

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 time 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. Our divisions together with our enabling functions represent all units and functions across the organization. We operate sites around the world, and some are used by multiple segments. As of December 31, 2021, the Bayer Group comprised 375 consolidated companies in 83 countries.

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 2021	December 31 2021	No	<Not Applicable>

C0.3

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

- Algeria
- Argentina
- Australia
- Austria
- Bangladesh
- Belgium
- Bermuda
- Bolivia (Plurinational State of)
- Brazil
- British Virgin Islands
- Bulgaria
- Burkina Faso
- Canada
- Chile
- China
- Colombia
- Costa Rica
- Côte d'Ivoire
- Croatia
- Curaçao
- Cyprus
- Czechia
- Denmark

Dominican Republic
Ecuador
Egypt
El Salvador
Finland
France
Germany
Greece
Guatemala
Honduras
Hong Kong SAR, China
Hungary
India
Indonesia
Ireland
Israel
Italy
Japan
Kazakhstan
Kenya
Lithuania
Luxembourg
Malawi
Malaysia
Mexico
Morocco
Netherlands
New Zealand
Nicaragua
Norway
Pakistan
Panama
Paraguay
Peru
Philippines
Poland
Portugal
Puerto Rico
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Serbia
Singapore
Slovakia
Slovenia
South Africa
Spain
Sweden
Switzerland
Taiwan, China
Thailand
Turkey
Ukraine
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United States of America
Uruguay
Viet Nam
Zambia

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

C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	DE000BAY0017

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)	<p>POSITION IN CORPORATE STRUCTURE AND LEVEL OF RESPONSIBILITY: 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.</p> <p>RESPONSIBILITIES RELATED TO CLIMATE ISSUES: In his role as CSO, 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 PASS 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.</p> <p>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. To achieve our sustainability strategy, the Board of Management including the CSO decided in 2021 again 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. The CSO decided also on our climate interim targets. By 2024, we aim to reduce our own Scope 1 + 2 emissions by 20% and our Scope 3 emissions by 6% (rel. to 2019) in line with our SBT pathway. In addition, the decision to develop a net zero roadmap and target to achieve our ambitious climate targets was made by the CSO as well. Externally, we advocate for a climate position in line with our ambitious targets and demand that our partners also undertake decarbonization measures in accordance with the Paris Agreement. We critically scrutinize our memberships in industry associations and the CSO decided to publish an Industry Association Climate Review for the first time in 2021.</p>

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 BRIEFS THE BOARD ON WHAT:</p> <p>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.</p> <p>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 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.</p> <p>ii) CLIMATE ISSUES AS SCHEDULED AGENDA ITEMS:</p> <p>The Chairman of the Board of Management holds direct responsibility for climate protection in his role as CSO. In keeping with their level of importance, climate-related topics and Bayer’s climate strategy were discussed at two meetings of the Board of Management, two meetings of the Supervisory Board and at two meetings of the Sustainability Council in 2021. The Chairman of the Board of Management is supported in this by PASS and the sustainability departments within the divisions. The divisions handle the operational implementation of the climate protection measures at their sites with the support of the enabling functions.</p> <p>iii) CONTRIBUTION TO BOARD OVERSIGHT:</p> <p>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.</p> <p>EXAMPLE 1 (Governance mechanisms “setting performance objectives”, “monitoring implementation and performance of objectives” or “progress against goals and targets”): In 2021, the CSO decided on our climate interim targets. By 2024, we aim to reduce our own Scope 1 + 2 emissions by 20% and our Scope 3 emissions by 6% (rel. to 2019) in line with the reduction pathway of our Science Based Target (SBT). 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.</p> <p>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 strategy.</p>

C1.1d

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

Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1 Yes	<p>The top level of responsibility is held by the Chairman of the Board of Management in his role as Chief Sustainability Officer (CSO) together with the entire Board of Management. An external Sustainability Council provides the Board of Management with constructive criticism in all sustainability matters. The Public Affairs, Science, Sustainability & HSE enabling function helps the CSO and the Board of Management to identify risks and opportunities, develop strategies and define targets and guidelines for sustainability management, and also ensures the governance of all sustainability issues.</p> <p>EXPERTISE:</p> <p>The CSO 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. He is an expert in the field of sustainability incl. CLIMATE with 25 years of experience. Today, he is part of the UN Climate and Water leaders of the World Meteorological Organization (WMO).</p> <p>Within our SUSTAINABILITY COUNCIL we have an expert within sustainability incl. CLIMATE with nearly 20 years of experience. Her focus is among others on the transition to sustainable technologies.</p> <p>Another member of our Sustainability Council is an expert with many years of corporate experience within sustainability incl. CLIMATE. As a co-founder of the Imagine Foundation, he endeavors to turn companies into pioneers in sustainable development.</p> <p>ENGAGEMENT:</p> <p>The Chairman of the Board of Management in his role as CSO participated actively at the COP 26 from the United Nations Framework Convention on Climate Change (UNFCCC). The CSO is supporting our Bayer Carbon Farming initiative that offers farmers in Brazil, United States, Europe and Asia financial incentives to apply climate-smart agricultural practices and capture greenhouse gases in the soil.</p>	<Not Applicable>	<Not Applicable>

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 (CSO) 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 CSO carries DIRECT RESPONSIBILITY FOR the Group-wide sustainability program incl. CLIMATE-RELATED TARGETS AND MEASURES. For example, in 2021, the CSO decided to switch Bayer's fleet set up to electric vehicles as quick as possible, as one lever to reduce the company's direct emissions from its own operations by -42% until end of 2029. The Chief Sustainability Officer is CONTINUOUSLY INFORMED ABOUT THE STATUS OF CLIMATE-RELATED TARGETS AND MEASURES during his regular meetings with the Head of PASS, 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. The Head of PASS and the Head of Sustainability initiated a Sustainability Decision Committee in 2021, which is the central body to align on Bayer's ambitious sustainability approach and oversee its implementation. It complements the existing Product Supply Committee that is responsible for decision making for technical sustainability and HSE matters. The CSO is informed about the outcome of the meetings.

