natural disaster index indicates the risk related to extreme weather events. Through a large database of online sources, the system detects earliest indicators of company-specific risks and monitors those. Real-time alerts on potentially disrupting events containing details of potentially affected materials and products allow Bayer a proactive risk assessment. We are continuously improving our sub-tier transparency to also monitor risks concerning the suppliers of our suppliers.
Reputation	Relevant, always included	i) EXAMPLE: Bayer considers potential risks arising from climate-related reputation which could potentially affect the demand for our products or our access to capital. Worldwide, investors, NGOs and the public are increasingly focusing on how companies are dealing with environmental issues such as climate change and how they are integrating these topics into their business strategies and transparent communication. Currently, there is no indication that climate-related reputation risks might increase for Bayer. E.g., in 2019 Bayer's inclusion in FTSE4Good, an important sustainability index, was confirmed – further strengthening Bayer's reputation. Bayer also continues to be listed on the MSCI World Low Carbon Target Index, the STOXX® Europe Sustainability Index and the STOXX® Global ESG Impact index. In addition, in 2020 Bayer was again evaluated by CDP as one of the leading international companies in the area of climate protection. ii) INCLUSION IN RISK ASSESSMENT: Our sustainability managers constantly monitor our sustainability-related performance incl. climate-related issues. Also, we analyze the sustainability performance of our peers in order to better understand potentially emerging reputational risks. Potential risks are reported to the Heads of Public Affairs, Science & Sustainability and Corporate Sustainability, who are accountable for the identification and evaluation of climate-related risks. In case of relevance for the ERM scope, Enterprise Risk Management is informed about the risks. Impact on reputation is one of the qualitative assessment scales applied for risk assessment within ERM. Also, Bayer identifies and prioritizes sustainability-related risks, including those related to climate change, by analyzing the expectations of important stakeholders. These are matched up with an internal assessment, thereby deriving the relevant fields of action for Bayer. The findings are documented in a materiality matrix. It encompasses the changing priorities of external and internal stakeholders in relation to the relevance for Bayer and its stakeholders on a scale ranging from low to very high. It includes different fields of actions, e.g. climate protection (rated very high in terms of stakeholder relevance and very high in terms of relevance for Bayer in the materiality matrix).
Acute physical	Relevant, sometimes included	i) EXAMPLE: Bayer considers potential acute physical risks in the form of climate change-related extreme weather events, such as cyclones, hurricanes or floods affecting our production facilities. An increase of such weather events affecting our facilities could result in increased operational and capital cost and disruption in our production. Currently, there is no indication that risks due to climate change-related weather extremes increase at our sites. ii) INCLUSION IN RISK ASSESSMENT: Bayer observes these risks for all sites worldwide considering the past 50 and the next 10 years. The potential impact is evaluated regularly based on external research and our risk reporting: For example, we evaluated external studies such as a Global Insight study on weather developments and the 5th IPCC report, we analyzed risks reported to the Head of Corporate Health, Safety and Environment and the Head of Corporate Sustainability, and we discussed potential risks with our divisions. In case of relevance for the ERM scope, Enterprise Risk Management is informed about the risks.
Chronic physical	Relevant, sometimes included	i) EXAMPLE: Bayer considers chronic physical risks due to climate change-related changes in precipitation extremes, such as droughts. A potential increase of droughts affecting our production facilities could result in increased operational and capital cost and disruption in our production. An increase of droughts affecting our customers could lead to a reduction in demand for our products, such as seeds and crop protection products, in the affected regions. Currently, there is no indication that risks due to a climate-related increase in droughts increase at our sites. Neither is there an indication yet, that demand will be significantly affected in the near future due to droughts related to climate change. From a production standpoint we manage risk from drought by mainly contracting on irrigated hectares and geographical allocation by spreading production hectares in different regions. This can also include winter production (counter season). ii) INCLUSION IN RISK ASSESSMENT: Bayer observes the risks of climate-related droughts considering the past 50 and the next 10 years. The potential impact is evaluated regularly based on external research and our risk reporting: For example, we evaluated external studies such as a Global Insight study on weather developments and the 5th IPCC report, we analyzed risks reported to the Head of Corporate Health, Safety and Environment and the Head of Corporate Sustainability, and we discussed potential risks with our divisions. In case of relevance for the ERM scope, Enterprise Risk Management is informed about the risks.

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) 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

Current regulation	Carbon pricing mechanisms
--------------------	---------------------------

Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

i) CLEAR DESCRIPTION: As the UN identified climate change as one of the biggest risks for mankind, countries and regions like EU and China are committed to limit global warming by reducing greenhouse gas emissions, which are contributing to changes in the earth's climate. The EU has agreed on and published the European Green Deal to accelerate transformation towards a net-zero future and committed to be climate neutral in 2050. In line with this, legislative discussions in the EU are expected to further increase carbon prices (e.g. CO2 tax), adjust financing incentives (e.g. EU Taxonomy) and drive changes of technology (e.g. fostering renewable energy, hydrogen power). China is committed to become net-zero in 2060 and it is expected that regulations will be implemented. The EU Emissions Trading System (ETS) is the main regulatory framework that poses a risk to the European industry. A further increase in carbon prices is expected through the reduction in the number of carbon allowances (EUA) on the market. In the long-term, a further impact on the ETS factor is expected from the framework for the EU Roadmap 2030. Further price increases are likely to occur due to recent developments in climate and energy politics and also as a consequence of the Paris Agreement. Current trends in EUA price appear to be consistent with the regulator's aim for a much higher EUA price in order to effectively realize steering of energy generation according to climate requirements. In the fourth trading period (2021-2030) of the European emissions trading, plant operators of the industry continue to benefit from the allocation of free emission certificates. However, with the adaptation of the carbon leakage list (adjustment of the industry branches) the free allocation of EUAs for Bayer were significantly shortened. This means that Bayer is exposed from this area of larger market risks, with the procurement of EUAs. ii) EFFECT ON BAYER: In light of this risk, the EU ETS could influence Bayer directly and indirectly: directly from own CHP plants with less free-allocated EUAs (expected financial impact amounts EUR 14 million per year depending on the market price of the EUA) and indirectly through our energy industry. We expect between the years 2020 and 2023 additional costs of EUR 55 to 75 million. Overall, the degree to which Bayer is affected is rather minor. As a life science company we don't have any energy intensive production in the EU.

Time horizon

Medium-term

Likelihood

Very likely

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)

55000000

Potential financial impact figure – maximum (currency)

75000000

Explanation of financial impact figure

i) DESCRIPTION: The potential impact of this risk is increased prices for our purchased energy due to a continuous tightening of the EU ETS. ii) CALCULATION: Between 2020 and 2023, Bayer expects total costs of EUR 55-75 million due to the possible continuous tightening of the EU ETS. This calculation is based on internal emission regulations of the respective sites and the assumption that an increase in the price of emission allowances will initially rise to EUR 70 per ton during this period. We assume that the political decision makers are aiming for a certificate price of around EUR 100 for the needs-based management of energy production. Overall, the indirect impact of the EU ETS should remain relatively low as Bayer has invested heavily in energy efficiency measures in the past.

Cost of response to risk

22700000

Description of response and explanation of cost calculation

To reduce the magnitude of climate-related regulatory risks Bayer is investing in energy efficiency in its own operations and is engaged in a constructive dialogue with policy makers. CASE STUDIES: a) Bayer is implementing more efficient production processes, thereby reducing emissions in its own operations. FOR EXAMPLE, efficiency measures in 2020 included process optimizations in several sites e.g. regarding heat recovery, pinch pointing, and effectiveness of steam generation. b) Furthermore, Bayer is closely monitoring the policy debate concerning the EU ETS and other regulatory frameworks worldwide. This allows Bayer to anticipate regulatory trends which can help to reduce the magnitude of climate-related regulatory risks. IMPLEMENTATION STATUS: a) In 2020, Bayer implemented energy efficiency and emissions reduction projects that resulted in an overall reduction of 59,131 metric tons in CO2 emissions. b) Implemented and ongoing. COST CALCULATION: a) The total investment costs for the energy efficiency and emissions reduction initiatives of Bayer AG that were implemented in 2020 amount to EUR 18.3 million. b) In 2020 the costs incurred at our liaison offices in Europe for human resources, material and projects totaled approx. EUR 2 million in Berlin, Germany and EUR 2.4 million in Brussels, Belgium. Bayer's EU lobbying work also included climate-related discussions.

Comment

n/a

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Acute physical	Increased severity and frequency of extreme weather events such as cyclones and floods
----------------	--

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

i) CLEAR DESCRIPTION: All climate models anticipate an increase in extreme weather conditions. The IPCC report describes the implications of climate change with increased temperatures and more intense as well as more frequent extreme weather conditions. Short-term (extreme) weather conditions and long-term climate changes, whose intensity can vary according to region, present a challenge in particular for the agriculture industry. There are increasing risks of harvest losses and thus for the agricultural value chain as a whole. In dry conditions, there is less demand for crop protection products. This risk is part of our seasonal and economic fluctuations risk. Potential financial impact figure range relates to the overarching risk. Other risks include extreme weather conditions such as heat, storms, flooding, droughts or fires, which lead to harvest losses, or locusts, which destroy harvests. ii) EFFECT ON BAYER: The markets in which our division Crop Science operates are highly cyclical and volatile due to seasonal and economic fluctuations of external factors such as weather, infestation levels, technology adoption, planting decisions, harvest quantity and quality, commodity price fluctuations, and other. Crop Science sales account for approx. 45% of the total Bayer Group sales with EUR 18,840 million. Extreme weather will have and already had effects on Crop Science sales. The 2020 growth of Crop Science was limited by the decrease in cotton, fruit and vegetables demand mainly caused by the COVID-19 pandemic, but also by dry weather conditions in Europe during the spring. In 2019, extreme weather conditions in the United States in the first half of the year, led to lower sales at soybean seed & traits and herbicides. In 2019, Crop Science also recorded a sharp decline in business at herbicides in Australia and in China, as a result of the dry weather. These examples highlight how farmers in particular, and by extension the Bayer Group, are affected by volatile weather conditions. According to external expert judgement, it is likely that extreme weather conditions are about to increase in frequency in connection with climate change.

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)

750000000

Potential financial impact figure – maximum (currency)

1500000000

Explanation of financial impact figure

i) DESCRIPTION: The overarching risk of seasonal and economic fluctuations could negatively affect our Crop Science business. The potential impact of this risk is a reduced demand for products and services, a negative annual sales growth rate in total for all our Crop Science products and services at global level, which could persist over several years. Volatile weather conditions – which are anticipated to increase in frequency due to climate change, are one driver of this overarching risk. ii) CALCULATION: We have made a calculation for the entire risk of economic and seasonal fluctuations. During our risk assessment, it was concluded that the potential impact of the specific part of the risk concerning weather/climate on our business cannot be singled out easily from the overall global effects which are closely linked together. And thus, have not been evaluated stand alone at this point. A more detailed quantification will be developed as part of the implementation of TCFD recommendations as requested by our investors. Calculation can be provided for seasonal and economic fluctuations risk. Following our risk analysis method, the risk was evaluated and was classified as a risk with significant impact (EUR 750-1,500 million).

Cost of response to risk

0

Description of response and explanation of cost calculation

The Crop Science division mitigates the risk of seasonal and economic fluctuations through global diversification of its business, strong supply chain management, the global sales and operational planning process and close monitoring of market tendencies. Weather and climate aspects are taken into account when evaluating the risks for its business, aligning its business strategy and focusing R&D efforts. CASE STUDIES: a) As a seed producer, we want to develop plants with increased resistance against extreme weather conditions. That includes short-stature corn that is less susceptible to storms. Losses in the United States due to bent plants amount to between 5 and 25% a year depending on the severity of weather events. b) We also enable farmers to react better and more quickly to extreme weather conditions with our FieldView™ digital farming platform. IMPLEMENTATION STATUS: a) Our short-stature corn is based on new breeding techniques, which we intend to commercialize in the coming years. b) Climate FieldView™ is currently available in North America, South America, Turkey, South Africa and Europe. COST CALCULATION: a) Specific allocations of R&D expenses cannot be disclosed for competitive reasons. Climate change is an important factor for our business strategy and respective R&D efforts. b) There are no specific costs related as this measure is considered a comprehensive digital product offering helping farmers to improve yields, creating substantial advantages for the environment as well as to cope with extreme weather events and changing conditions.

Comment

n/a

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

i) CLEAR DESCRIPTION: As the UN identified climate change as one of the biggest risks for mankind, countries and regions like the EU are committed to limit global warming. The EU has agreed on and published the European Green Deal to accelerate transformation towards a net-zero future and committed to be climate neutral in 2050. In order to achieve these goals, various paths are being pursued. In order to prevent 'carbon leakage', which is the transfer of production to countries with less stringent emission rules in place, the EU is discussing CARBON BORDER ADJUSTMENT mechanisms. This new mechanism would place a carbon price on imports of certain goods from outside the EU, in order to reduce the risk of carbon leakage and push EU partners to raise their climate ambition. ii) EFFECT ON BAYER: As a globally operating company with a widely diversified value chain, these carbon border adjustment mechanisms would affect Bayer in its direct operations and its procurement. The additional carbon price on imports of certain goods from outside the EU could increase the price of primary purchasing products and lead to additional costs for Bayer of EUR 30 million in the next 3 years.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

30000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

i) DESCRIPTION: The transitional changes and emerging regulation are expected to increase indirect operational cost. ii) CALCULATION: We assume an increase of indirect operational cost due to additional carbon price on imports of certain goods from outside the EU of up to EUR 30 million according to our assessment method.

Cost of response to risk

4400000

Description of response and explanation of cost calculation

To reduce the magnitude of climate-related regulatory risks Bayer AG is engaged in a constructive dialogue with policy makers. CASE STUDY: Bayer is closely monitoring the policy debate concerning the carbon border adjustment and other regulatory frameworks worldwide. This allows Bayer to anticipate regulatory trends which can help to reduce the magnitude of climate-related regulatory risks. IMPLEMENTATION STATUS: Implemented and ongoing. COST CALCULATION: In 2020 the costs incurred at our liaison offices in Europe for human resources, material and projects totaled approx. EUR 2 million in Berlin, Germany and EUR 2.4 million in Brussels, Belgium. Bayer's EU lobbying work also included climate-related discussions.