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 2021, 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 CSO. 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 2021, the Board of Management decided again 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 2021, 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. The CSO 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. The variable compensation is based on the attainment of qualitative targets in areas such as innovation progress or safety, compliance and sustainability goals. Additionally individual goals for board members include sustainability e.g. for 2021: Further drive implementation of sustainability strategy in divisions and enabling functions and accelerate progress on sustainability ambitions. This strategy includes, e.g. ambitious climate measures to become a completely climate-neutral company by 2030. Since 2021, sustainability is also 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. The variable compensation is based on the attainment of qualitative targets in areas such as innovation progress or safety, compliance and sustainability goals. Additionally, individual goals for board members include sustainability e.g. for 2021: Further drive implementation of sustainability strategy in divisions and enabling functions and accelerate progress on sustainability ambitions. This strategy includes, e.g. ambitious climate measures to become a completely climate-neutral company by 2030. Since 2021, sustainability is also 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 the Compensation Report.
Chief Financial Officer (CFO)	Monetary reward	Supply chain engagement	Board members, as the CFO, are incentivized on the attainment of sustainability KPIs. The variable compensation is based on the attainment of qualitative targets in areas such as innovation progress or safety, compliance and sustainability goals. The team targets for the Board of Management include sustainability e.g. for 2021: Drive sustainability communication and engagement, and improve reputation (internally and externally). This strategy includes, e.g. supply chain engagement to continuously strategically evolve sustainability topics in procurement. Since 2021, sustainability is also 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 the Compensation Report.
Management group	Monetary reward	Emissions reduction target	The attainment of sustainability targets is also integrated as an additional parameter into the long-term variable compensation of upper management, 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	Emissions reduction 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	Emissions reduction 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 target	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	Efficiency 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 and the Ideas Forum, employee suggestion programs, which honor improvement ideas from employees with monetary bonus payments. The Ideas Pool and Ideas Forum also acknowledge ideas that lead to ENERGY SAVINGS and thus incentivizes ideas for ENERGY EFFICIENCY AND CO2 REDUCTION, which helps Bayer achieve its GHG EMISSIONS TARGETS. More than 2,500 ideas were submitted in 2021. 42% of the suggestions for improvement evaluated in 2021 were implemented. 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	N/A
Medium-term	1	5	N/A
Long-term	5	10	N/A

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.

A) DIRECT OPERATIONS AND VALUE CHAIN

i) DEFINITION OF SUBSTANTIVE FINANCIAL OR STRATEGIC IMPACTS:

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.

ii) QUANTIFIABLE INDICATORS TO DEFINE SUBSTANTIVE FINANCIAL OR STRATEGIC IMPACT:

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 assessed on a net basis, taking into account the risk control measures in place to mitigate the potential impact and/or likelihood of occurrence. 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 effect on our strategy or reputation, the potential loss of stakeholder confidence, and the potential incomplete compliance with 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.

B) SUPPLIERS

i) DEFINITION OF SUBSTANTIVE FINANCIAL OR STRATEGIC IMPACTS:

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

ii) QUANTIFIABLE INDICATORS TO DEFINE SUBSTANTIVE FINANCIAL OR STRATEGIC IMPACT:

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). 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

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 risks, are recorded and monitored at an early stage in our risk management system. The risks are monitored CONTINUOUSLY by the risk 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 (e.g. analysis of EU Green Deal) and academic publications.

i) PROCESS TO IDENTIFY (SUBSTANTIVE) CLIMATE-RELATED RISKS AND OPPORTUNITIES:

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 (brand planning process). The identified opportunities and risks are updated at REGULAR conferences and incorporated into strategic and operational planning.

ii) PROCESS TO ASSESS (SUBSTANTIVE) CLIMATE-RELATED RISKS AND OPPORTUNITIES:

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.

Within our integrated holistic risk management system, the impact of each risk is rated according to quantity and/or quality. The QUANTITATIVE ASSESSMENT reflects the possible loss of cash flows. Risks are assessed on a net basis, taking into account the risk control measures in place to mitigate the potential impact and/or likelihood of occurrence. 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. 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. Risks are classified as high, medium or low to assess their materiality regarding the overall externally reported risk portfolio.

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.

iii) PROCESS TO RESPOND TO (SUBSTANTIVE) CLIMATE-RELATED RISKS AND OPPORTUNITIES:

The risk owners decide on a targeted risk level based on a cost-benefit analysis and define a risk management. The risk treatment strategy depends on the acceptable target risk level for the respective risk. The risk owners decide on the treatment strategy taking into account also already established risk management measures also referred to as mitigation activities. General options for risk management measures are either taking the risk - accepting it as it is - or (further) mitigating it - reducing either the likelihood of the risk materializing or the potential impact in case it materializes.

iv) CASE STUDIES:

PHYSICAL OPPORTUNITY:

Situation: Through the growth of climate uncertainty, Bayer identified food protection and security as one of the major climate-related risks that smallholder farmers are facing.

Task: To address this situation Bayer's Smart Corn System (SCS) necessitated a new plant type with greater resistance against climate threats (short-stature corn), as well as digitally enabled agronomic recommendations that drive precision and efficiency. Trials for short-stature corn hybrids indicate a greater tolerance to high winds and other climatic stresses, all while offering a potential of higher yields.

Action: Bayer has been working since 2010 on short-stature corn to enable the SCS. Combining new corn technologies with digital solutions, data-driven decision-making, modern and efficient management practices, a partnership approach, and potentially new business strategies such as outcome-based models, it is the next evolution of growing corn.

Result: Assuming successful progress in the deployment of these traits, a new solution effective in controlling crop loss such as greensnap, stalk lodging, and root lodging could be available for use alongside other important tools to improve the impact of climate-related problems.

TRANSITIONAL RISK:

Situation: 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.

Task: 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.

Action: The risk was then reported to the CHS Leadership Team and the responsible board member as well as to Accounting. 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. The transmission system operator has launched a judicial review of the existing "self-generation model" in QIV 2019.

Result: 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. Consultations on the use of the amnesty scheme with the transmission system operators are ongoing.

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	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider current regulation as relevant in our climate-related risk assessments BECAUSE compliance with climate-related regulations is critical to sustaining our business. Therefore 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.</p> <p>ii) 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 2021 and 2024, Bayer expects total costs of EUR 60-80 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.</p>
Emerging regulation	Relevant, always included	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider emerging regulation as relevant in our climate-related risk assessments BECAUSE it is critical to sustaining and developing our business. 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.</p> <p>ii) 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.</p>
Technology	Relevant, always included	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider technology as relevant in our climate-related risk assessments BECAUSE technology is an important driver not only for the development of our product portfolio and our operational efficiency, but it is also relevant in setting expectations about what can be achieved as the economies seek to reduce emissions of CO2 and other pollutants. Our sustainability and strategy 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 improve our cost position and reduce GHG emissions. In addition to our successful reduction of own and upstream emissions (CO2e) we consider technologies an enabler to mitigate climate-related risks. One prominent example is the combination of digital technologies and advanced irrigation technology to manage resources quality and ensure highest quality for our customers.</p> <p>ii) EXAMPLE: In terms of risks, technology could potentially have an impact on our competitiveness via an increase of operational costs, effectiveness of our products 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, incl. renewable fuels. 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. Since years we have projects in place to use satellite images, digital systems and irrigation technology (e.g. drip irrigation) to ensure the most effective water supply all along our seed production value chain.</p>
Legal	Relevant, always included	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider the legal framework in which we operate as relevant in our climate-related risk assessments BECAUSE compliance with applicable laws and regulations is generally relevant for Bayer. Relevant related risks are addressed in the ERM scope. Bayer closely monitors and reviews the global development in climate change litigation and in particular the claims raised against other German companies focusing on the automotive, energy and fossil oil business sectors, which carbon emission footprints, however, are not comparable with Bayer's.</p> <p>ii) 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. To date, the current litigation in this context has not generated a legally effective judgement.</p>
Market	Relevant, always included	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider market developments as relevant in our climate-related risk assessments BECAUSE they originate from both the supply and demand side. 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.</p> <p>ii) 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 2021 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. 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.</p>
Reputation	Relevant, always included	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider reputational risks as relevant in our climate-related risk assessments BECAUSE it is an essential part of our long-term success. 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).</p> <p>ii) 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 2021 Bayer was again evaluated by CDP as one of the leading international companies in the area of climate protection.</p>

	Relevance & inclusion	Please explain
Acute physical	Relevant, always included	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider acute physical risks as relevant in our climate-related risk assessments BECAUSE increases in severity and frequency of extreme weather conditions such as hurricanes, wildfire, and floods present major challenges to operations and the value chain. 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.</p> <p>ii) 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 (e.g. seed production activities). 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.</p>
Chronic physical	Relevant, always included	<p>i) RELEVANCE AND INCLUSION IN RISK ASSESSMENT: We consider chronic physical risks as relevant in our climate-related risk assessments BECAUSE for many regions in the world, changing weather patterns pose major challenges to operations and the value chain. Water scarcity is one major chronic effect of climate change. 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.</p> <p>ii) 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). Bayer's strategy and sustainability teams monitor long-term chronic climate implications to understand risks to our production systems (e.g. seed production) and to sustain and expand production of demanded commodities in challenged geographies, e.g. drive innovation to mitigate climate-related yield losses to provide solutions to growers and stay competitive.</p>

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation	Carbon pricing mechanisms
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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 18 million per year depending on the market price of the EUA) and indirectly through our energy industry. We expect between the years 2021 and 2024 additional costs of EUR 60-80 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)

60000000

Potential financial impact figure – maximum (currency)

80000000

Explanation of financial impact figure

i) APPROACH:

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 2021 and 2024, Bayer expects total costs of EUR 60-80 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 100 per ton during this period.

iii) ASSUMPTIONS:

We assume that the political decision makers are aiming for a certificate price of around EUR 130 per ton 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

22200000

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.

a) CASE STUDY:

Situation: Bayer is committed to limit global warming by reducing greenhouse gas emissions, which are contributing to changes in the earth's climate.

Task: Further reduction of emissions from own operations is required.

Action: Bayer is implementing more efficient production processes, thereby reducing emissions in its own operations. FOR EXAMPLE, efficiency measures in 2021 included process optimizations in several sites e.g. regarding heat recovery, pinch pointing, and effectiveness of steam generation.

Result: In 2021, Bayer implemented energy efficiency and emissions reduction projects that resulted in an overall reduction of 43,884 metric tons in CO2 emissions.

b) CASE STUDY:

Situation: 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 requirements.

Task: Engagement in a constructive dialogue with policy makers is required.

Action: 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.

Result: National liaison offices are key touchpoints between the company and political stakeholders (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 2021 amount to EUR 17.3 million.

b) In 2021, the costs incurred at our liaison offices in Europe for human resources, material and projects totaled approx. EUR 3.0 million in Berlin, Germany and EUR 1.9 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

Chronic physical	Changing precipitation patterns and types (rain, hail, snow/ice)
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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. 46% of the total Bayer Group sales with EUR 20,207 million. Extreme weather will have and already had effects on Crop Science sales. 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. Thus risks also pose opportunities where innovation can mitigate those risks for growers.

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) APPROACH:

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. 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).

iii) ASSUMPTIONS:

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.

Cost of response to risk

2029000000

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.

a) CASE STUDY:

Situation: All climate models anticipate an increase in extreme weather conditions. Losses in the United States due to bent plants amount to between 5 and 25% a year depending on the severity of weather events.

Task: 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.

Action: Through breeding, plant biotechnology and genome editing, we have succeeded in developing seed varieties that enable the growth of shorter corn plants that have the potential to not bend or break as easily as corn plants of regular height in the presence of strong winds or heavy rain.

Result: We intend to commercialize short-stature corn in the coming years.

b) CASE STUDY:

Situation: 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.

Task: We want to enable farmers to react better and more quickly to extreme weather conditions with our FieldView™ digital farming platform.

Action: This comprehensive digital product offering is promoted to farmers helping to improve yields, creating substantial advantages for the environment as well as to cope with extreme weather events and changing conditions.

Result: Climate FieldView™ is currently available in North America, South America, Turkey, South Africa, Australia and Europe.

COST CALCULATION:

Bayer's 2021 R&D investment of EUR 2.029 billion in our Crop Science division is unparalleled in the industry, leading to a robust innovation pipeline spanning seeds and trait technologies, crop protection and digital solutions. 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.

Comment

N/A

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
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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) APPROACH:

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.

iii) ASSUMPTIONS:

The additional carbon price on imports of certain goods from outside the EU could increase the price of primary purchasing products.

Cost of response to risk

4900000

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:

Situation: 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 requirements.

Task: Engagement in a constructive dialogue with policy makers is required.

Action: 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.

Result: National liaison offices are key touchpoints between the company and political stakeholders (implemented and ongoing).

COST CALCULATION:

In 2021, the costs incurred at our liaison offices in Europe for human resources, material and projects totaled approx. EUR 3.0 million in Berlin, Germany and EUR 1.9 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

i) CLEAR DESCRIPTION: The agricultural business is strongly tied to the climate. Droughts and precipitation extremes can have severe effects on yields. A climate change-induced change in the frequency of 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 products and 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.

ii) EFFECT ON BAYER: 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 in using precision breeding technologies to develop new varieties of crops tailored to grow well in diverse growing conditions. In our state-of-the-art glasshouse facility in Arizona we can simulate growing conditions 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 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. Flooded paddy rice has been identified as a significant contributor to emissions of methane, a potent greenhouse gas. As part of the India Sustainable Rice project started in 2021, Bayer is evaluating GHG reduction as well as water-saving potential in the cultivation of rice.

Other examples are the insecticide ConfidorTM, Stress ShieldTM and the fungicide NativoTM which also improve the resilience of crops against drought.

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)

97000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

i) APPROACH:

Financial implications apply to Crop Science as a whole affecting sales of EUR 20.2 billion in 2021, of which crop protection has a major impact with EUR 9.7 billion.

The global seeds and crop protection market grew strongly in 2021 (Fx adj. +7%; 2020: +4%).

ii) CALCULATION:

This expected growth is, amongst others, influenced by the climate. A continued growth of the crop protection demand by 1 % (compared to 2021) would translate into EUR 97 million additional revenues.

iii) ASSUMPTIONS:

For Crop Science, we expect a growth forecast for the seeds and crop protection market for 2022 of ~5%. 1 % is therefore a conservative assumption.

Cost to realize opportunity

70100000

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 2021, Crop Science invested EUR 2,029 million (2020: EUR 4,138 million) in R&D, which was 38% of R&D spending in the Bayer Group and equivalent to approx. 10% of Crop Science sales.

a) CASE STUDY:

Situation: The agricultural business is strongly tied to the climate. Droughts and precipitation extremes can have severe effects on harvest yields.