Comment

n/a

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

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

The agricultural business is strongly tied to the climate. Droughts and precipitation extremes can have severe effects on harvest yields. A climate change-induced change in the frequency of these extreme weather events can lead to an increased demand for products with the capacity to adapt to extreme conditions. This increasing demand is especially relevant for existing Crop Science (CS) products and for CS products in early research phases. Bayer is investing in research which contributes to the alleviation of the agronomic consequences of changing weather patterns, primarily related to an increased occurrence of extreme weather events such as floods, droughts, heat, cold or storms. These factors cause abiotic stress to plants and are responsible for significant yield losses. By using state-of-the-art approaches, Bayer is developing and providing technologies that respond to these challenges by reducing the detrimental effects of biotic and abiotic stress influences during agricultural production. E.g., Bayer is investing heavily in using precision breeding technologies to develop new varieties of crops which are tailored to grow well in diverse growing conditions. We recently opened a new state-of-the-art glasshouse facility in Arizona where we can simulate growing conditions as the global climate changes. By testing and developing new crop varieties in this facility we are able to accelerate the development of tailored plant varieties for optimized yield and biotic and abiotic stress resistance. Bayer commercialized a flood resistant hybrid rice variety in Bangladesh and is working on salinity resistant rice varieties that allow growing this crop in densely populated low land deltas that are invaded by rising sea level and typhoons. Bayer is also engaged in developing dry seeded rice, reducing water requirements where water availability is becoming limiting. Other examples are the insecticide ConfidorTM Stress ShieldTM and the fungicide NativoTM which also improve the resilience of crops against drought and the introduction of semi tropical cauliflower varieties adapted to heat stress in Italy. There is also a need for easy and safe application of crop protection products in areas with growing water and soil scarcity. We see an opportunity to serve these needs with an optimized irrigation that enables an optimal use of fertilizers as well as crop protection products through water, decreased labor cost and thus increased resource efficiency.

Time horizon

Long-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

88000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Financial implications apply to Crop Science as a whole affecting sales of EUR 18.8 billion in 2020, of which crop protection has a major impact with EUR 8.8 billion. The global seed and crop protection market grew moderately in 2020 (+2%; 2019: 0%). For Crop Science, we expect sales growth of ~2% (Fx & portf. adj.) for FY 2021. This expected growth is, amongst others, influenced by the climate. A continued growth of the crop protection demand by 1 % (compared to 2020) would translate into EUR 88 million additional revenues.

Cost to realize opportunity

68100000

Strategy to realize opportunity and explanation of cost calculation

To exploit these opportunities Bayer works on solutions supported by breeding, trait and biological solutions. In 2020, Crop Science invested EUR 4,138 million (2019: EUR 2,264 million) in R&D, which was 58% of R&D spending in the Bayer Group and equivalent to approx. 22% of Crop Science sales. CASE STUDIES: a) To improve irrigation practices, Bayer is comparing current crop protection programs against programs with strong drip delivery component to determine benefits for the grower. We will also work with extension officers from various universities. A new approach called DripByDrip focuses on tailored irrigation solutions enabling targeted use of crop protection products leading to increased yield with fewer resources and inputs. DripByDrip is to be installed on all new Bayer ForwardFarms. b) Together with Ginkgo Bioworks Bayer formed a new company in 2017 focusing on transformational beneficial microbes for plants. The initial activities will focus on nitrogen fixation for non-legumes, minimizing agriculture's environmental impact. DETAILS ON COST CALCULATION: a) So far Crop Science has spent EUR 100,000 since 2015 on DripByDrip trials. b) The Bayer Life Science Center will invest about EUR 68 million (USD 80 million) over the next 4-5 years into the Ginkgo Joint Venture.

Comment

n/a

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

i) CLEAR DESCRIPTION: According to UNEP experts, a potential increase in the mean temperature level as a result of global climate change could promote the reproduction and spread of mosquitoes. This could result in another 40 to 60 million people globally being exposed to the risk of vector-borne diseases like malaria. Every year, malaria afflicts some 250 million people and causes almost 1 million deaths. Therefore, demand for products to treat and control insect borne diseases such as malaria and dengue could rise in affected regions. ii) EFFECT ON BAYER: In light of an expected climate change-related geographic expansion of vector-borne diseases such as malaria, dengue fever, chikungunya and Zika, we expect a growing demand for Bayer vector control solutions. Scientists from Bayer are currently developing new insecticide resistance-breaking substances for control of dengue vectors and recently introduce an approved WHO breakthrough innovation for malaria prevention. These could crucially help stem the spread of malaria and dengue fever into the climate change-affected regions of our planet. In early 2019 Bayer introduced Fludora[®] Fusion, the first product to combine two modes of action for use in malaria indoor residual spray programs. 2020 Bayer commercialized a new active substances combination under the trade mark Fludora Comax, to fight dengue fever, primarily in APAC and in 2021 in Latin America.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

60000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Future financial implications may benefit Bayer's Environmental Science business with full year 2020 sales of EUR 1,070 million. Future financial implications for Bayer will be affected by an increase in demand for indoor residual spray which is the primary target of our innovation with potential sales of about EUR 60 million.

Cost to realize opportunity

400000

Strategy to realize opportunity and explanation of cost calculation

To increase likelihood and impact of the described opportunities, Bayer is involved in research partnerships and provides products for vector control. CASE STUDY: Bayer works on joint projects with the Innovative Vector Control Consortium (IVCC), a registered charity in the field of product development and information systems for vector control, formed in 2005 with a grant by the Bill and Melinda Gates Foundation. The Consortium and Bayer currently work on a project targeting a new insecticidal active ingredient that is particularly effective against resistant mosquito strains. This effort has recently progressed into a new development phase. Assuming successful progress through further phases, a new and unique solution effective in controlling insecticide-resistant mosquitoes could be available for use alongside other important tools to improve the impact of malaria control programs. This could also be important in stemming the spread of malaria and dengue into climate change-affected regions of our planet. Bayer made an important contribution to malaria protection by providing Fludora Fusion the first product to combine two modes of action for use in malaria indoor residual spray programs, produced in Africa, e.g. in South Africa for indoor residual spraying against malaria vectors. COSTS: Our contribution of laboratories is worth approx. EUR 400,000. DETAILS ON COST CALCULATION: Within this partnership with IVCC, Bayer opened its library of substances (one of the biggest worldwide and worth some EUR 20 million) representing a major contribution to the IVCC partnership. Bayer also contributes with a state-of-the-art research environment, for example, with laboratories worth approx. EUR 400,000.

Comment

n/a

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Other, please specify (Improved reputation and market capitalization)

Primary potential financial impact

Increased access to capital

Company-specific description

i) CLEAR DESCRIPTION: Worldwide, investors, NGOs and the public are increasingly focusing on how companies are dealing with environmental issues such as climate change and how they are integrating these topics into their business strategies and transparent communication. Strong company performance in these areas can lead to reputational benefits, e.g., attracting investors that take SRI (Socially Responsible Investment) criteria into account. ii) EFFECT ON BAYER: Bayer's positioning as a solution provider in the area of climate protection and adaptation to climate change provides reputational opportunities by contributing to our overall reputation. For example, in 2019 Bayer's inclusion in FTSE4Good, an important sustainability index, was confirmed – further strengthening Bayer's reputation. Bayer also continues to be listed on the MSCI World Low Carbon Target Index, the STOXX® Europe Sustainability Index and the STOXX® Global ESG Impact index. In addition, in 2020 Bayer was again evaluated by CDP as one of the leading international companies in the area of climate protection and was therefore included in CDP's A-List. The opportunities resulting from reputation as an opportunity driver, e.g., affecting Bayer's market capitalization, are already being captured today and are set to grow further as climate awareness continues to rise. For example, a 1% increase in Bayer's stock price would increase the company's market capitalization by around EUR 473 million. Given Bayer's global marketing and sales presence, these opportunities are relevant for Bayer across all major markets. Bayer's commitment to finding solutions for climate change has and will have a positive effect on Bayer's reputation and brand value. Bayer expects to continue to leverage its improved reputation and brand across all divisions. Investors showed an explicit interest in further details on the climate program during investor calls and specifically reacted positively on the commitment to science-based targets.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

473000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

According to various studies, there is a positive correlation between the sustainability performance and the stock price. An increase of Bayer's stock price by 1% would increase the company's market capitalization by around EUR 473 million (based on year-end 2020 market capitalization).

Cost to realize opportunity

115000

Strategy to realize opportunity and explanation of cost calculation

To seize reputational opportunities, Bayer demonstrates its sustainability commitment in climate solutions/community projects. CASE STUDIES: a) With the Bayer ForwardFarming initiative, Bayer cooperates with farmers to demonstrate innovative crop solutions and services for sustainable agriculture. The knowledge platform strives to increase the exchange of know-how, highlight improvements in sustainable agriculture, and facilitate communication between stakeholders. By the end of 2020 the ForwardFarming network expanded to 24 farms, 20 of them in Europe. b) Bayer's innovative weed control technology Sakura (pyroxasulfone) controls critical resistance weeds and ensures continued viability of minimum tillage systems. Use expanded to treat more than 3.0 Mha in Australia. Together with various partners e.g. universities, we updated/distributed integrated weed control practice programs to farmers including e.g. new web tools to maximise adoption, including a novel geographic mapping tool of resistance development based on industry data. c) Cotton has always been in focus with regard to the environment. Bayer Bollguard 3® Cotton, first introduced in 2015 in Australia, allows introduction of true minimum till practices to the cotton industry. This not only reduces or removes the need for carbon intensive cultivation, but also increases water use efficiencies. COSTS include 25,000 AUD for the various weed resistance education projects (b) and EUR 100,000 for a market survey on cotton (c). Due to confidentiality reasons, costs on our ForwardFarming initiative (a) cannot be disclosed. DETAILS ON COST CALCULATION: a) Due to confidentiality reasons, Crop Science cannot publish the costs with regards to our ForwardFarming initiative. b) EUR 15,000 (AUD 25,000) c) We spent some EUR 100,000 in a market survey at spinners' level in order to find out more about their needs and priorities.

Comment

n/a

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, but we intend it to become a scheduled resolution item within the next two years	In 2019, Bayer adopted an advanced sustainability strategy along with new non-financial Group targets and key performance indicators. This strategy includes, e.g., ambitious climate measures to become a completely climate-neutral company by 2030. As a signatory to the Business Ambition for 1.5°C initiative, we strive to attain net-zero emissions in our entire value chain by 2050. The CEO highlighted these plans in his address to the stockholders during the recent AGM. To accomplish these ambitious targets, Bayer decided to change the long-term incentives of the Board of Management and eligible managers. From 2021 onward, quantitative sustainability targets will account for 20% of the target attainment within the long-term incentive. Although the low-carbon transition plan was not a resolution item at the recent AGM, the climate strategy was presented. The adjustment of the incentive, which is designed to accomplish the low-carbon transition plan, was part of the resolution item no. 5. approval of the compensation system for the members of the Board of Management. The recently established external Sustainability Council supports us with a critical-constructive perspective on all sustainability matters. It is composed of renowned, independent experts who advise the Board of Management and provide input within our business on all matters related to sustainability. The contributions of the Sustainability Council inform our strategic planning going forward. We intend to include the low-carbon transition plan into the agenda of the next AGM.

C3.2

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

Yes, qualitative

C3.2a

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

Climate-related scenarios and models applied	Details
RCP 8.5	<p>IDENTIFICATION OF SCENARIOS: Our sustainability managers constantly monitor climate-related publications and analyze potential impacts on Bayer. We focused on the RCP 8.5 scenario because the projected levels of global mean temperature increase most dramatically and provides further mode of action. We did not alter any of the inputs, assumptions or analytical methods and based our analysis on the scenario’s consequences as stated in the 5th IPCC report. Bayer supports the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) with respect to reporting on this topic. In 2021 we will revise scenarios based on acknowledged SSPs and RCPs. TIME HORIZONS: In our scenario analysis we considered timeframes of 2030 and 2050. These timeframes are relevant to our organization BECAUSE they coincide with Bayer’s long-term perspective as defined in C2.1. AREAS CONSIDERED: We considered climate change-related physical risks, transitional risks and opportunities to our sites worldwide, e.g., extreme weather events, increased regulation. SUMMARY OF RESULTS: a) Bayer identified relevant drivers of risks to our sites: changes in (1) weather extremes, (2) precipitation patterns and (3) regulatory changes. The scenario analysis was part of a larger evaluation of the potential impact of those drivers, which also included, e.g., an analysis of risks reported to the Head of Public Affairs, Science and Sustainability. (1) Bayer operates several sites exposed to the risks of hurricanes or flooding. An evaluation of the last 50 years showed that there were no changes related to our sites’ exposure to weather-related risks and there is no indication of a climate change-induced increase of their exposure in the near future based on our scenario analysis. (2) Water shortages due to a change in precipitation patterns could present a risk for water supply at certain sites, Bayer is not significantly affected by this risk. We conduct water stress analyses regularly. As a result, we implemented water stewardship programs at all relevant sites. (3) We continuously analyse further effects of regulatory requirements on our business, e.g. through the EU Green Deal or regulator’s decisions on the production of biofuels. b) Bayer identified relevant opportunities to mitigate the impacts of climate change. Especially agricultural businesses can contribute to fight climate change. Bayer wants to enable farmers to work with new innovative methods and supports farmers with the Carbon Business Initiative where sustainable farming technology is combined with carbon credits. IMPACT ON OBJECTIVES/STRATEGY: Despite significantly expanding production, we reduced our absolute GHG emissions significantly between 1990 and 2020, namely by more than 20%. We want to continue making positive contributions to protecting the climate and managing the effects of climate change on several levels. This includes reducing our production-related emissions with targets related to improving energy efficiency and lowering specific GHG emissions. In addition, we are investigating further potential ways to lower GHG emissions along the value chain, such as the question of whether state-of-the-art cultivation methods and innovative solutions for precision agriculture contribute to a lower CO2 footprint in agriculture. CASE STUDY: In 2019, we committed to ambitious emissions reduction targets through the Science Based Targets initiative (SBTI) by setting a science-based target in line with a 1.5°C future and a 2019 baseline. We aim to make our own production sites climate-neutral by 2030 and are therefore implementing energy efficiency measures at our sites and increasing the procurement of electricity from renewable sources. In 2020, we further advanced our approach and decided to set the target to achieve net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C.</p>