Task: 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.

Action: 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.

Result: DripByDrip is to be installed on all new Bayer ForwardFarms.

b) CASE STUDY:

Situation: The agricultural business is strongly tied to the climate. Droughts and precipitation extremes can have severe effects on harvest yields.

Task: Bayer is investing in research which contributes to the alleviation of the agronomic consequences of changing weather patterns.

Action: Together with Ginkgo Bioworks Bayer formed a new company in 2017, focusing on transformational beneficial microbes for plants.

Result: The initial activities will focus on nitrogen fixation for non-legumes, minimizing agriculture's environmental impact.

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 70 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:

Through the growth of climate uncertainty, Bayer identified food protection and security as one of the major climate-change risks that smallholder farmers are facing. In this sense, Bayer's Smart Corn System (SCS) includes a new plant type with greater resistance against climate threats (SHORT-STATURE CORN), as well as digitally enabled agronomic recommendations that drive precision and efficiency. Among other characteristics, trials for short-stature corn hybrids indicate a greater tolerance to high winds and other climatic stresses, all while offering a potential of higher yields.

According to the US Department of Agriculture climate change is likely to diminish continued progress on global food security through production disruptions that lead to local availability limitations and price increases, supply chain disruptions, and diminished food safety, among other causes. Weather related yield loss due to lodging and greensnap, and thus revenue. Therefore, demand for products to resist these and other climate threats will rise in affected regions.

ii) EFFECT ON BAYER:

In light of the increase in demand for these types of crops that climate change will continue to emphasize, Bayer is making efforts in technology behind short-stature corn. Bayer is working on several approaches to enable this product concept: breeding trait (closest to market introduction), biotechnology trait (in collaboration with BASF, in the advanced testing stage), and gene editing (discovery phase). Leveraging all three approaches to short-stature corn, Bayer anticipates the product concept could have a fit on more than 220 million global acres in the coming years.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1000000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

i) APPROACH:

Future financial implications for Bayer will be affected by an increase in demand for the Smart Corn System. Farmer demand will be driven by protection from yield loss, in season access, improving precise management, and increased yield potential through digitally enabled agronomic recommendations.

ii) CALCULATION:

USD 1 billion increase in net sales for the Smart Corn System in the U.S. at peak (mid-late next decade, sales prediction).

iii) ASSUMPTIONS:

Introduction in the U.S. in 2023 (mid-late decade in South America, Europe/Africa, and Asia).

Cost to realize opportunity

2029000000

Strategy to realize opportunity and explanation of cost calculation

To take advantage of product opportunities, Bayer is involved in R&D and provides seeds and traits to address climate solutions.

CASE STUDY:

Situation: Through the growth of climate uncertainty, Bayer identified food protection and security as one of the major climate-change risks that smallholder farmers are facing

Task: Meeting this challenge will require new crop varieties with greater resilience to climatic threats, as well as digitally supported agronomic recommendations that promote precision and efficiency.

Action: Bayer has been working since 2010 on short-stature corn to enable the Smart Corn System. The Smart Corn System has the potential to transform how corn is produced globally. It is an integrated system designed to address grower challenges, support higher yield potential, and sustainability at the same time. Combining new corn technologies with digital solutions, data-driven decision-making, modern and efficient management practices, a partnership approach, and potentially new business strategies such as outcome-based models, it is the next evolution of growing corn.

Result: Assuming successful progress in the deployment of these traits, a new solution effective in controlling crop loss such as greensnap, stalk lodging, and root lodging could be available for use alongside other important tools to improve the impact of climate-related problems.

COST CALCULATION:

To take advantage of product opportunities, Bayer is involved in R&D and provides seeds and traits to address climate solutions. Bayer contributes with a state-of-the-art research environment which include state of the art laboratories, a global testing network, and leading data science platforms. Bayer's 2021 R&D investment of EUR 2.029 billion in our Crop Science division is unparalleled in the industry, leading to a robust innovation pipeline spanning seeds and trait technologies, crop protection and digital solutions. Specific allocations of R&D expenses cannot be disclosed for competitive reasons.

Comment

N/A

Identifier

Opp3

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

i) CLEAR DESCRIPTION: Direct Seeded Rice (DSR) refers to establishing a rice crop from seeds directly sown in the field. The change in the cultivation practice from transplanting to direct seeding rice will reduce farm labour requirement significantly, improve soil health, reduce overall water requirement (no standing water in rice field) and therefore less methane release in the environment. Amongst benefits generated by DSR there are: efficient water usage and reduced GHG emissions (by ~30%), low cost of cultivation, early crop maturity. It also implies strong policy support, adoption with advisory services and new value with carbon credits. There are two principal methods of direct seeding of rice (DSR) in Asia: dry seeding (sowing dry seeds into dry soil), wet seeding (sowing pre-germinated seeds on wet puddled soils).

ii) EFFECT ON BAYER: Bayer is engaged in developing a rice crop system powered by direct seeding. This will reduce labor requirement, optimize water use for growing rice and reduce GHG emissions especially methane. Field pilots covering Bayer solutions, planting services and agronomy package testing and further development as well as generation of carbon credits are well under way since last year in India. Bayer has been working with IIRRI over past years in further developing / testing the right agronomy advice for farmers for direct seeded rice.

The rice crop system consists of e.g. Arize hybrid rice seeds, weed management solutions including Council, seed growth (Reatis), pest and disease management portfolio (Vayego, Nativo, Velum), digital enabled advisory / application services.

Time horizon

Long-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The impact has not been quantified financially.

Cost to realize opportunity

2029000000

Strategy to realize opportunity and explanation of cost calculation

Bayer is currently developing a holistic rice crop system powered by direct seeding which will comprise of a comprehensive portfolio tool box (S & T, SGR, weed/pest/disease management portfolio) digital enabled by advisory and services to enhance adoption and scale up. The crop system will be further differentiated by an opportunity for the farmer to be rewarded for a change of practice through generation of carbon credits. While we lead this transformation, we will collaborate and partner with other stakeholders covering strategic and operational elements. This entire approach will place Bayer in a unique position to truly shape and transform the future of rice cultivation into a more climate friendly, digitally savvy sustainable agriculture.

COST CALCULATION:

To take advantage of product opportunities, Bayer is involved in R&D and provides seeds and traits to address climate solutions. Bayer contributes with a state-of-the-art research environment which include state of the art laboratories, a global testing network, and leading data science platforms. Bayer's 2021 R&D investment of EUR 2.029 billion in our Crop Science division is unparalleled in the industry, leading to a robust innovation pipeline spanning seeds and trait technologies, crop protection and digital solutions. Specific allocations of R&D expenses cannot be disclosed for competitive reasons.