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/INFLUENCE: Climate change influences Bayer's strategy through the annual Strategy Conference process, requiring divisions to explain how global megatrends incl. climate change, affect business. This area of our business is already impacted for some product lines BECAUSE in some product lines we are already introducing new products with regard to the climate change-related opportunities we have identified. This is true, for example, for our vector-control solutions. TIME HORIZON: Climate-related MID- TO LONG-TERM weather trends influence our Crop Science business and are considered when formulating crop strategies. CASE STUDIES/SUBSTANTIAL STRATEGIC DECISIONS: In light of an expected climate change-related geographic expansion of vector-borne diseases such as malaria, dengue fever, chikungunya and Zika, we expect a growing demand for Bayer vector-control solutions. Bayer made an important contribution to malaria protection by providing Fludora Fusion the first product to combine two modes of action for use in malaria indoor residual spray programs, produced in Africa, e.g. in South Africa for indoor residual spraying against malaria vectors. We expect an increase in demand for indoor residual spray which is the primary target of our innovation with potential sales of about EUR 60 million. A strategic advantage from our focus on climate solutions arises from climate-smart agricultural solutions which have the potential to avoid emissions such as our seed treatment product Acceleron. Under Acceleron, roots grow bigger. Due to bigger roots nutrient availability increases through more efficient uptake with less release of nutrients into the environment and less fertilizer needs. This results in less GHG emissions from fertilizer production, application and runoff/degradation. Through increased plant biomass and better soil health, soil carbon sequestration and humus enrichment increase. We initiated a partnership with the aerospace technology company Planetary Resources to develop new digital farming applications and to improve the efficiency of existing products based on field-zone specific satellite data. Bayer intends to create new agricultural products and improve existing ones leading to higher yields and also more efficient and more environmentally compatible deployment of resources.
Supply chain and/or value chain	No	RATIONALE: This area of our business is not impacted BECAUSE we have not identified substantial climate change-related supply chain risks, such as a substantial increase of extreme weather events like floods or hurricanes due to climate change that could substantially impact our supply chain. Also, Bayer proactively addresses any, not only climate change-related, potential effects of extreme weather events via a thorough risk assessment and transparency along our supply chain to ensure that there is no substantial impact on our supply chain in the future. For Bayer, climate-related supply chain risks are low due to our sustainability-oriented supplier management, storage strategies to mitigate supply fluctuations and our diversified supplier base. Currently, there is no indication that risks due to climate change-related weather extremes increase relevantly at supplier sites. Bayer monitors suppliers and the risk of extreme weather events which might affect them. With the help of a supply chain transparency tool, such risks are identified for individual suppliers. The supply chain transparency tool which Bayer is now using provides a strong visibility of our supply network, including sub-tier suppliers. It allows Bayer to get important information on its global supply chain in order to better assess its vulnerability to natural disasters and other risks. Through these deep insights, Bayer improves its business continuity and minimizes negative impacts on the business. The tool enables risk assessments for each individual supplier regarding environmental, financial, safety and labor regulations. A natural disaster index indicates the risk related to extreme weather events, such as floods, cyclones or hurricanes. Through a very large database of online sources, the system detects earliest indicators of company-specific risks and monitors those. Real-time alerts on potentially disrupting events containing details of the event as well as potentially affected materials and products allow Bayer a proactive risk assessment. For example, for a certain supplier located in Japan, the risk of natural disasters is relatively high. Thus, Bayer closely monitors this risk and ensures that we have further suppliers, located in other countries which could supply Bayer in case of a disruption due to an extreme weather event.
Investment in R&D	Yes	RATIONALE/INFLUENCE: Our R&D is influenced by climate-related opportunities BECAUSE our core business focuses on climate-related growth areas: Crop Science invested significantly in climate-related R&D and is working on the marketing of climate-related solutions that help plants cope with external stress factors, e.g. flooding. In all crops where we have a breeding program, we strive to develop seeds that will perform at a high level in a variety of abiotic environments. Our researchers are working to increase in particular the yield potential of crop plants, but also quality potential, e.g. by improving the profile of rapeseed oil. In the area of cereal crops, we invest in new technologies (e.g. wheat breeding and trait research) on the basis of the threat of climate change to develop genetics better able to mitigate these threats. We also consider chemical and biological solutions which could contribute to this mitigation in addition to any intrinsic pest, weed or disease activity. TIME HORIZON: Our R&D has a LONG-TERM perspective. CASE STUDIES/STRATEGIC DECISIONS: To exploit climate-related business opportunities and reduce agriculture's carbon footprint Bayer decided to join forces with Ginkgo Bioworks. Bayer formed a new company focusing on transformational beneficial microbes for plants. The initial activities focus on nitrogen fixation minimizing agriculture's environmental impact. Environmental benefits of the proposed technology are a reduction of the emission of nitrous oxide (greenhouse gas) from nitrogen fertilizers and of the consumption of fossil fuels for the production and the application of nitrogen fertilizer. Fertilizer nitrogen has become a major input in crop production and is critical for global food supply. N-fixation for non-legumes remains a key challenge in terms of efficiency and environmental impact. The Bayer Life Science Center will invest about EUR 68 million (USD 80 million) over the next 4-5 years into the Ginkgo Joint Venture. We entered into several research partnerships, e.g. with IPK Gatersleben evaluating wheat plants with altered carbon assimilation allocation and partitioning; the New Mexico Consortium to further develop carbon concentrating mechanism and optimized antenna size for increased radiation use efficiency; and with UCSD to manipulate gas exchange and CO2 regulation of stomatal conductance and density.
Operations	Yes	RATIONALE/INFLUENCE: Our operations are impacted BECAUSE since the launch of Bayer's Climate Program in 2007, setting ambitious GHG emission-reduction targets and driving initiatives to achieve them have become an integral part of Bayer's sustainability strategy, reducing exposure to climate-related regulatory risks. E.g., in 2020, we have set ourselves the new target to achieve net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C. Bayer's climate strategy is discussed in the annual Strategy Conference (StraCo) and approved by the board. Climate change also influenced our communication strategy: targets and measures are an integral part of Bayer's Annual Report. These processes ensure that climate change aspects are considered in the further development of our business strategy. TIME HORIZON: Our CO2 reduction targets and measures have a mid- to long-term horizon. CASE STUDY / STRATEGIC DECISIONS RESULTING IN A CHANGE IN OPERATIONAL PRACTICES: In 2020, two studies were finalized to provide the base for strategic (investment) decisions: 1) C ² Climate Check study for Crop Science: classification and quantification of current CO2e emissions, identification and assessment of CO2e reduction measures, estimation of reduction potential at all Crop Active Ingredients Production sites. 2) Abatement Cost study for the divisions Pharma and Consumer Health: two main technologies were elaborated to reduce emissions in own operations (heat generation by heat pump & HVAC optimizations). In 2019, we have JOINED THE SCIENCE BASED TARGETS INITIATIVE and set ourselves the target of MAKING OUR OWN PRODUCTION SITES CLIMATE-NEUTRAL by 2030. In 2020, we further advanced our approach and decided to set the target to achieve net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C. We also made the decision, that all Bayer sites must introduce an HSE MANAGEMENT SYSTEM that complies with recognized international standards e.g. ISO 14001, ISO 45001 or ISO 50001. Our goal is to implement this by March 2021. In April 2021 the Lowering Emissions by Accelerating Forest Finance (LEAF) initiative was founded to help countries in the global south in protecting rainforests. As one of only nine companies overall Bayer is part of this initiative right from the start.

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	Direct costs Indirect costs Capital expenditures Capital allocation	DIRECT AND INDIRECT COSTS: This area of our financial planning process has been impacted for some facilities, BECAUSE the regulatory risks we have identified have been implicitly considered in our projections for the development of our energy cost within the financial budget that is developed during our financial planning cycle and approved in our Operational Planning Conference with a TIME HORIZON of 3 years. CASE STUDY: Relevant in this context are the direct and indirect risks from current legislative discussions in the EU which are expected to further increase carbon prices. In this respect, the EU Emissions Trading Scheme (ETS) is the main regulatory framework that poses a risk to the European industry. The EU ETS could influence Bayer indirectly, through our supply chain with regard to energy supply, as we expect the prices for our purchased energy to rise and also directly, through our own energy generation facilities participating in the EU ETS. Current trends in certificate price appear to be consistent with the regulator's aim for a much higher certificate price in order to effectively realize steering of energy generation according to climate requirements. Between 2020 and 2023, Bayer expects total costs of EUR 55-75 million due to the possible continuous tightening of the EU ETS. MAGNITUDE OF IMPACT: In 2020, less than 5 percent of our total operational spend was on energy. Accordingly, THE IMPACT OF THE CLIMATE CHANGE-RELATED REGULATORY RISKS ON OUR PROJECTED OPERATING COST IS LOW. CAPITAL EXPENDITURES AND ALLOCATIONS have been impacted for some product lines, BECAUSE climate-related opportunities have factored into strategic decisions in Crop Science product lines. E.g. Bayer is investing in research alleviating the agronomical consequences of changing weather patterns, primarily related to an increased occurrence of extreme weather events. We have launched recently in Bangladesh a flooding resistant hybrid rice and are working on salinity resistant ones that allow growing this crop in densely populated low land deltas that are invaded by rising sea level and typhoons. We are also engaged in developing dry seeded rice, a new cropping system that reduces water requirements where water availability is becoming limiting. Another example is the insecticide ConfidorTM Stress ShieldTM which improves the resilience of crops against other abiotic stresses such as increased salinity. Also, Bayer decided to form a joint venture with Ginkgo Bioworks focusing on nitrogen fixation for non-legumes, minimizing agriculture's environmental impact. The Bayer Life Science Center will invest about EUR 68 million (USD 80 million) over the next 4-5 years into the Ginkgo Joint Venture. TIME HORIZON: Preparing for the annual Strategy Conference, the division develops an expenditure plan using a bottom-up process on the basis of individual projects incl. projects driven in part by the climate change-related opportunities. In the Strategy Conference the divisions present their strategic options including the development of the CapEx portfolio over the current and 2 subsequent years.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

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

Year target was set

2019

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2019

Covered emissions in base year (metric tons CO2e)

3760000

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2029

Targeted reduction from base year (%)

42

Covered emissions in target year (metric tons CO2e) [auto-calculated]

2180800

Covered emissions in reporting year (metric tons CO2e)

3580000

% of target achieved [auto-calculated]

11.3981762917933

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science-Based Targets initiative

Target ambition

1.5°C aligned

Please explain (including target coverage)

In November 2019, Bayer committed itself to the Science Based Targets initiative (SBTi). In line with this, Bayer has developed and set itself the target "to reduce absolute Scope 1 and Scope 2 GHG emissions by 42 % by 2029 from a 2019 base year." Bayer achieved the status "target set" by the SBTi in July 2020. This target aims to keep Bayer's emissions from Scope 1 and 2 in line with a global temperature raise below 1.5°C.

Target reference number

Abs 2

Year target was set

2019

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 3 (upstream)

Base year

2019

Covered emissions in base year (metric tons CO2e)

8871000

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

88.3

Target year

2029

Targeted reduction from base year (%)

12.3

Covered emissions in target year (metric tons CO2e) [auto-calculated]

7779867

Covered emissions in reporting year (metric tons CO2e)

7880000

% of target achieved [auto-calculated]

90.823025240736

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science-Based Targets initiative

Target ambition

2°C aligned

Please explain (including target coverage)

In November 2019, Bayer committed itself to the Science Based Targets initiative (SBTi). In line with this, Bayer has developed and set itself the target "to reduce absolute Scope 3 GHG emissions from purchased goods and services, capital goods, fuel and energy related activities, upstream transportation & distribution, and business travel by 12.3 % by the end of 2029 from a 2019 base year." Bayer achieved the status "target set" by the SBTi in July 2020. This target aims to keep Bayer's emissions from Scope 3 in line with a global temperature raise below 2°C.

Target reference number

Abs 3

Year target was set

2020

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2019

Covered emissions in base year (metric tons CO2e)

3760000

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2024

Targeted reduction from base year (%)

20

Covered emissions in target year (metric tons CO2e) [auto-calculated]

3008000

Covered emissions in reporting year (metric tons CO2e)

3580000

% of target achieved [auto-calculated]

23.936170212766

Target status in reporting year

New

Is this a science-based target?

No, but we are reporting another target that is science-based

Target ambition

<Not Applicable>

Please explain (including target coverage)

In November 2019, Bayer committed itself to the Science Based Targets initiative (SBTi). In line with this, Bayer has developed and set itself the target "to reduce absolute Scope 1 and Scope 2 GHG emissions by 42 % by 2029 from a 2019 base year." Bayer achieved the status "target set" by the SBTi in July 2020. This target aims to keep Bayer's emissions from Scope 1 and 2 in line with a global temperature raise below 1.5°C. By 2024, as an INTERIM TARGET, we want to reduce our Scope 1 and Scope 2 emissions by 20%.

Target reference number

Abs 4

Year target was set

2020

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 3 (upstream)

Base year

2019

Covered emissions in base year (metric tons CO2e)

8871000

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

88.3

Target year

2024

Targeted reduction from base year (%)

6

Covered emissions in target year (metric tons CO2e) [auto-calculated]

8338740

Covered emissions in reporting year (metric tons CO2e)

7880000

% of target achieved [auto-calculated]

186.187201743509

Target status in reporting year

New

Is this a science-based target?

No, but we are reporting another target that is science-based

Target ambition

<Not Applicable>

Please explain (including target coverage)

In November 2019, Bayer committed itself to the Science Based Targets initiative (SBTi). In line with this, Bayer has developed and set itself the target "to reduce absolute Scope 3 GHG emissions from purchased goods and services, capital goods, fuel and energy related activities, upstream transportation & distribution, and business travel by 12.3 % by the end of 2029 from a 2019 base year." Bayer achieved the status "target set" by the SBTi in July 2020. This target aims to keep Bayer's emissions from Scope 3 in line with a global temperature raise below 2°C. By 2024, as an INTERIM TARGET, we want to reduce our Scope 3 emissions by 6%.