Comment

N/A

C3. Business Strategy

C3.1

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

Row 1

Transition plan

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

Publicly available transition plan

Yes

Mechanism by which feedback is collected from shareholders on your transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

Bayer considers climate protection and the related reduction of GHG emissions to be a top priority. We support the Paris Agreement and the objective of limiting global warming to 1.5°C relative to the pre-industrial level. The Science Based Targets initiative (SBTi) has validated our target and confirms our contribution to fulfilling the Paris Agreement.

Bayer has undertaken to achieve a net zero target for GHG emissions throughout the entire value chain by 2050 or earlier. As an external expression of commitment to net zero GHG emissions, the company also signed the Business Ambition for 1.5°C.

DIALOGUE WITH INVESTORS:

The capital markets’ increasing interest in sustainability is reflected in our dialogue with institutional investors. Inquiries in 2021 focused particularly on the sustainability strategy and targets, climate protection and goals incl. the Bayer Carbon Initiative, product stewardship, biodiversity, ratings and controversies, and sustainability governance mechanisms, including nonfinancial targets in compensation. Highlights included numerous bilateral investor conversations about ESG issues as well as regular discourse with the investor initiative Climate Action 100+ with regard to the company’s climate strategy.

DIALOGUE WITH ESG RATING AGENCIES:

We engage in regular dialogue with important ESG rating agencies, partly to support the objective assessment of our company and also to help us to better identify improvement opportunities and weaknesses in our own business.

DIALOGUE WITH STAKEHOLDERS:

Stakeholder dialogue helps us to recognize important trends and developments in society and our markets at an early stage and take this information into account when shaping our business. In strategic decision-making processes Bayer proactively approaches key social and political players. Such open dialogue enables us to identify opportunities and risks early on.

We determine the expectations and requirements of the various stakeholders using a materiality analysis that surveys global representatives of important stakeholder groups and managerial staff from various areas of the company.

INDEPENDENT SUSTAINABILITY COUNCIL:

A major element of our intensified sustainability efforts is the independent Sustainability Council that we have established. The Sustainability Council advises the Board of Management on the further development of its business strategy as regards sustainability and with respect to what contribution R&D can make to sustainability.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your transition plan (optional)

Bayer-Sustainability-Report-2021.pdf

Bayer_SustainabilityCouncil-Report-2021_0.pdf

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

<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

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

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

C3.2a

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

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Customized publicly available transition scenario	Company-wide	1.6°C – 2°C	<p>i) IDENTIFICATION OF SCENARIO: We have chosen to build on the Assessment Report 6 of the IPCC, especially the “Green Road” SSP1-2.6. The selected scenario shows high transitional impacts for us and in the business areas where we are active. We supplemented this base with further sources relevant to our business and drafted our own scenario description. To enhance our activities and scenario analysis, we have joined the Value Chain Risk to Resilience network hosted by Business for Social Responsibility (BSR).</p> <p>ii) PARAMETERS AND KEY ASSUMPTIONS: -Average mean temperature increase in 2040: 1.5°C; in 2060: 1.7°C; in 2100: 1.8°C (best estimate). -Full decarbonization by 2050 (reduction of 90% CO₂e compared to 2019). Carbon capture with high permanency at competitive cost and at scale available in 2040. -High transitional impacts across the world leading to a higher pressure to change and innovate business towards a net zero society. -Lower physical impacts. -Quick technological advances incl. hydrogen and electrification, energy demand increases by 4 times. -Fast growth of alternative fuels. First generation biofuels act as transition technology. -Population growth reaches 8.5 billion by 2050. Focus on SDGs, inequality is reduced and emphasis on human well-being. -Food systems move on accelerated path towards low-GHG emission systems incl. changes in animal feedstock, lower food waste, changing diets and food innovations. -Full circularity, less resource intensive consumption.</p> <p>iii) ANALYTICAL CHOICES: Climate change already today has an impact on our business and our value chains. We have identified 9 climate impact drivers of materiality for Bayer and prepared deep dive materials to evaluate impact and relevance: Transitional: 1) laws, regulations, policies, 2) carbon taxation/pricing, carbon border adjustments & offsetting, 3) commodity prices, 4) end customer, customer & markets, 5) food security Acute physical: 6) extreme weather events Chronic physical: 7) permanent water cycle, 8) diseases, 9) temperature Example: we have described regulations to be introduced to decarbonize agricultural value chains incl. behaviour change, waste streams and agricultural methods. We go beyond the customary Enterprise Risk Management time horizons and instead apply the following: short-term (2021–2025), mid-term (2026–2035), long-term (2036–2050). iv) SCENARIO USE: Quantitative and qualitative. We conducted expert workshops to discuss relevance and implications.</p>
Physical climate scenarios	Customized publicly available physical scenario	Company-wide	3.1°C - 4°C	<p>i) IDENTIFICATION OF SCENARIO: We have chosen to build on the Assessment Report 6 of the IPCC, especially the “Rocky Road” SSP3-7.0. The selected scenario assesses physical risks and regional differences, as we assume that countries/regions develop differently. We supplemented this base with further sources relevant to our business and drafted our own scenario description. To enhance our activities and scenario analysis, we have joined the Value Chain Risk to Resilience network hosted by Business for Social Responsibility (BSR).</p> <p>ii) PARAMETERS AND KEY ASSUMPTIONS WITH MATERIAL IMPACT: - Average mean temperature increase in 2040: 1.5°C; in 2060: 2.1°C; in 2100: 3.6°C (best estimate). - Significant amount of GHG are still emitted into the atmosphere. - No-additional-climate-policy scenario; lower and regional different transitional impacts (governments partially fail to introduce strict policies). - High physical impacts (increased acute and chronic physical changes with knock on effects). - Innovation continues as today. Lack of push and additional investments for fast adaptation of green innovative technology. - High population growth (10 billion by 2050), inequalities persist or worsen over time. - Unequal food security on current levels of diets, low-GHG emission food systems only partially implemented. - Limited circularity improvements, resource intensive consumption continues to significant extent.</p> <p>iii) ANALYTICAL CHOICES: Climate change already today has an impact on our business and our value chains. We have identified 9 different climate impact drivers of materiality for Bayer and prepared deep dive materials to evaluate impact and relevance: Transitional: 1) laws, regulations, policies, 2) carbon taxation/pricing, carbon border adjustments & offsetting, 3) commodity prices, 4) end customer, customer & markets, 5) food security Acute physical: 6) extreme weather events Chronic physical: 7) permanent water cycle, 8) diseases, 9) temperature Example: we use water scarcity models to see how water cycles change at our sites but also at our customers to generate actionable insights. We go beyond the customary Enterprise Risk Management time horizons and instead apply the following: short-term (2021–2025), mid-term (2026–2035), long-term (2036–2050). iv) SCENARIO USE: Quantitative and qualitative. We conducted expert workshops to discuss relevance and implications of climate impact drivers across the different scenarios and the time frames.</p>

C3.2b

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

Row 1

Focal questions

RATIONALE FOR SELECTING SCENARIOS DISCLOSED:

GREEN ROAD (SSP1-2.6): The scenario was selected BECAUSE it shows high transitional impacts for us and in the business areas where we are active.