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

2019

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)

Please select

Target denominator (intensity targets only)

<Not Applicable>

Base year

2019

Figure or percentage in base year

2

Target year

2029

Figure or percentage in target year

96

Figure or percentage in reporting year

6

% of target achieved [auto-calculated]

4.25531914893617

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, this target is part of our emissions reduction target to reduce absolute Scope 1 and Scope 2 GHG emissions by 42 % by 2029 from a 2019 base year (see target Abs1 in question C4.1a). This target aims to keep Bayer's emissions from Scope 1 and 2 in line with a global temperature raise below 1.5°C.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

In 2019, Bayer set and published the new target to achieve 100% climate-neutral operations through energy efficiencies, shift to green energy, and compensation. This includes our low-carbon energy consumption target to increase our share of renewable energy purchase to 100%. We aim to achieve this through renewable PPA's (Power Purchase Agreement) wherever possible. EAC (Energy Attribute Certificate) purchases will be used for the remaining electricity (approx. 10%). Our energy consumption is made up of energy purchases, totaling approx. 96% of total consumption, and our highly efficient combined heat and power generation processes, which are responsible for the remaining 4% of total consumption.

C4.2b

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

Target reference number

Oth 1

Year target was set

2019

Target coverage

Business division

Target type: absolute or intensity

Intensity

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

Engagement with customers	Other, please specify (kg CO2e)
---------------------------	---------------------------------

Target denominator (intensity targets only)

Other, please specify (Per kg crop produced on the field in major agricultural markets)

Base year

2019

Figure or percentage in base year

100

Target year

2030

Figure or percentage in target year

70

Figure or percentage in reporting year

100

% of target achieved [auto-calculated]

0

Target status in reporting year

Underway

Is this target part of an emissions target?

No, this target is not part of our emissions target.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

In 2019, we set the goal to reduce the greenhouse gas footprint of in-field crop production where our products are used, by 30%. To this end, Bayer will help farmers apply more sustainable practices, such as reducing tillage to help sequester carbon in the soil and ensuring the more precise use of crop protection and fertilizer through product innovation and digital tools. Base year and target figures are given in % i.e. 100% representing our GHG footprint of in-field crop protection in 2019 with estimated total emissions of 100 million t CO2e.

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

Abs1

Target year for achieving net zero

2050

Is this a science-based target?

No, but we are reporting another target that is science-based

Please explain (including target coverage)

As a science-based company, Bayer has recognized the risks posed by global climate change. We aim to continuously reduce GHG emissions within our company and along our entire value chain in accordance with the UN SDGs and the Paris Agreement to limit global warming to 1.5 degrees Celsius. To hold off some of the worst climate impacts, and avoid irreversible damage to our societies, economies and the natural world, we must hold temperature rise to 1.5°C above pre-industrial levels. This requires halving greenhouse gas emissions by 2030 and hitting net-zero emissions by 2050. We have set ourselves the target to reach science-based net-zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C.

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	13	956654
To be implemented*	18	81383
Implementation commenced*	38	86498
Implemented*	150	59131
Not to be implemented	9	150228

C4.3b

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

Initiative category & Initiative type

Company policy or behavioral change	Resource efficiency
-------------------------------------	---------------------

Estimated annual CO2e savings (metric tonnes CO2e)

151

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

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

0

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

4007

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

With awareness campaigns we reinforce messages related to waste reduction and environmental awareness.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

5309

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

289137

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

2565141

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

In 2020, several projects have been implemented with HVAC-optimizations e.g. adapted operation of HVAC.

Initiative category & Initiative type

Energy efficiency in buildings	Insulation
--------------------------------	------------

Estimated annual CO2e savings (metric tonnes CO2e)

64

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

15736

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

148731

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, several projects have been implemented with insulation improvements e.g. through the reconstruction of roofs.

Initiative category & Initiative type

Energy efficiency in buildings	Lighting
--------------------------------	----------

Estimated annual CO2e savings (metric tonnes CO2e)

3282

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

167360

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

1681791

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

In 2020, several projects have been implemented to change lighting to LED and to modify the timing of common areas lighting schedules.

Initiative category & Initiative type

Energy efficiency in production processes	Cooling technology
---	--------------------

Estimated annual CO2e savings (metric tonnes CO2e)

175

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

41512

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

203000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, several projects have been implemented to improve cooling equipment and to reduce cooling demands.

Initiative category & Initiative type

Energy efficiency in production processes	Electrification
---	-----------------

Estimated annual CO2e savings (metric tonnes CO2e)

476

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

46040

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

328860

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, projects have been implemented to install variable frequency drives (VFDs).

Initiative category & Initiative type

Energy efficiency in production processes	Machine/equipment replacement
---	-------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

3179

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

827260

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

10650364

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, several projects have been implemented to replace various compressors and evaporators for improved energy efficiency.

Initiative category & Initiative type

Energy efficiency in production processes	Motors and drives
---	-------------------

Estimated annual CO2e savings (metric tonnes CO2e)

135

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

32938

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

105000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In 2020, several motors have been substituted by more efficient models.

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

1392

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

165321

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

166000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, several projects have been implemented with process optimizations like heat recovery, pinch pointing, effectiveness of steam generation.

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

2388

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

182296

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

12728

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, several projects have been implemented with process optimizations like heat recovery, pinch pointing, effectiveness of steam generation.

Initiative category & Initiative type

Energy efficiency in production processes	Waste heat recovery
---	---------------------

Estimated annual CO2e savings (metric tonnes CO2e)

1190

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

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

198148

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

2111347

Payback period

>25 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, several projects have been implemented to recover heat for further use in our production processes.

Initiative category & Initiative type

Fugitive emissions reductions	Refrigerant leakage reduction
-------------------------------	-------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

169

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

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

0

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

122253

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2020, several projects have been implemented to replace refrigerant gas in cooling chambers.

Initiative category & Initiative type

Low-carbon energy consumption	Low-carbon electricity mix
-------------------------------	----------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

39841

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

0

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

0

Payback period

<1 year

Estimated lifetime of the initiative

>30 years

Comment

In 2020, several sites started to purchase low-carbon electricity.

Initiative category & Initiative type

Low-carbon energy generation	Solar PV
------------------------------	----------

Estimated annual CO2e savings (metric tonnes CO2e)

151

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

17740

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

184030

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

In 2020, several projects have been implemented to install PV panels for own electricity consumption.

Initiative category & Initiative type

Transportation	Other, please specify (Substitution of logistics)
----------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

727

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

134039

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

0

Payback period

<1 year

Estimated lifetime of the initiative

>30 years

Comment

In 2020, several projects have been implemented to minimize and consolidate necessary logistic processes within our operations.

Initiative category & Initiative type

Waste reduction and material circularity	Product/component/material recycling
--	--------------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

502

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

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

119348

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

1250

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

In 2020, several projects have been implemented to reuse and recycle various components, e.g. reuse of non-agrochemical empty container.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Employee engagement	Most global production plants with 85% of energy consumption are staffed with Site Energy Officers who are in charge of managing energy efficiency tasks and the energy management systems. We are also lowering emissions in nonproductive areas. These include our Sustainable Fleet initiative and infrastructure of charging stations. Bike sharing and car sharing for all employees have also been launched. At some sites public transport season tickets are available at reduced rates.
Internal incentives/recognition programs	Emission reduction activities are also driven by energy targets within individual performance targets that are set to determine the variable salary component as part of our short-term incentive program. Also, emission reductions are driven by our internal employee ideas pool, which rewards ideas for improving energy efficiency.
Internal price on carbon	Bayer plans to invest EUR 500 million in energy efficiency measures until 2030. To steer investments, an internal CO2 incentive of EUR 100 per ton of CO2 has been included in the cost calculation of CapEx projects.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Company-wide

Description of product/Group of products

Bayer has introduced several technologies to decrease the carbon footprint of crops by reducing the inputs used during crop production and increasing the yield. Among these new technologies, Climate FieldView™ digital agriculture platform provides farmers with centralized field data management, visualization and reporting that creates actionable agronomic insights for data-driven decisions to optimize fertility and seeding management. The Nitrogen Management Tool (NMT) which is part of the Climate FieldView™ digital agriculture platform is a decision support system which helps to reduce the nitrogen fertilizer application. Nitrogen fertilizers have an energy-intensive production process which mostly consumes fossil fuels and application of nitrogen fertilizers induces nitrous oxide, dinitrogen and ammonia emissions from soil as well as nitrate leaching. Among soil emissions, N₂O has the highest global warming potential (GWP) which is nearly 265 times more than GWP of CO₂. In most cases, nitrogen fertilizers are applied in excess of crop needs such that almost half of the N fertilizer is taken up by crops during growing season and the other half is prone to loss.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify (Cradle-to-farm gate life cycle assessment (LCA))

% revenue from low carbon product(s) in the reporting year

0

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

The methodology of this study followed the ISO 14040 methods for conducting an attributional LCA. Total net carbon dioxide reductions of 33.3 kgCO₂/ton corn or 0.059 tCO₂/ha. Across the 7.45 million ha assumed to adopt Nitrogen Management Tool (NMT) this would result in a total annual carbon dioxide savings of 2.7 million tons. Since NMT is part of the FieldView™ offering we do not calculate revenue for this specific element.

Level of aggregation

Company-wide

Description of product/Group of products

The introduction of the US corn seed treatment (inoculant) containing spores of the naturally occurring soil fungus called *Penicillium bilaiae* (P.b.). P.b is found to reduce the impact of corn production in all investigated categories, particularly for global warming and eutrophication where reductions of 9-15% are observed (base case results for Minnesota and North Dakota). More modest improvements (2-4%) are estimated for the remaining impact categories. In terms of global warming, the impact of producing one ton of corn was reduced by 33-39 kg CO₂e (base case results) when applying the P.b. inoculant.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify (life cycle assessment (LCA))

% revenue from low carbon product(s) in the reporting year

21

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

Use of P.b. in US corn production provides significant environmental benefits with no trade-offs. By extrapolation of the base case results for Minnesota and North Dakota, it is estimated that the P.b. inoculant could reduce GHG emissions by 3.8 million t CO₂e if applied on all US corn fields. This product is part of our crop protection portfolio with sales of EUR 8.7 billion in 2020. As we cannot disclose the share of revenue of individual products, we have provided the share of revenue of the crop protection business of Bayer Group sales.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

2080000

Comment

Scope 2 (location-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1770000

Comment

Scope 2 (market-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1680000

Comment

C5.2

(C5.2) 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)

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)

2010000

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

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, location-based

1750000

Scope 2, market-based (if applicable)

1570000

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 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

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

Metric tonnes CO₂e

6079000

Emissions calculation methodology

"estell 6" is applied to calculate all relevant GHG emissions for purchased goods and services. estell is a model that is based on a detailed multi-regional environmentally-extended input output (EEIO) database (see GHG Protocol-Scope 3 Standard, chapter 7) developed by the consulting firm Systain. (i) Data sources: Activity data are taken from the procurement system of Bayer as purchasing volumes in euros, differentiated by cost types and country of origin. To determine emissions from purchased goods and services, all purchase volumes have been considered except capital goods, fuel & energy, transport, business travel and waste related cost types. estell's emission factors are based on the input-output table of the OECD (<https://www.oecd.org/sti/ind/inter-country-input-output-tables.htm>) with additional inputs from BEA (www.bea.gov), World Bank indicators and EXIOBASE (www.exiobase.eu). The emission factors include all upstream (cradle-to-gate) emissions of all the relevant process steps for each good or service. The model focuses on emissions caused by primary inputs. Primary inputs are production related inputs and transports. Non-production related inputs are excluded to exclude emission sources with negligible potential to influence GHG reductions (see Scope 3 Accounting and Reporting Standard, p.31, minimum boundary) and to align the system boundary to approaches based on life-cycle assessment (LCA). (ii) Methodologies: To determine the emissions, procurement volumes by cost type and country are allocated to economic sectors and multiplied with estell's emission factors for each unit of demand in every economic sector and region. The model uses GWP values from IPCC's AR 5 (2013) for a 100-year time horizon including carbon feedbacks.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

433000

Emissions calculation methodology

"estell 6" is applied to calculate all relevant GHG emissions for purchased goods and services. estell is a model that is based on a detailed multi-regional environmentally-extended input output (EEIO) database (see GHG Protocol-Scope 3 Standard, chapter 7) developed by the consulting firm Systain. (i) Data sources: Activity data are taken from the procurement system of Bayer as purchasing volumes in euros, differentiated by cost types and country of origin. To determine emissions from capital goods, only purchasing volumes from according cost types (taxonomy of Bayer) have been considered. estell's emission factors are based on the input-output table of the OECD (<https://www.oecd.org/sti/ind/inter-country-input-output-tables.htm>) with additional inputs from BEA (www.bea.gov), World Bank indicators and EXIOBASE (www.exiobase.eu). The emission factors include all upstream (cradle-to-gate) emissions of all the relevant process steps for each good or service. The model focuses on emissions caused by primary inputs. Primary inputs are production related inputs and transports. Non-production related inputs are excluded to exclude emission sources with negligible potential to influence GHG reductions (see Scope 3 Accounting and Reporting Standard, p.31, minimum boundary) and to align the system boundary to approaches based on life-cycle assessment (LCA). (ii) Methodologies: To determine the emissions, procurement volumes by cost type and country are allocated to economic sectors and multiplied with estell's emission factors for each unit of demand in every economic sector and region. The model uses GWP values from IPCC's AR 5 (2013) for a 100-year time horizon including carbon feedbacks.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

625000

Emissions calculation methodology

In this category, Bayer considers GHG emissions from (A) Upstream emissions of purchased fuels and (B) Upstream emissions of purchased electricity and thermal energies (E+T); (C) Transmission and Distribution (T+D) losses are considered by the emission factors applied in (A) and (B). (i) Data types and sources: (A) Bayer retrieved the energy consumption (TJ) per primary energy source (internal energy generation and vehicle fleet consumption) type as well as purchased E+T from its Bayer site information system (BaySIS). BaySIS collects environmental related primary data at the sites. The corresponding emission factors are taken from Sphera's latest GaBi product sustainability database. We cover the GHG impact of every source of energy (fuel, electricity and steam) to at least 80% with national specific emission factors. Missing percentages are extrapolated based on the available country and fuel specific factors. National emission factors of fuels, electricity mixes and thermal energies are taken from Sphera's latest GaBi product sustainability database. Those emission factors include already T+D losses of fuel, electricity and steam provision. (ii) Methodologies: The methodology used is based on the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Using the average data method, the emissions are calculated by applying associated emission factors to specific activity data.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

684000

Emissions calculation methodology

Here we consider GHG emissions for up- and down-stream which Bayer has directly ordered and paid: (A) all in- and out-bound cargo-transport based emissions and (B) warehousing and logistic services. (i) Data sources: (A) Calculations are based on mass-related transport data taken from SAP Business Warehouses and SAP, JDA TMS and other data sources for the respective divisions globally. Bayer uses the CEFIC Recommended Emission Factors (Measuring and Managing CO₂ Emissions of European Chemical Transport, Edinburgh, 2010) and commercial tools (e.g., Google Geo Tools) for distance calculations enabling accurate assumptions in the relevant mode of transports. (B) For warehousing and logistic services Bayer used procurement spend in euros, as used for calculating scope 3.1 'Purchased goods and services' and 3.2 'Capital goods' category. (ii) Methodologies: (general) Bayer does not own or control vehicles or facilities from which sold products are transported or distributed. Following the GHG Protocol's "Technical Guidance for Calculating Scope 3 Emissions (version 1.0)" for this category 9 (Downstream Transportation and Distribution) (page 102), Bayer's outbound transportation and distribution services that are purchased by us are excluded from category 9 and included in category 4. (A) Bayer used the CEFIC methodology and the GHG Protocol Standard to calculate upstream transportation emissions by multiplying metric tons of transported goods from our SAP and JDA systems by the calculated distance per shipment (based on ZIP based geo-data based distance computing or calculated or estimated with a commercial tool) to obtain ton-km associated with transport operations (mode of transport). This figure is then multiplied by default average emission factors [g CO₂/ton-km] for the specific mode of transport. (B) As for 3.1/3.2 the "estell 6" model is applied to calculate emissions from warehousing and logistic services.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

307000

Emissions calculation methodology

Bayer separates GHG emissions resulting from waste treated by third parties into (A) incineration, (B) landfill, (C) recycling and (D) other; plus (E) emissions from wastewater treatment. (i) Data sources: The amount of waste (activity data) treated by third parties for the different treatment methods is retrieved from our site information system BaySIS. The combustion factor for incineration (A) is calculated as a weighted average of waste specific emission factors either generated based on site specific waste information or literature data. These specific emission factors are based on carbon content or heating value of the waste. The emission factors for waste from landfill (B), other (D) and for wastewater (E) are calculated based on IPCC's AR 5 (2013). (C) In line with the IPCC, Bayer uses an emissions factor of 0 for recycled waste. (ii) Methodologies: The methodology used is based on the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Using the average data method, the emissions are calculated by applying associated emission factors to each waste treatment category. (A) To calculate the emissions associated with incineration, the total amount of waste in this category is multiplied by the average carbon content related combustion emission factor. (B) To calculate the emissions resulting from waste treated in landfills, the total amount of waste in this category is multiplied by the dedicated emissions factor. (C) Emissions from recycling are treated as 0. (D) The small amount of waste which does not fall into categories (A), (B) or (C) is conservatively calculated using the same methodology as for incinerated waste (A). (E) A site-specific analysis of the share of waste water treated by third parties is performed based on information from BaySIS; the emissions are calculated according to IPCC guidelines based on the effluent organic carbon (resulting in CH₄ emissions) and nitrogen (resulting in N₂O emissions) loads which are retrieved from BaySIS.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

57000

Emissions calculation methodology

We calculated GHG emissions for three main modes of transport: (A) air travel, (B) rental cars, and (C) train travel. (i) Data sources: (A) Air travel emissions are calculated according to the DEFRA methodology including radiative force (RF). Data (flight miles, departure/arrival destinations, passenger class) are supplied by our global travel agencies. (B) GHG emissions are directly calculated by the rental car companies: Europcar, Sixt, Enterprise, National, and Hertz. The four companies cover the relevant share of Bayer's global rental car travel. (C) Deutsche Bahn AG provided Bayer with the GHG footprint of its business trips by rail in Germany. Data from other rail carriers is only limited/fragmented available so far. For rest of the world we calculated the GHG emissions using the expense share of the railway volume. (ii) Methodologies: The methodology used is based on the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. (A) Flight data from travel agencies are imported into the Business Travel Analyzer tool and clustered according to travel distance (domestic, intracontinental, intercontinental) and service class (economy, premium economy, business, first). Miles traveled in each cluster are multiplied by the corresponding DEFRA emission factor. For data consistency reasons, DEFRA factors with RF are used. We used primary data for Jan-Oct (share 83%) and extrapolated the remaining two months (share 17%). Total air travel emissions are about 52,991 t CO2e. (B) GHG emissions are directly calculated by the rental car companies: Europcar, Sixt, Enterprise, and National. We used primary data for Jan-Oct and (share 83%) and extrapolated the remaining two months (share 17%). Total rental cars emissions are about 3,327 t CO2e (C) The total emissions from train travel amounting are about 612 t CO2e and are calculated as a sum of emissions provided by Deutsche Bahn and an estimation for the rest of world. For the latter, passenger-kilometers proportionally to the number for Germany are estimated based on coverage and then multiplied the result with the newest emission factor available from Sphera's latest GaBi product sustainability database.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

114000

Emissions calculation methodology

(i) Data sources: Bayer data on total number of employees and employee distribution per region, Bayer data on corporate fleet size, publicly available information on commuting patterns (distance and mode of transport) for Germany and the United States, emission factors from Sphera's latest GaBi product sustainability database. (ii) Methodologies: For two of Bayer's four regions an employee commuting footprint has been calculated, i.e. Europe/Middle East/Africa and North America. For the first using data for Germany and for the second using data from the United States. The remaining two regions are an equally-weighted average of Germany and the United States. Calculation followed the GHG Protocol standard and guidance. To avoid double counting, Bayer deducts from its total number of employees the number of cars from its corporate fleet. The emissions caused from these by Bayer employees are already included in Bayer's reported Scope 1 emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes 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

In the past Bayer accounted separately 7,000 t CO2e emissions for about 1,800 cars which employees have privately leased via Bayer, benefiting from Bayer's purchasing power in the market. These emissions are now included in the category 7 (employee commuting), in line with the GHG Protocol requirements. There are no more emissions that fall into the category Upstream leased assets.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Metric tonnes 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

Bayer does not own or control vehicles or facilities from which sold products are transported or distributed. Hence, following the GHG Protocol's "Technical Guidance for Calculating Scope 3 Emissions (version 1.0)" for this category 9 (Downstream Transportation and Distribution) (page 102), Bayer's outbound transportation and distribution services that are purchased by us are excluded from category 9 and included in category 4 (Upstream transportation and distribution).

Processing of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes 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

Bayer's business model is not based on selling intermediate products that require processing by third parties. Hence, following the GHG Protocol's "Technical Guidance for Calculating Scope 3 Emissions (version 1.0)" (page 106), this category 10 (Processing of Sold Products) is not relevant for Bayer. In potential exceptional cases where downstream emissions associated with sold intermediate products might occur, these downstream emissions are unknown to Bayer and, following section 6.4 of the GHG Protocol's "Corporate Value Chain (Scope 3) Accounting and Reporting Standard", would be eligible for exclusion (page 60). This is also in line with the guidance of the WBCSD's "Guidance for Accounting and Reporting Corporate GHG Emissions in the Chemical Sector Value Chain", which states that "chemical companies are not required to report Scope 3, category 10 emissions, since reliable figures are difficult to obtain, due to the diverse application and customer structure" (page 32).

Use of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes 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

Bayer does not report emissions from the use of sold products since this category is currently considered as not relevant for Bayer's Scope 3 inventory. A reevaluation of the category showed that no appropriate calculation methods for our product portfolio are available. This category will be re-evaluated in the future as soon as those methods are available.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

559000

Emissions calculation methodology

To calculate emissions from end-of-life treatment of sold products, only packaging materials are considered. Further potential GHG emissions resulting from our products would be accounted under category 11 (use of sold products), as the products of Bayer's life-science businesses (pharmaceuticals, consumer health products, crop protection products, and seeds) do not undergo a dedicated end-of-life treatment. (i) Data sources: Activity data are taken from the procurement system of Bayer; from this the actual purchased quantities of packaging materials were obtained. Emissions factors are taken from Sphera's latest GaBi product sustainability database, considering material-specific combustion factors. (ii) Methodologies: To calculate emissions from end-of-life treatment of sold packaging materials, packaging materials are clustered, then quantities are multiplied with the emission factors from Sphera's latest GaBi product sustainability database.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Please explain

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes 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

Scope 3 emissions resulting from downstream leased assets are not reported because this category is not applicable to Bayer. A due-diligence check took place in 2020.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes 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

Scope 3 emissions resulting from franchises are not reported because this category is not applicable to Bayer. A due-diligence check took place in 2020.

Investments

Evaluation status

Not relevant, explanation provided

Metric tonnes 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

Scope 3 emissions resulting from investments are not reported because this category is not applicable to Bayer. A due-diligence check took place in 2020.

Other (upstream)

Evaluation status

Metric tonnes 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

Metric tonnes 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?

No

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

0.00008268

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

3580000

Metric denominator

unit total revenue

Metric denominator: Unit total

43300000000

Scope 2 figure used

Market-based

% change from previous year

4.3

Direction of change

Decreased

Reason for change

In 2020, Bayer's CO2 emissions intensity decreased. In 2020, our total CO2 emissions decreased by approximately 5%. In the same period, Bayer's revenue was level with the previous year (currency-adjusted). Therefore, in 2020, Bayer had a decrease of total specific emissions expressed in metric tons CO2e per revenue of approximately 4%. Part of this decrease is due to EMISSION REDUCTION ACTIVITIES. In 2020, emission reduction activities had a positive impact on our emissions performance. Emission reduction activities included e.g. energy efficiency improvements in production processes and in buildings. These activities included e.g. optimizations with regard to heat recovery and effectiveness of steam generation, insulation improvements through the reconstruction of roofs, reduction of leakage. HVAC optimizations and changing of lighting systems also had an influence. Overall Bayer implemented energy efficiency and emissions reduction projects that resulted in an overall reduction of 59,131 metric tons in CO2 emissions in 2020. The main reason for this decline is the increased share of electricity purchased from renewable sources (Scope 2: from 1.7% in 2019 to 6.1% in 2020). In 2020 we have used more than 200.000 MWh from renewable sources in the following countries: Spain, Netherlands, Finland, Italy, Romania, Germany, Brazil, Guatemala, Chile and the United States. We have already signed contracts to further increase our renewables share. By 2029 we want to source 100% electricity from renewable sources.

Intensity figure

35.97

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

3580000

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

99538

Scope 2 figure used

Market-based

% change from previous year

0.7

Direction of change

Decreased

Reason for change

In 2020 Bayer's specific emissions expressed in metric tons CO2e per FTE were 35.97. In 2020 our total CO2 emissions decreased by approximately 5%. In the same period Bayer's overall number of FTEs decreased by approximately 4%. Therefore, in 2020, Bayer had a decrease of total specific emissions expressed in metric tons CO2e per FTE of approximately 0.7%. Part of this decrease is due to EMISSION REDUCTION ACTIVITIES. In 2020, emission reduction activities had a positive impact on our emissions performance. Emission reduction activities included e.g. energy efficiency improvements in production processes and in buildings. These activities included e.g. optimizations with regard to heat recovery, and effectiveness of steam generation, insulation improvements through the reconstruction of roofs, reduction of leakage. HVAC optimizations and changing of lighting systems also had an influence. Overall Bayer implemented energy efficiency and emissions reduction projects that resulted in an overall reduction of 59,131 metric tons in CO2 emissions in 2020. The main reason for this decline is the increased share of electricity purchased from renewable sources (Scope 2: from 1.7% in 2019 to 6.1% in 2020). In 2020 we have used more than 200.000 MWh from renewable sources in the following countries: Spain, Netherlands, Finland, Italy, Romania, Germany, Brazil, Guatemala, Chile and the United States. We have already signed contracts to further increase our renewables share. By 2029 we want to source 100% electricity from renewable sources.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	1964000	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	3000	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	8000	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	22000	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	0	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	0	IPCC Fourth Assessment Report (AR4 - 100 year)
NF3	0	IPCC Fourth Assessment Report (AR4 - 100 year)
Other, please specify (CCI3F2, CCI2F2, CHCIF2, CH3Cl, CH3Br, CCl4)	13000	IPCC Fourth Assessment Report (AR4 - 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	1240000
Belgium	183000
Germany	155000
India	42000
Brazil	71000
Argentina	64000
Mexico	24000
France	10000
Spain	9000
China	3000
Other, please specify (Rest of World)	209000

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)
Pharmaceuticals	186000
Consumer Health	19000
Crop Science	1647000
Others: Vehicle fleet, enabling functions	158000

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
United States of America	1070000	1055000	2587000	85000
Germany	408000	289000	498000	31000
India	48000	48000	100000	0
Brazil	23000	17000	0	0
Belgium	11000	10000	0	0
China	36000	36000	0	0
Argentina	22000	22000	0	0
Mexico	31000	31000	0	0
Spain	7000	0	0	0
France	4000	3000	0	0
Other, please specify (Rest of the world)	90000	59000	194000	90000

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)
Pharmaceuticals	189000	130000
Consumer Health	65000	57000
Crop Science	1492000	1379000
Others	4000	4000

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities			
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C-CH7.8

(C-CH7.8) Disclose the percentage of your organization's Scope 3, Category 1 emissions by purchased chemical feedstock.

Purchased feedstock	Percentage of Scope 3, Category 1 tCO2e from purchased feedstock	Explain calculation methodology
---------------------	--	---------------------------------

C-CH7.8a

(C-CH7.8a) Disclose sales of products that are greenhouse gases.