ROCKY ROAD (SSP3-7.0): The scenario was selected BECAUSE it assesses physical risks and regional differences, as we assume that countries/regions develop differently, which are relevant for us and the business areas where we are active.

For both scenarios we project similar physical impacts until 2040.

FOCAL QUESTIONS:

With both scenarios we wanted to understand the transitional, acute physical and chronic physical impacts, which might result in both risks and opportunities for Bayer. Climate change already today has an impact on our business and our value chains. We have identified 9 different climate impact drivers of materiality for Bayer and prepared deep dive materials to evaluate impact and relevance. The goal of the analysis is to identify the relevance and change potential as pertains to Bayer and our fields of business and to determine further activities.

Transitional impact drivers:

- 1) laws, regulations, policies: change in regulations covering the food and health sector, e.g., increased food chain policies, product registrations
- 2) carbon taxation/pricing, carbon border adjustments & offsetting: change in carbon pricing, taxation of carbon and tariffs for different regions
- 3) commodity prices: change in commodity prices due to regulations and/or climate change impacts
- 4) end customer, customer & markets: changing consumer preferences and change in sales due to new/lost customers as a result of change in the environmental performance or change of the environment as such, increased legislative and economic pressures for customers/farmers/ distributors
- 5) food security: due to growing population agriculture will need to transition to systems that are more productive, use inputs more efficiently, and are more resilient to risks, shocks and long-term climate variability

Acute physical impact drivers:

- 6) extreme weather events: increased frequency and severity of hurricanes, floods, tornadoes, extreme precipitation, extreme wind, hail, dust storms, heat waves, fire

Chronic physical impact drivers:

- 7) permanent water cycle: impacts on the water cycle incl. changes in precipitation patterns, water scarcity and droughts
- 8) diseases: changes in disease distribution (crop and vector-borne diseases)
- 9) temperature: rising mean temperatures

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

RESULTS: All our business areas are impacted by climate change resulting in opportunities and risks for the overall Group.

See also our Sustainability Report 2021 at page 88.

Transitional impact drivers:

- 1) Regulations will be a strong driver short-term. Regulations more open to innovation and stricter oriented along science are a major opportunity for Bayer. In the Green Road they will be more consistent on global scale which increases opportunities when products are developed along the requirements.
- 2) Carbon pricing and border adjustments will increase cost. In the Rocky Road the risk increases as the world is assumed to get more fragmented with additional barriers. Opportunities exist for agriculture as offsetting might become a new business.
- 3) In the short-term the agriculture commodity price risks will be only slightly higher than today. With competitive products we expect more opportunities than risks due to our strength in innovation and R&D capabilities.
- 4) The demand for low-carbon products creates new opportunities in the Green Road that can be addressed with innovation. We expect to realize these opportunities due to our strength in innovation and R&D.
- 5) Following our mission "Hunger for None", for us food security plays a major role. Climate change will have an impact especially on smallholder. In the Rocky Road food security will become a key issue over time. Crisis state regulations might block market mechanisms.

Acute physical impact drivers:

- 6) Risks from extreme weather events will rise for Bayer. In the Green Road the risk increases to a medium level. In the Rocky Road risks will increase to high levels towards 2050 due to further temperature increase and respective further increase of likelihood and severity of extreme weather events. Our newly developed short corn is a first step into more resilient food systems.

Chronic physical:

- 7) Water and temperature changes are the core of climate impacts for the agricultural sector. The impact of water cycle is higher in the Rocky Road both due to higher temperature increase and stronger impacts on the water cycle as well as due to stronger conflicts around water usage.
- 8) Crop diseases and pests are likely to increase and move due to climate change. Diseases and rising diseases create a need for existing and innovative crop protection as well as resistant plants which Bayer is able to provide.
- 9) Temperature rise is the overarching driver and not in itself a risk or opportunity for Bayer. Temperature change will have significant impacts on biodiversity, seasonality, growing regions, changes in water cycle, as well as the continuing melt of glaciers for decades or centuries.

HOW RESULTS INFORM DECISIONS AND ACTIONS:

We looked at the climate-related risks and opportunities from various perspectives to integrate them into our strategy and to describe future challenges and opportunities as accurately as possible to derive short-, medium- and long-term mitigation measures.

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	<p>INFLUENCE/RATIONALE: 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.</p> <p>TIME HORIZON: Climate-related mid- to long-term weather trends influence our Crop Science business and are considered when formulating crop strategies.</p> <p>SUBSTANTIAL STRATEGIC DECISIONS: 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. By using its digital farming capabilities, Bayer is working to develop on farm GHG emissions and soil sequestration quantification and reporting. Bayer seeks to connect farmers to downstream revenue opportunities from GHG reporting and quantification coming from industries in the food, biofuel and fiber value chains and also from “hard-to-abate” industries that seek to reduce emissions by using offsets.</p>
Supply chain and/or value chain	No	<p>INFLUENCE/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.</p> <p>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.</p> <p>TIME HORIZON: Our procurement supply chain strategy has a mid- to long-term horizon.</p> <p>SUBSTANTIAL STRATEGIC DECISIONS: 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.</p>
Investment in R&D	Yes	<p>INFLUENCE/RATIONALE: 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, e.g. we have been the first company in Bangladesh to introduce submergence tolerant hybrid rice seeds allowing growers to cultivate rice in flood prone areas during wet season.</p> <p>TIME HORIZON: Our R&D has a long-term perspective.</p> <p>SUBSTANTIAL STRATEGIC DECISIONS: To address the global challenge of climate change, we have in our R&D pipeline sustainable solutions for advancing a net-zero carbon future for agriculture. Among them are digital tools for carbon sequestration measurement and precise input application as well as next-generation herbicide-tolerant traits to support no-till / conservation tillage systems. The herbicide Mateno Complete, with a third mode of action, is suitable for use in wheat and barley for hard-to-control grass and broadleaf weeds (peak sales potential of > EUR 50 million, registration and launch in 2022 season). In addition, we also have in our R&D pipeline a new herbicide molecule which is the first mode of action in post emergence weed control in 30 years. It allows use in various market segments, beyond traditional nonselective use, and has the potential to build on number one position in global herbicides (project is currently in phase 3).</p>
Operations	Yes	<p>INFLUENCE/RATIONALE: 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 and approved by the board.</p> <p>TIME HORIZON: Our CO2 reduction targets and measures have a mid- to long-term horizon.</p> <p>SUBSTANTIAL STRATEGIC DECISIONS: In 2021, three studies/strategic works were finalized to provide the base for strategic (investment) decisions: 1) A systematic sustainability check for all projects > EUR 500,000 was implemented. Background was to foster all green options before conceptual project decisions are made. 2) H2 recovery and utilization for steam generation for Camacari (Brazil). 3) For the ChemParks in Dormagen and Leverkusen we will participate in the ‘Currenta Innovation Cluster’ starting in 2022.</p> <p>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 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 environmentally relevant Bayer sites must have an HSE MANAGEMENT SYSTEM that complies with recognized international standards e.g. ISO 14001, ISO 45001 or ISO 50001. By the end of 2025, 80% of our business activity should have coverage with external certification to the above standards.</p> <p>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. LEAF mobilized more than \$1 billion in 2021 to initiate the biggest public-private effort to protect the rainforests. Certificates from activities undertaken in connection with LEAF are expected to be part of our offsetting portfolio beginning in 2023.</p>