	Sales, metric tons	Comment
Carbon dioxide (CO2)		
Methane (CH4)		
Nitrous oxide (N2O)		
Hydrofluorocarbons (HFC)		
Perfluorocarbons (PFC)		
Sulphur hexafluoride (SF6)		
Nitrogen trifluoride (NF3)		

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	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	39841	Decreased	1.06	i) Calculation: In 2020, the increase in consumption of renewable energy of 529 teraJ (740-211=529) led to a decrease of 0.039841 million t CO2e (sum of site-level renewable energy consumption*site-level market-based emission factor). Our total Scope 1 and Scope 2 (market-based) emissions in the previous year were 3.761202 million t CO2e, therefore we arrived at a reduction of 1.06% through $(-0.039841 / 3.761202) * 100 = -1.06\%$. ii) Explanation: In 2019, six Bayer sites consumed renewable energy. In 2020, 25 sites consumed renewable energy. This led to a total reduction of 1.06 % due to significant increase in renewable energy consumption.
Other emissions reduction activities	134120	Decreased	3.57	i) Calculation: In 2020, 0.134120 million t CO2e were reduced due to other emissions reduction activities. Our total Scope 1 and Scope 2 (market-based) emissions in the previous year were 3.761202 million t CO2e, Therefore we arrived at a reduction of 3.57% through $(-0.134,120 / 3.761202) * 100 = -3.57\%$. ii) Explanation: Part of this decrease is due to EMISSION REDUCTION ACTIVITIES. In 2020, emission reduction activities had a positive impact on our emissions performance. Emission reduction activities included e.g. energy efficiency improvements in production processes and in buildings. These activities included e.g. optimizations with regard to heat recovery, effectiveness of steam generation, insulation improvements through the reconstruction of roofs, reduction of leakage or replacement of machines/equipment. HVAC optimizations and changing of lighting systems also had an influence. Another part of this decrease is due to COVID-related changes in sales of the pharmaceuticals and agricultural business in 2020.
Divestment	4054	Decreased	0.11	i) Calculation: In 2020, the divestment/closure of five sites led to a decrease of 0.004054 million t CO2e. Our total Scope 1 and Scope 2 (market-based) emissions in the previous year were 3.761202 million t CO2e, Therefore we arrived at a reduction of 0.11% through $(-0.004054 / 3.761202) * 100 = -0.11\%$. ii) Explanation: In 2020 Bayer divested/closed two Crop Science sites, two Pharma sites and one Consumer Health site.
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output		<Not Applicable >		
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	Yes
Consumption of purchased or acquired cooling	Yes
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)	240000	4714000	4954000
Consumption of purchased or acquired electricity	<Not Applicable>	199000	3181000	3380000
Consumption of purchased or acquired heat	<Not Applicable>	0	0	0
Consumption of purchased or acquired steam	<Not Applicable>	7000	1392000	1399000
Consumption of purchased or acquired cooling	<Not Applicable>	0	192000	192000
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	446000	9479000	9925000

C-CH8.2a

(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	Please select	
Consumption of purchased or acquired electricity	<Not Applicable>	
Consumption of purchased or acquired heat	<Not Applicable>	
Consumption of purchased or acquired steam	<Not Applicable>	
Consumption of purchased or acquired cooling	<Not Applicable>	
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	
Total energy consumption	<Not Applicable>	

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	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	Yes
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Anthracite Coal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

157000

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

157000

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.1

Unit

metric tons CO2 per GJ

Emissions factor source

IPCC Guidelines for National Greenhouse Gas 2006

Comment

Since 2019, we use standard emission factors when available. If a standard emission factor is not available, a site specific emission factor is used.

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

3029000

MWh fuel consumed for self-generation of electricity

59000

MWh fuel consumed for self-generation of heat

435000

MWh fuel consumed for self-generation of steam

739000

MWh fuel consumed for self-generation of cooling

19000

MWh fuel consumed for self-cogeneration or self-trigeneration

1777000

Emission factor

0.06

Unit

metric tons CO2 per GJ

Emissions factor source

IPCC Guidelines for National Greenhouse Gas 2006

Comment

Since 2019, we use standard emission factors when available. If a standard emission factor is not available, a site specific emission factor is used.

Fuels (excluding feedstocks)

Other, please specify (Liquid fuels, waste, biomass, renewable energy, fuel for transportation, other primary energy)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1768000

MWh fuel consumed for self-generation of electricity

10000

MWh fuel consumed for self-generation of heat

1382000

MWh fuel consumed for self-generation of steam

221000

MWh fuel consumed for self-generation of cooling

5000

MWh fuel consumed for self-cogeneration or self-trigeneration

150000

Emission factor

0.07

Unit

metric tons CO2 per GJ

Emissions factor source

IPCC Guidelines for National Greenhouse Gas 2006

Comment

Other includes liquid fuels, waste, and other primary energy sources. Since 2019, we use standard emission factors when available. If a standard emission factor is not available, a site specific emission factor is used.

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	118000	118000	0	0
Heat	0	0	0	0
Steam	2390000	2390000	0	0
Cooling	5951000	5951000	0	0

C-CH8.2d

(C-CH8.2d) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity		
Heat		
Steam		
Cooling		

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Netherlands

MWh consumed accounted for at a zero emission factor

35900

Comment

In 2020, three sites purchased low-carbon electricity.

Sourcing method

Other, please specify (Certificates from energy provider)

Low-carbon technology type

Other, please specify (Renewable energy)

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Spain

MWh consumed accounted for at a zero emission factor

29500

Comment

In 2020, six sites purchased low-carbon electricity.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Finland

MWh consumed accounted for at a zero emission factor

16000

Comment

In 2020, one site purchased low-carbon electricity.

Sourcing method

Other, please specify (Certificates from energy provider)

Low-carbon technology type

Other, please specify (Renewable energy)

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Italy

MWh consumed accounted for at a zero emission factor

14900

Comment

In 2020, one site purchased low-carbon electricity.

Sourcing method

Other, please specify (Certificates from energy provider)

Low-carbon technology type

Other, please specify (Renewable energy)

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Finland

MWh consumed accounted for at a zero emission factor

6900

Comment

In 2020, one site purchased low-carbon steam and heat.

Sourcing method

Other, please specify (Certificates from energy provider)

Low-carbon technology type

Other, please specify (Renewable energy)

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Romania

MWh consumed accounted for at a zero emission factor

5800

Comment

In 2020, one site purchased low-carbon electricity.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Germany

MWh consumed accounted for at a zero emission factor

1700

Comment

In 2020, one site purchased low-carbon electricity.

Sourcing method

Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type

Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Brazil

MWh consumed accounted for at a zero emission factor

64900

Comment

In 2020, seven sites purchased low-carbon electricity.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Guatemala

MWh consumed accounted for at a zero emission factor

5700

Comment

In 2020, one site purchased low-carbon electricity.

Sourcing method

Other, please specify (Certificates from energy provider)

Low-carbon technology type

Other, please specify (Renewable energy)

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Chile

MWh consumed accounted for at a zero emission factor

4200

Comment

In 2020, three sites purchased low-carbon electricity.

Sourcing method

Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type

Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling

United States of America

MWh consumed accounted for at a zero emission factor

20000

Comment

In 2020, one site purchased low-carbon electricity.

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Waste

Metric value

937000

Metric numerator

Tons

Metric denominator (intensity metric only)

-

% change from previous year

7

Direction of change

Increased

Please explain

Description

Other, please specify (Waste used for conversion into energy)

Metric value

500

Metric numerator

teraJ

Metric denominator (intensity metric only)

-

% change from previous year

20

Direction of change

Decreased

Please explain

C-CH9.3a

(C-CH9.3a) Provide details on your organization's chemical products.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Please select	

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

Bayer-Sustainability-Report-2020.pdf

Page/ section reference

Bayer Sustainability Report 2020: Independent Auditor's Report on a Limited Assurance: p. 84f; Assured Scope 1 emissions on p. 68: 7.4 Greenhouse Gas Emissions

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

Bayer-Annual-Report-2020.pdf

Page/ section reference

Bayer Annual Report 2020: Independent Auditor's Report on Reasonable Assurance: p. 250ff; Assured Scope 1 emissions on p. 68: 1.7 Environmental Protection and Safety

Relevant standard

Other, please specify (§317 HGB and EU Audit Regulation No. 537/2014)

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 location-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

Bayer-Sustainability-Report-2020.pdf

Page/ section reference

Bayer Sustainability Report 2020: Independent Auditor's Report on a Limited Assurance: p. 84f; Assured Scope 2 location-based emissions p. 68: 7.4 Greenhouse Gas Emissions

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

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

Bayer-Sustainability-Report-2020.pdf

Page/ section reference

Bayer Sustainability Report 2020: Independent Auditor's Report on a Limited Assurance: p. 84f; Assured Scope 2 market-based emissions p. 68: 7.4 Greenhouse Gas Emissions

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

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

Reasonable assurance

Attach the statement

Bayer-Annual-Report-2020.pdf

Page/ section reference

Bayer Annual Report 2020: Independent Auditor's Report on Reasonable Assurance: p. 250ff; Assured Scope 2 market-based emissions on p. 68: 1.7 Environmental Protection and Safety

Relevant standard

Other, please specify (§317 HGB and EU Audit Regulation No. 537/2014)

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 (upstream & downstream)

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

Bayer-Sustainability-Report-2020.pdf

Page/section reference

Bayer Sustainability Report 2020: Independent Auditor's Report on a Limited Assurance: p. 84f; Assured Scope 3 emissions p. 68: 7.4 Greenhouse Gas Emissions

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3 (upstream & downstream)

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

Bayer-Annual-Report-2020.pdf

Page/section reference

Bayer Annual Report 2020 : "Limited Assurance Report of the Independent Practitioner Regarding Sustainability Information contained in the Combined Management Report": p. 259f; Assured Scope 3 emissions on page 68: "Scope 3: Indirect emissions from our upstream and downstream value chains (by materiality)" 1.7 Environmental Protection and Safety

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)	Reasonable assurance	Year on year changes in Scope 1 and 2 emissions are described within the Sustainability Report and the Annual Report. The Sustainability Report is verified with a limited assurance by Deloitte. The Annual Report is verified with a reasonable assurance. Thus, year on year changes in emissions are included in the verification processes of both reports. Bayer-Sustainability-Report-2020.pdf Bayer-Annual-Report-2020.pdf
C6. Emissions data	Year on year change in emissions (Scope 3)	Limited assurance	Year on year changes in Scope 3 emissions are described within the Sustainability Report and the Annual Report. Year on year changes in emissions are included in the verification process of the Sustainability Report with a limited assurance. Bayer-Sustainability-Report-2020.pdf Bayer-Annual-Report-2020.pdf
C6. Emissions data	Year on year emissions intensity figure	Limited assurance	Specific GHG emissions (emissions intensity) for the current and the previous reporting year are described within the Sustainability Report, which is verified with a limited assurance by Deloitte. Thus, they are included in the verification process. Bayer-Sustainability-Report-2020.pdf
C8. Energy	Energy consumption	Reasonable assurance	Energy consumption and energy efficiency for the current and the previous reporting year are described within the Sustainability Report and the Annual Report. The Sustainability Report is verified with a limited assurance by Deloitte. The Annual Report is verified with a reasonable assurance. Thus, they are included in the verification processes of both reports. Bayer-Sustainability-Report-2020.pdf Bayer-Annual-Report-2020.pdf
C12. Engagement	Other, please specify (Supplier Management)	Reasonable assurance	Details on sustainability in the supply chain (e.g. the sustainability requirements defined in the Supplier Code of Conduct) are described within the Sustainability Report and the Annual Report. The Sustainability Report is verified with a limited assurance by Deloitte. The Annual Report is verified with a reasonable assurance. Thus, they are included in the verification processes of both reports. Bayer-Sustainability-Report-2020.pdf Bayer-Annual-Report-2020.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

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

16

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2020

Period end date

December 31 2020

Allowances allocated

219000

Allowances purchased

104000

Verified Scope 1 emissions in metric tons CO2e

313000

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Bayer's strategy to make sure we comply with the EU ETS is to keep sufficient allowances. Additional allowances will be bought if our own allowances do not meet the needs under regulatory national calculation. FOR EXAMPLE, we appraise our situation in terms of allowances for each year. We match our expected requirements of allowances against our expected apportionment and our sizeable buffer to decide whether there is a need to buy additional allowances.

Furthermore, Bayer has introduced an ambitious GHG emission reduction strategy. Our ambitious GHG reduction plan helps to comply with the EU ETS and to manage risks that arise from this scheme and potential future emission cap-and-trade systems.

CASE STUDY: The Bayer Climate Program, launched in 2007, was a game changer to bundle our expertise in providing climate change mitigation and adaptation solutions, to improve our CO2 footprint and to increase awareness of climate change issues. Company-wide communication and implementation has fostered broad resource efficiency initiatives. Despite significantly expanding production, we reduced our absolute GHG emissions significantly between 1990 and 2015 by more than 20%. Setting GHG EMISSION REDUCTION TARGETS and driving initiatives to achieve them have become an integral part of Bayer's sustainability strategy. FOR EXAMPLE, we decided to improve Bayer's carbon footprint and set more ambitious GHG REDUCTION AND ENERGY EFFICIENCY TARGETS following the Paris Agreement: to achieve an improvement of 10% in energy efficiency and a 20% reduction in specific GHG emissions by 2020 compared with 2015. In 2020, emission reduction activities included e.g. energy efficiency improvements in production processes and in buildings such as optimizations with regard to heat recovery, pinch pointing, and effectiveness of steam generation, insulation improvements through the reconstruction of roofs, reduction of leakage, HVAC optimizations, and changing of lighting systems.

After already achieving our 2020 targets in 2019, we JOINED THE SCIENCE BASED TARGETS INITIATIVE. We committed to ambitious emissions reduction targets which were approved through the Science Based Targets initiative (SBTi) by setting a science-based target in line with a 1.5°C future. We aim to make our own production sites climate-neutral by 2030 and are therefore implementing energy efficiency measures at our sites and increasing the procurement of electricity from renewable sources. In line with this, Bayer has developed and set itself the targets to reduce absolute Scope 1 and Scope 2 GHG emissions by 42 % by 2029 from a 2019 base year and to reduce absolute Scope 3 GHG emissions from purchased goods and services, capital goods, fuel and energy related activities, upstream transportation & distribution, and business travel by 12.3 % by the end of 2029 from a 2019 base year. These targets aim to keep Bayer's emissions from Scope 1 and 2 in line with a global temperature raise below 1.5°C and its emissions from Scope 3 in line with a global temperature raise below 2°C.

These targets reflect our contribution to climate protection and support our strategy for complying with the EU ETS.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Forests

Project identification

Improved Forest Management Location: China Project Type: Afforestation Project Summary: The project in Inner Mongolia comprises 20k ha of formerly logged forests, on which the forest coverage rate will be improved to sequester carbon and protect the local environment. Forest Protection from illegal Logging Location: Brazil Project Type: REDD+ Project Summary: The project focuses on the protection of land in the Amazon region to allow forests to re-grow by training local village members in forest management and surveillance. Forest Plantations Location: Uruguay Project Type: Afforestation Project Summary: Grazing by beef cattle caused soil erosion and land degradation beyond the point of natural regeneration. Replanting of native trees (pine/ eucalyptus) will enable sequestration and land restoration.