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	<p>DIRECT AND INDIRECT COSTS:</p> <p>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.</p> <p>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.</p> <p>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 2021 and 2024, Bayer expects total costs of EUR 60-80 million due to the possible continuous tightening of the EU ETS.</p> <p>MAGNITUDE OF IMPACT:</p> <p>In 2021, 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.</p> <p>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 are shaping the development of a rice cropping system powered by direct seeding. The change in the cultivation practice from transplanting rice to direct seeding rice will reduce farm labour requirement significantly, improve soil health, reduce overall water requirement (no standing water in rice field) and therefore less methane release in the environment. Another example is the insecticide Confidor™ Stress Shield™ 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 70 million (USD 80 million) over the next 4-5 years into the Ginkgo Joint Venture.</p> <p>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.</p>

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

No, but we plan to in the next two years

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)

Scope 1

Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

<Not Applicable>

Base year

2019

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

2080000

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

1680000

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

<Not Applicable>

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

3760000

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

100

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

100

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

<Not Applicable>

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

100

Target year

2029

Targeted reduction from base year (%)

42

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

2180800

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

1930000

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

1240000

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

<Not Applicable>

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

3170000

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

37.3606889564336

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 target coverage and identify any exclusions

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.

Plan for achieving target, and progress made to the end of the reporting year**PLAN TO ACHIEVE THE TARGET:**

To implement our long-term climate strategy, our focus lies on reducing the greenhouse gas emissions associated with our operations and on the resilience of our business fields. Our roadmap comprises various measures in the areas of energy & efficiency, governance and offsetting.

Electricity from renewable energies: by 2029, we intend for 100% of the electricity we purchase to be derived from renewable sources.

Investment in efficiency measures and renewable energies: to achieve an absolute reduction in our remaining emissions, we intend to invest EUR 500 million through 2030 in renewable energies and in increasing the energy efficiency of our facilities and buildings.

PROGRESS MADE TO THE END OF REPORTING YEAR:

Electricity from renewable energies: in 2021, we pressed ahead with the conversion of our Group-wide electricity procurement, and renewable energies now account for 24.7% of our total purchased electricity volume. We have defined specific criteria for the procurement of green electricity and published this information on our website. These criteria include the geographical proximity between power generation locations and Bayer's sites, the use of new production sources and a focus on wind and solar energy. The criteria are based on the next-generation green power guidelines of the WWF (World Wide Fund for Nature).

Investment in efficiency measures and renewable energies: we are investing in process innovations, more efficient facilities and building technology, as well as in the implementation and optimization of energy management systems, particularly at our production sites. Capital expenditure projects are under way at various sites to advance the use of climate neutral technologies such as geothermal energy or emissions-free steam production.

ANTICIPATED PROGRESS CURVE:

The rate of progress towards the target is anticipated and observed to change from year to year.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Abs 2

Year target was set

2019

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

Category 1: Purchased goods and services

Category 2: Capital goods

Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)

Category 4: Upstream transportation and distribution

Category 6: Business travel

Base year

2019

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

<Not Applicable>

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

<Not Applicable>

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

8871000

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

8871000

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

<Not Applicable>

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

<Not Applicable>

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

88.3

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

88.3

Target year

2029

Targeted reduction from base year (%)

12.3

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

7779867

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

<Not Applicable>

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

<Not Applicable>

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

8160000

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

8160000

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

65.1616255763505

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 target coverage and identify any exclusions

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 rise below 2°C.

Plan for achieving target, and progress made to the end of the reporting year**PLAN TO ACHIEVE THE TARGET:**

We aim to reduce greenhouse gas emissions along the upstream and downstream value chain through cooperation with suppliers and customers. As the ability of one company on its own to reduce greenhouse gas emissions along the value chain is only limited, Bayer has joined together with other companies within various initiatives.

PROGRESS MADE TO THE END OF REPORTING YEAR:

We aim to ascertain the level of greenhouse gas emissions and climate risks and develop reduction targets and strategies within the scope of programs such as the Together for Sustainability (TfS) initiative of the chemical industry. Bayer heads up the working group to reduce greenhouse gas emissions in the supply chain.

Through the Supply Chain Initiative of CDP, we ask our strategically important suppliers and those who account for a significantly high proportion of our emissions in the value chain to provide us with more exact greenhouse gas emissions data. Using the methods of the Supply Chain Initiative, we aim to learn more about the greenhouse gas emissions of our suppliers and the share of these emissions attributable to products and services sourced by us. We also ascertain reduction targets and the use of renewable energies. By applying the Supply Chain Initiative methods, furthermore, we aim to identify potential for reducing greenhouse gas emissions among our suppliers and incorporate this potential into our supplier development efforts.

In 2021, we – like our biggest transport and logistics partners and various industrial companies – began to implement the IT solution “EcoTransIT World” for automatic calculation of transport-related greenhouse gas emissions. Bayer is also a member of the EcoTransIT World Initiative.

Furthermore, we take advantage of the Pharmaceutical Supply Chain Initiative (PSCI) working group to engage in dialogue within the pharmaceutical industry about measures to reduce Scope 3 emissions.

ANTICIPATED PROGRESS CURVE:

The rate of progress towards the target is anticipated and observed to change from year to year.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Abs 3

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

<Not Applicable>

Base year

2019

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

2080000

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

1680000

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

<Not Applicable>

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

3760000

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

100

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

100

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

<Not Applicable>

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

100

Target year

2024

Targeted reduction from base year (%)

20

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

3008000

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

1930000

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

1240000

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

<Not Applicable>

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

3170000

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

78.4574468085106

Target status in reporting year

Underway

Is this a science-based target?

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

Target ambition

<Not Applicable>

Please explain target coverage and identify any exclusions

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%.

Plan for achieving target, and progress made to the end of the reporting year

PLAN TO ACHIEVE THE TARGET:

To implement our long-term climate strategy, our focus lies on reducing the greenhouse gas emissions associated with our operations and on the resilience of our business fields. Our roadmap comprises various measures in the areas of energy & efficiency, governance and offsetting.

Electricity from renewable energies: by 2029, we intend for 100% of the electricity we purchase to be derived from renewable sources.

Investment in efficiency measures and renewable energies: to achieve an absolute reduction in our remaining emissions, we intend to invest EUR 500 million through 2030 in renewable energies and in increasing the energy efficiency of our facilities and buildings.