Verified to which standard

VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)

200000

Number of credits (metric tonnes CO2e): Risk adjusted volume

200000

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

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.

Objective for implementing an internal carbon price

- Navigate GHG regulations
- Stakeholder expectations
- Change internal behavior
- Drive energy efficiency
- Drive low-carbon investment
- Stress test investments
- Identify and seize low-carbon opportunities
- Supplier engagement

GHG Scope

- Scope 1
- Scope 2

Application

Bayer plans to invest EUR 500 million in energy efficiency measures until 2030. To steer investments, an internal CO₂ incentive of EUR 100 per ton of CO₂ has been included in the cost calculation of CapEx projects. This incentive applies to all CO₂ emission reduction initiatives with the exception of emissions from purchased electricity, which are to become zero with the 2030 target 100% purchased electricity from renewable sources. Reduction of electricity consumption nevertheless continues as part of the company's improvement and cost management measures. Carbon price is applied to all divisions and business units.

Actual price(s) used (Currency /metric ton)

100

Variance of price(s) used

Uniform pricing

Type of internal carbon price

Shadow price

Impact & implication

COMPANY-SPECIFIC DESCRIPTION OF HOW THE INTERNAL PRICE ON CARBON IS USED: The CO₂-price on investment projects was implemented in 2020. The price and the framework of the incentive scheme will be reviewed after two years to ensure effectiveness and revalidate market assumptions and implications. First evaluations show that the incentive is well accepted and adopted by all functions and divisions. Impact of carbon price is that climate-friendly projects have an improved net present value and get a higher priority. Business decisions for climate-friendly solutions are already supported by the internal carbon price. When fixing the internal price at EUR 100 per ton, Bayer took into consideration cost abatement curves for emission reduction, costs for high-quality energy attribute certificates for renewable gas and taxation trends. In 2022 pricing level and mechanism will be reviewed to ensure that the system moves investments into climate-friendly solutions.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

- Yes, our suppliers
- Yes, other partners in the value chain

C12.1a

C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

0.72

% total procurement spend (direct and indirect)

20.6

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

Bayer's purchasing volume of ca. EUR 17.7 billion from 97,362 suppliers in 147 countries in 2020 makes suppliers a strategic priority of our engagement activities. Bayer collects climate change and carbon information from all relevant suppliers regularly, e.g. regarding the suppliers' GHG emissions, climate change strategies or procedures to measure and reduce environmental impacts of GHGs. RATIONALE: Because we cannot evaluate all 97,362 suppliers, they are selected based on a combination of country and category sustainability risks as well as strategic importance (e.g., in terms of procurement spend and long-term collaboration prospects). In 2020, Bayer has requested information from 0.72% of its suppliers (ca. 701 out of 97,362), representing approx. 20.6% of the total procurement spend. In 2020, Bayer became a member of the CDP Supply Chain Initiative and invited nine suppliers representing EUR 1.1 billion spend and 513,230 tons of CO₂. The results of this pilot will be used to extend the collection of carbon information from our suppliers in 2021. On Bayer's behalf EcoVadis evaluated 670 suppliers through online assessments in 2020. In addition, 26 of our suppliers were audited on-site by external, independent auditors and 5 suppliers were audited virtually due to the global pandemic. Since 2020, legacy Monsanto suppliers have also been audited in the framework of our 4-step management approach. The audit criteria include both the specifications of our code of conduct and industry-specific requirements that we have jointly laid out in the industry initiatives Together for Sustainability (TfS) and the Pharmaceutical Supply Chain Initiative (PSCI). The initiatives are intended to help standardize the sustainability requirements of suppliers in the chemical and pharmaceutical industries. Through exchange of assessment and audit results, we achieved our target of developing and introducing a new sustainability standard for our suppliers by 2020. Within the TfS initiative, a total of 4,675 sustainability (re-)assessments were performed, also through EcoVadis in 2020, along with 258 audits. Within the scope of PSCI the number of audits was 62. In addition, Bayer auditors evaluate selected new and existing suppliers particularly with regard to health, safety and environmental protection. A total of 83 suppliers were evaluated by Bayer auditors in 2020.

Impact of engagement, including measures of success

i) MEASURES OF SUCCESS: We set ambitious targets and measure our success in terms of TARGET FULFILLMENT. Bayer's goal is to EVALUATE ALL BAYER SUPPLIERS WITH SIGNIFICANT PROCUREMENT SPEND (>500,000 EUR p.a.) regarded as potentially high-risk suppliers due to their combined country and category sustainability risk. Our target attainment before acquisition of Monsanto was 100%. Throughout 2019 we started to integrate legacy Monsanto suppliers into our 4-step management process. Our goal is to continue to have all relevant Bayer suppliers evaluated by end of 2021. For 2020, we defined new priorities in our 4-step management process. Our aim was to expand our supplier development activities (Step 4). It is our goal to help relevant suppliers achieve successes in their sustainability performance over the long term. Therefore we expanded our sustainability team in procurement, primarily in countries with an increased sustainability risk such as China, India and Brazil. In addition, we want to shift the focus in the supply chain more towards CO₂ emissions, the respect of human rights and supplier diversity. SUCCESS IS ALSO MEASURED through re-assessments or follow-up audits that monitor the implementation of improvements requested by us. ii) IMPACT OF ENGAGEMENT: The online assessments and on-site audits are analyzed in order to DEFINE SPECIFIC IMPROVEMENT MEASURES in case of unsatisfactory results. In 2020, this applied above all to the categories of ethics and the environment. In case of critical results, Bayer REQUESTS THE SUPPLIERS TO RECTIFY THE IDENTIFIED WEAKNESSES within an appropriate period of time based on specific action plans. In 2020, this applied to 13 suppliers (2% of all assessed and audited suppliers). We monitor the implementation of these activities by re-assessments or follow-up audits. Bayer terminates a supplier relationship if no improvement is observed during a re-evaluation. In 2020, Bayer was not prompted to end any supplier relationship due solely to sustainability performance. Our regular monitoring shows that in 2020 357 of our 701 suppliers evaluated have improved their sustainability performance. By requesting carbon and climate change information from our suppliers, they BECOME MORE AWARE OF SUSTAINABILITY TOPICS, they ENGAGE IN SUSTAINABILITY ACTIVITIES and start or continue IMPROVING THEIR SUSTAINABILITY PERFORMANCE.

Comment

Additional information on supplier engagement: The industry initiatives TfS and PSCI also organized virtual training courses and workshops for suppliers in India and China in 2020. Through the TfS Supplier Academy and the PSCI online resource library, the respective initiatives offer additional advanced training modules for our suppliers that are being expanded each year. In 2020, that included new webinars on human rights risks and a new PSCI online platform for suppliers featuring training courses, resources and tools. The TfS initiative continues to test the usability of a collaboration platform involving Bayer suppliers as another element of supplier development. It provides users with numerous best practice examples and dialogue opportunities, as well as activities, tips, case studies and expert suggestions on the topics of water, energy and waste.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

EXAMPLE 1:

PARTNERS: Bayer is engaging with other partners in the value chain through SusChem - the European Technology Platform for Sustainable Chemistry. SusChem brings together industry, academia, governmental policy groups and the wider society. The Head of Process Technology Development at Bayer's corporate function Engineering & Technology represented Bayer as a member of the SusChem Board.

CASE STUDY OF ENGAGEMENT STRATEGY: Bayer supports SusChem's vision for a competitive and innovative Europe where sustainable chemistry and biotechnology provide solutions for future generations, especially to initiate and inspire European chemical and biochemical innovation to respond effectively to global challenges by providing sustainable solutions.

The new SusChem **Strategic Innovation and Research Agenda (SIRA)** focuses on technology priorities towards 2030, across **Advanced Materials**, **Advanced Processes** as well as the implementation and co-development of **Enabling Digital Technologies**. Horizontal topics are equally addressed, including **sustainability assessment innovation, safe-by-design for chemicals and materials**, as well as **building on education and skills capacity in Europe**.

Bayer **ACTIVELY SUPPORTED** SusChem to make a significant contribution to climate-related policy development in the European Institutions and important European Innovation Partnerships esp. SIRA.

EXAMPLE 2:

PARTNERS: Crop Science (CS) engages with participants in the food value chain such as farmers, the processing industry, exporters and dealers.

CASE STUDY OF ENGAGEMENT STRATEGY: The central element is the BayG.A.P. program via which Bayer **TRAINS** growers to successfully implement good agricultural practices. Our **TRAININGS** enable farmers on how to use crop protection products effectively and safely, mainly as part of customer events or through courses in cooperation with partners, e.g. local, regional and international associations but also through dedicated online training sessions. CS is intensifying its **DIRECT COOPERATION** with farmers and the food value chain to develop tailored solutions for sustainable agriculture to safeguard and increase yields and to improve the quality of harvested produce. Bayer also reinforces its support for sustainable agriculture with Bayer **ForwardFarming**: a knowledge platform to demonstrate sustainable agriculture in practice. There are currently 24 Crop Science **ForwardFarms** spread across Europe (20), Latin America (3) and Asia (1).

Bayer focuses on training activities in countries where there are no statutory requirements or certification for users regarding the safe handling of crop protection products.

In 2020, CS replaced numerous on-site personal training activities with virtual measures due to the COVID-19 pandemic. It was thus able to increase the number of farmers trained to around 1.7 million farmers worldwide. CS has initiated 265 food value chain partnership initiatives in 39 countries and 64 crops. 2,259 growers worldwide have been trained with BayG.A.P. and additional 1,625 participants followed the BayG.A.P. Online Training Platform. 1,032 growers from India and Thailand obtained the G.A.P. Letter of Conformance or local G.A.P. certification.

EXAMPLE 3:

PARTNERS: Bayer rewards farmers in Brazil and the U.S. for generating carbon credits by adopting climate-smart practices and creating a new revenue stream on-farm.

CASE STUDY OF ENGAGEMENT STRATEGY: Bayer's industry-leading **CARBON INITIATIVE** is the result of years of work validating a **SCIENCE-BASED** approach and methodology to make this happen. It recognizes the pivotal role growers and their land can play in helping to create lasting, positive environmental impacts and is part of Bayer's sustainability commitments specifically aimed at reducing field GHG emission by 30% in 2030.

Soil is one of the most effective ways of sequestering carbon. Incentivizing farmers to embrace no-till, precision nitrogen use or cover crops helps further sequester carbon into the soil, reduce fossil fuel usage and reduce greenhouse gases. While today farmers get rewarded solely for their food, feed and fiber production, those participating in the Bayer Carbon Initiative will have the opportunity to be rewarded for their best farm management practices and other sustainability efforts as well.

The program's 2020/2021 season will include approximately 1,200 farmers in Brazil and the U.S. In both countries, farmers will receive **ASSISTANCE** in implementing climate-smart agricultural practices and Bayer will acquire the carbon removals created by those practices at transparent prices. Bayer is also collaborating with partners such as Embrapa in Brazil to build a viable carbon market for farmers.

Bayer plans to expand the program in the U.S. and Brazil to other farmers and then later into other world regions with tailored approaches that will allow growers to choose what climate-smart practices and implementation works best for them.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

- Direct engagement with policy makers
- Trade associations
- Funding research organizations
- Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Clean energy generation	Support	Bayer engages on a number of different topics, in multiple countries, and with a variety of stakeholders and organizations. Regarding climate change, energy transition is a major topic. The energy transition involves an ambitious expansion in renewable and regenerative energy and a decrease of fossil-fueled energy production. The goal is decarbonization and a stable supply whilst minimizing ecological problems. Energy transition was also a major element of the 2015 Paris Agreement, within the United Nations Framework Convention on Climate Change. The countries signing the Agreement committed themselves to reduce net greenhouse gas emissions to zero between 2045 and 2060 to help fight climate change. The European Union and its Member States are seeking to play a pioneering role in decarbonization. The EU is actively working towards becoming a low-carbon society, by cutting emissions and investing in energy reduction initiatives, such as e.g. clean technologies. The energy transition also includes the use of efficiency enhancing methods, such as cogeneration or combined heat and power (CHP). It includes the efficient recovery of released heat in industrial processes. Since production facilities require heat on a year-round basis, heat and electrical energy are generated in a combined process, which is highly efficient and reduces the need for additional heat or energy sources.	Bayer fundamentally supports the energy transition and supports the goal of the Paris Agreement. Therefore Bayer supports regulatory frameworks and policy initiatives that both promote innovative low carbon and carbon-neutral products, processes, value chains and business models and strengthen industry competitiveness: <ul style="list-style-type: none"> • Climate neutrality should be embedded into both, industry and agriculture policy strategies to transform to a climate-neutral and sustainable economy while preserving competitiveness at the same time. Action plans to establish additional incentive mechanisms for good practices supporting GHG emission reduction targets in industry and agriculture are widely and globally necessary. Country-based measures always need to be in line with WTO framework and further international agreements. • Renewable energies are the basis for climate-neutral production. Climate neutrality will be achieved to a large extent by switching from fossil fuels to renewable energies. To foster the energy transition, governments need to ensure cost competitive alternatives to fossil fuels, to guarantee security of supply of renewable energies and to ensure the availability of adequate systems for purchasing renewable energies. There are also challenges associated with energy transition. One concern is rising energy prices, which have a detrimental impact on the competitiveness of production sites which face already high energy prices (e.g. Germany). Energy prices also have an effect on competitiveness and sustainability of industries. Furthermore, we need to ensure security of energy supply. It is essential to draw up plans how renewable energies are to be integrated into sustainable supply strategies to ensure future security. Bayer is taking several steps to reduce greenhouse gas emissions within our company and along our entire value chain in accordance with the Paris Agreement to limit global warming to 1.5 degree Celsius. One of our sustainability targets for climate protection by 2030 is, to be climate-neutral by 2030. To accomplish this, we will implement energy efficiency measures at our sites and switch to 100 percent electricity from renewable energies.
Cap and trade	Support	Bayer has supported legislation in the U.S. aimed at addressing climate change in agriculture (The Growing Climate Solutions Act). The Growing Climate Solutions Act intends to create a certification program to help solve technical entry barriers to farmer and forest landowner participation in carbon credit markets. These issues – including access to reliable information about markets and access to qualified technical assistance providers and credit protocol verifiers – have limited both landowner participation and the adoption of practices to help reduce the costs of developing carbon credits.	Bayer supports regulatory frameworks and policy initiatives that both promote innovative low carbon and carbon neutral products, processes, value chains and business models and strengthen industry competitiveness: <ul style="list-style-type: none"> In agriculture, a certification to a recognized standard is key so that farmers will be able to quantify, verify, certify and sell their GHG emission savings as carbon credits to industries willing to offset their carbon footprint. Pricing for these high-quality offsets should be appropriate to outweigh the implementation, verification and certification costs ensuring the return for investment for farmers.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

German Chemical Industry Association (VCI)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The VCI acknowledges the commitment of the chemical industry in Germany to sustainability and promotes the sustainable development in companies. The VCI holds the position that, with its products and with its efficient co-generation plants, the chemical industry is contributing to sustainable development and climate change mitigation. Furthermore, the VCI is committed to international standards for sustainability and works closely with global organizations for the promotion of sustainable development, climate mitigation and resource efficiency.

How have you influenced, or are you attempting to influence their position?

Bayer is involved with the VCI regarding important issues related to the German chemical industry, including climate change, and is influencing the association through active involvement in relevant committees and working groups. Bayer's CEO serves as vice-president of the VCI.

Trade association

The Federation of German Industries (BDI)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The BDI generally supports ambitious and effective climate protection in Germany, the EU and worldwide. The BDI is strongly involved in the discussions regarding resource efficiency in the circular economy.

How have you influenced, or are you attempting to influence their position?

Bayer is involved with the BDI on issues important to the German industry, including climate change related issues. Bayer's CEO serves as member of the Presidential Board of the BDI. In addition, Bayer provided significant input in the past e.g. in developing BDI positions regarding electricity market design.

Trade association

U.S. Chamber of Commerce

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The U.S. Chamber of Commerce supports U.S. participation in the Paris Agreement. The Chamber calls on policymakers to rise to the challenge of climate change by leveraging business leadership and expertise, America's energy edge, and ability to innovate. The Chamber believes that an effective climate policy should leverage the power of business, maintain U.S. leadership in climate science, embrace technology and innovation to manage climate risks and reduce GHG emissions, aggressively pursue greater energy efficiency, promote climate resilient infrastructure, support trade in U.S. climate technologies and products, and encourage international cooperation.

How have you influenced, or are you attempting to influence their position?

Bayer is involved with the U.S. Chamber of Commerce on issues important to the U.S. industry, including climate change.

Trade association

CropLife America

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

CropLife America (CLA) supports environmental policies that are based on sound science, best practices and maintain farmers and companies' competitive advantage. CLA has no official position but supports the science behind climate change and the role of agriculture and plant science to reduce emissions and build climate resiliency.

How have you influenced, or are you attempting to influence their position?

Bayer is involved with CropLife America on issues important to the crop industry, including climate change. The President of North America Crop Science serves as Board Member of CropLife America.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

No

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

1) SusChem - the European Technology Platform for Sustainable Chemistry, which brings together industry, academia, governmental policy groups and the wider society. The Head of Process Technology Development at Bayer's corporate function Engineering & Technology represented Bayer as a member of the SusChem Board. Bayer supports SusChem's vision for a competitive and innovative Europe where sustainable chemistry and biotechnology provide solutions for future generations, especially to initiate and inspire European chemical and biochemical innovation to respond effectively to global challenges by providing sustainable solutions. The new SusChem Strategic Innovation and Research Agenda (SIRA) focuses on technology priorities towards 2030, across Advanced Materials, Advanced Processes as well as the implementation and co-development of Enabling Digital Technologies. Horizontal topics are equally addressed, including sustainability assessment innovation, safe-by-design for chemicals and materials, as well as building on education and skills capacity in Europe.

2) econsense - a German business network founded on the initiative of the Federation of German Industries with the goal to provide a dialogue platform and think tank to advance sustainable development in business. Bayer is an active member of econsense. Other focus topics were the analysis of the European Green Deal and the German Climate Protection Law, the implementation of TCFD recommendations, particularly, scenario analysis, and the development of science-based targets.

Bayer actively contributes to the work in several econsense groups e.g. Environmental & Climate Issues, Reporting & Rating, SDGs & Digital Transformation and Sustainability in the Supply Chain to promote sustainability in the business community and enable best practice sharing for a dialogue with stakeholders in politics, science and business.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Bayer's organizational processes are designed to ensure a common approach for all direct and indirect engagement activities, consistent with our Sustainability Strategy - across divisions and geographies.

Sustainability is a core element of our Group Strategy and is the direct responsibility of the Chairman of the Board of Management of Bayer AG. In his role as Chief Sustainability Officer, he is supported by the Public Affairs, Science & Sustainability (PASS) function, which not only is responsible for the outreach to political stakeholders but also to develop strategies and identify areas of activity, targets, key performance indicators, management systems and corporate policies. Additionally, PASS is in charge of compiling the Sustainability Report on behalf of the Board of Management.

Operational implementation takes place in the divisions and along the value chain. Reviewing and revising these regulations and internal audits ensure our management systems are continuously improved and aligned to the respective requirements. By design, the organizational setup guarantees maximum consistency of sustainability commitments and political engagement strategies, both directly and indirectly. To critically examine our memberships in key industry and trade associations across the globe, Bayer is currently conducting a comprehensive review. The report is expected to be ready for publication in fall 2021.

In 2020, Bayer has established an independent Sustainability Council that will advise the Board of Management and the organization in all sustainability matters including climate protection. The Sustainability Council comprises nine internationally recognized experts from the areas of health care, nutrition, agriculture and the environment representing a broad range of views, differing geographical origin and different genders. The Council will support the further development of Bayer's business strategy as regards sustainability and with respect to what contribution research and development can make to sustainability. It will also independently examine the progress made by Bayer in the implementation of its sustainability targets. The Council additionally examines the support of social innovations through the Bayer foundations. Another goal for the nine experts is to promote cooperation with networks in society, education, industry and politics. The Council convenes twice a year for deliberations and reports annually on the progress of its work. The Chairman and other members of the Board of Management also attend these meetings. The body's work kicked off with two digital meetings in 2020.

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

Status

Complete

Attach the document

Bayer-Annual-Report-2020.pdf

Page/Section reference

The chapter "1.7 Environmental Protection and Safety" of Bayer's Annual report 2020 on pages 67-70 includes Bayer's GHG EMISSIONS PERFORMANCE and ENERGY CONSUMPTION. Furthermore, Bayer's Combined Management Report on pages 27-70 includes a description of our sustainability strategy and governance (incl. climate), our new emission targets and on pages 101-114 relevant risks and opportunities. In this chapter, Bayer depicts its strategy and efforts regarding sustainability and climate protection.

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Bayer's Annual Report includes descriptions of our sustainability approach. This is integrated in Bayer's Management Report and verified by Deloitte as part of the reasonable assurance process of Bayer's Annual Report 2020. The sustainability information integrated in the report includes the content elements described in the previous column.

Publication

In voluntary sustainability report

Status

Complete

Attach the document

Bayer-Sustainability-Report-2020.pdf

Page/Section reference

The chapter "7. Climate Protection" of Bayer's Sustainability report 2020 on p. 65-69 includes Bayer's GHG EMISSIONS PERFORMANCE and response to CLIMATE CHANGE including Bayer's climate protection efforts. Furthermore, Bayer's Sustainability Report includes a description of our sustainability strategy incl. our climate strategy and targets (p. 5-10 and 14-22). Risks and opportunities, including those related to climate, are described in our Product Stewardship chapter (p. 26ff).

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics
Other, please specify (Environmental incidents)

Comment

With the Sustainability Report, Bayer aims to provide transparent and in-depth insights into both its sustainability strategy and its sustainability performance. The report supplements the non-financial statement pursuant to the CSR Directive Implementation Act (CSR-RUG) that is published in the combined management report of the Annual Report 2020. This Sustainability Report is verified by Deloitte with limited assurance.

Publication

Other, please specify (Sustainability Website <https://www.bayer.com/en/sustainability/climate-protection>)

Status

Complete

Attach the document

Bayer-Sustainability-Website.pdf

Page/Section reference

In the section Climate Protection of our Sustainability Website Bayer's position to climate change is explained and discussed. Further details of our climate-related targets, respective governance and engagements are disclosed.

Content elements

Governance
Strategy
Emissions figures
Emission targets
Other metrics

Comment

With the Sustainability Website, Bayer aims to provide transparent and in-depth insights into both its sustainability strategy and its sustainability performance. The website supplements the non-financial reporting in our Annual Report and the Sustainability Report. The website is used to communicate updates on our climate-related activities swiftly.

C15. 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.

Comment to C4.3b:

To simplify reporting, we have consolidated different projects concerning the same activity in one row. Due to confidentiality reasons we cannot disclose all internal costs, therefore in some cases monetary savings and required investments include partial data.

Comment for C7.5:

For confidentiality reasons we report purchased and consumed electricity, heat, steam or cooling (MWh) as well as purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh) by region. Data for countries in EMEA region is summarized and reported under Germany. Data for countries in Americas region is summarized and reported under United States of America. Data for countries in Asia-Pacific region is summarized and reported under India. All countries not included in this question's list are summarized and reported under Rest of World.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Bayer AG Chairman of the Board of Management (CEO) and Chief Sustainability Officer (CSO)	Board chair

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Bayer is answering very detailed to the CDP Investor Request and it is an additional benefit to share this information with our customers via the CDP Supply Chain Request as well. Already, Bayer is permanently engaging with its customers on many levels and on different ways for continuous improvement in the value chain. The CDP Supply Chain Request offers one more opportunity to get involved. For other customers we recommend direct communication.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	41400000000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	DE	000BAY0017

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

Ahold Delhaize

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

107

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Ahold Delhaize

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

162

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Ahold Delhaize

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

3008

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

California Department of General Services (DGS)

Scope of emissions

Please select

Allocation level

Please select

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO₂e

Uncertainty (±%)

Major sources of emissions

Verified

Please select

Allocation method

Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Customers are kindly asked to address their specific information requests directly to their respective contacts as information can only be provided directly to the customer.

Requesting member

CVS Health

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO₂ emissions are Scope 1 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO₂e

859

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

CVS Health

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO₂ emissions are Scope 2 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO₂e

456

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

CVS Health

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO2e

5348

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

CVS Health

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

1196

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

CVS Health

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

1806

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

CVS Health

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

33578

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Magna International Inc.

Scope of emissions

Please select

Allocation level

Please select

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e**Uncertainty (±%)****Major sources of emissions****Verified**

Please select

Allocation method

Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Customers are kindly asked to address their specific information requests directly to their respective contacts as information can only be provided directly to the customer.

Requesting member

NHS England and NHS Improvement

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO2e

3692

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

NHS England and NHS Improvement

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO2e

1958

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

NHS England and NHS Improvement

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO2e

22977

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Raizen

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Crop Science.

Emissions in metric tonnes of CO2e

110

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Raizen

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Crop Science.

Emissions in metric tonnes of CO2e

89

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Raizen

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Crop Science.

Emissions in metric tonnes of CO2e

398

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

S.C. Johnson & Son, Inc.

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Crop Science.

Emissions in metric tonnes of CO2e

238

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Suzano Papel & Celulose

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Crop Science.

Emissions in metric tonnes of CO2e

466

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Suzano Papel & Celulose

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Crop Science.

Emissions in metric tonnes of CO2e

375

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers

and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Suzano Papel & Celulose

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Crop Science.

Emissions in metric tonnes of CO2e

1685

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Target Corporation

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

837

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Target Corporation

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

1265

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Target Corporation

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Consumer Health.

Emissions in metric tonnes of CO2e

23517

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Target Corporation

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Crop Science

Emissions in metric tonnes of CO2e

1664

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Target Corporation

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Crop Science

Emissions in metric tonnes of CO2e

1337

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Target Corporation

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Crop Science

Emissions in metric tonnes of CO2e

6016

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Walmart, Inc.

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Pharmaceuticals

Emissions in metric tonnes of CO2e

2

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Walmart, Inc.

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Pharmaceuticals

Emissions in metric tonnes of CO2e

1

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Walmart, Inc.

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Pharmaceuticals

Emissions in metric tonnes of CO2e

13

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Walmart, Inc.

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Consumer Health

Emissions in metric tonnes of CO2e

3725

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Walmart, Inc.

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Consumer Health

Emissions in metric tonnes of CO2e

5626

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Walmart, Inc.

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Consumer Health

Emissions in metric tonnes of CO2e

104630

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Wal Mart de Mexico

Scope of emissions

Please select

Allocation level

Please select

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e**Uncertainty (±%)****Major sources of emissions****Verified**

Please select

Allocation method

Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Customers are kindly asked to address their specific information requests directly to their respective contacts as information can only be provided directly to the customer.

Requesting member

S.C. Johnson & Son, Inc.

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Crop Science.

Emissions in metric tonnes of CO2e

192

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

S.C. Johnson & Son, Inc.

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Crop Science.

Emissions in metric tonnes of CO2e

862

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Santa Catarina

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 1 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO2e

6

Uncertainty (±%)**Major sources of emissions****Verified**

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework,

we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Santa Catarina

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 2 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO2e

3

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

Requesting member

Santa Catarina

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

We allocate the emissions for requesting companies through a market value approach. The CO2 emissions are Scope 3 emissions for Pharmaceuticals.

Emissions in metric tonnes of CO2e

38

Uncertainty (±%)

Major sources of emissions

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Bayer has set itself an ambitious climate target: We are aiming to become carbon neutral in our own operations by 2030. To accomplish this, Bayer will implement energy efficiency measures, switch to 100 percent renewable electricity and offset the remaining emissions through biodiversity-enhancing carbon capture. Within this framework, we are part of the Science Based Targets Initiative. In this regard, we are striving for absolute emission reduction along the entire value chain by engaging with suppliers and customers, as well as in our logistics and packaging. Therefore and in order to be transparent also towards our customers, we allocate the emissions for requesting companies through a market value approach.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	Our production at one site has multiple products and customers. The emissions are only available for the site and cannot be broken down to products or customers. There is no single production relation due to multi purposes of the site
Customer base is too large and diverse to accurately track emissions to the customer level	Our production at one site has multiple products and customers. The emissions are only available for the site and cannot be broken down to products or customers. There is no single production relation due to multi purposes of the site

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

We are evaluating if there is a possibility to further break it down.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain questions?
I am submitting my response	Investors Customers	Public	Yes, I will submit the Supply Chain questions now

Please confirm below

I have read and accept the applicable Terms