PROGRESS MADE TO THE END OF REPORTING YEAR:

Electricity from renewable energies: in 2021, we pressed ahead with the conversion of our Group-wide electricity procurement, and renewable energies now account for 24.7% of our total purchased electricity volume. We have defined specific criteria for the procurement of green electricity and published this information on our website. These criteria include the geographical proximity between power generation locations and Bayer's sites, the use of new production sources and a focus on wind and solar energy. The criteria are based on the next-generation green power guidelines of the WWF (World Wide Fund for Nature).

Investment in efficiency measures and renewable energies: we are investing in process innovations, more efficient facilities and building technology, as well as in the implementation and optimization of energy management systems, particularly at our production sites. Capital expenditure projects are under way at various sites to advance the use of climate neutral technologies such as geothermal energy or emissions-free steam production.

ANTICIPATED PROGRESS CURVE:

The rate of progress towards the target is anticipated and observed to change from year to year.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Abs 4

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

Category 1: Purchased goods and services

Category 2: Capital goods

Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)

Category 4: Upstream transportation and distribution

Category 6: Business travel

Base year

2019

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

<Not Applicable>

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

<Not Applicable>

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

8871000

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

8871000

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

<Not Applicable>

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

<Not Applicable>

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

88.3

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

88.3

Target year

2024

Targeted reduction from base year (%)

6

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

8338740

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

<Not Applicable>

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

<Not Applicable>

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

8160000

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

8160000

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

133.581332431518

Target status in reporting year

Underway

Is this a science-based target?

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

Target ambition

<Not Applicable>

Please explain target coverage and identify any exclusions

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%.

Plan for achieving target, and progress made to the end of the reporting year**PLAN TO ACHIEVE THE TARGET:**

We aim to reduce greenhouse gas emissions along the upstream and downstream value chain through cooperation with suppliers and customers. As the ability of one company on its own to reduce greenhouse gas emissions along the value chain is only limited, Bayer has joined together with other companies within various initiatives.

PROGRESS MADE TO THE END OF REPORTING YEAR:

We aim to ascertain the level of greenhouse gas emissions and climate risks and develop reduction targets and strategies within the scope of programs such as the Together for Sustainability (TfS) initiative of the chemical industry. Bayer heads up the working group to reduce greenhouse gas emissions in the supply chain. Through the Supply Chain Initiative of CDP, we ask our strategically important suppliers and those who account for a significantly high proportion of our emissions in the value chain to provide us with more exact greenhouse gas emissions data. Using the methods of the Supply Chain Initiative, we aim to learn more about the greenhouse gas emissions of our suppliers and the share of these emissions attributable to products and services sourced by us. We also ascertain reduction targets and the use of renewable energies. By applying the Supply Chain Initiative methods, furthermore, we aim to identify potential for reducing greenhouse gas emissions among our suppliers and incorporate this potential into our supplier development efforts.

In 2021, we – like our biggest transport and logistics partners and various industrial companies – began to implement the IT solution "EcoTransIT World" for automatic calculation of transport-related greenhouse gas emissions. Bayer is also a member of the EcoTransIT World Initiative.

Furthermore, we take advantage of the Pharmaceutical Supply Chain Initiative (PSCI) working group to engage in dialogue within the pharmaceutical industry about measures to reduce Scope 3 emissions.

ANTICIPATED PROGRESS CURVE:

The rate of progress towards the target is anticipated and observed to change from year to year.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

C4.2**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

Target(s) to increase low-carbon energy consumption or production

Net-zero target(s)

Other climate-related target(s)

C4.2a

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

Target reference number

Low 1

Year target was set

2019

Target coverage

Company-wide

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2019

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

48333

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

2

Target year

2029

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

96

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

24.7

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

24.1489361702128

Target status in reporting year

Underway

Is this target part of an emissions target?

Abs1

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 target coverage and identify any exclusions

In 2019, Bayer set and published the 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.

Plan for achieving target, and progress made to the end of the reporting year

PLAN TO ACHIEVE THE TARGET:

To implement our long-term climate strategy, our focus lies on reducing the greenhouse gas emissions associated with our operations and on the resilience of our business fields. Our roadmap comprises various measures in the areas of energy & efficiency, governance and offsetting.

Electricity from renewable energies: by 2029, we intend for 100% of the electricity we purchase to be derived from renewable sources.

PROGRESS MADE TO THE END OF REPORTING YEAR:

In 2021, we pressed ahead with the conversion of our Group-wide electricity procurement, and renewable energies now account for 24.7% of our total purchased electricity volume.

We have defined specific criteria for the procurement of green electricity and published this information on our website. These criteria include the geographical PROXIMITY between power generation locations and Bayer's sites, the use of new production sources (ADDITIONALITY) and a focus on wind and solar energy. The criteria are based on the next-generation green power guidelines of the WWF (World Wide Fund for Nature).

To monitor and track Bayer's activities and progress different performance indicators have been defined, e.g. % of renewable electricity with grid connection: target 50% (addressing proximity) or % of renewable electricity coming from investments younger than 15 years upon conclusion of the contract: target 50% (addressing additionality).

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2b

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

Target reference number

Oth 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 relative to base year [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 target coverage and identify any exclusions

In 2019, we set the goal to help reduce in-field emissions of our farming customers per kg of crop produced in our key markets by 30% till 2030. 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 (helping to reduce GHG emission) through product innovation and digital tools.

Base year and target figures are representing the in-field GHG footprint of our farming customer across key markets in scope, with estimated total emissions of 100 million t CO2e.

Plan for achieving target, and progress made to the end of the reporting year

PLAN TO ACHIEVE THE TARGET:

In addition to our commitments to carbon neutrality for our own operations, we aim to enable our farming customers to reduce their greenhouse gas emissions per kilogram of crop produced by 30% through 2030. This applies for the highest greenhouse gas emitting crop systems and in the regions Bayer serves with its products. Therefore, our focus lies on soy and corn in the United States, Brazil and Argentina, paddy rice in India, and wheat, cotton and oilseed rape/canola in various geographies.

The scope of our efforts is focused on emissions of major greenhouse gases: carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) from field operations.

PROGRESS MADE TO THE END OF REPORTING YEAR:

To achieve our target, we foster the adoption of climate-smart practices and technologies by our farming customers. These include high-yielding crop genetics, crop protection products, precision irrigation systems, soil management tactics through no-till and cover crops, crop rotation, root health, fertilization management, microorganisms and inoculants, a switch to dry-seeded rice, and digital and precision farming tools.

To learn how to scale the adoption of climate-smart practices and solutions, create new value streams for our farming customers and business opportunities for ourselves, and at the same time benefit the environment, Bayer is driving the implementation of Carbon Farming Initiatives in every region we serve:

North America: In the U.S., the Bayer PRO Carbono rewards farmers for adopting climate-smart practices. Growers can receive guaranteed payments based on the adoption of these practices and the number of acres enrolled per year.

Latin America: As part of the Bayer Carbon Program, farmers in Brazil who fulfill the requirements, such as social and environmental compliance, and adopt climate-smart practices, are eligible for soil collection and analyses with our partner, Embrapa. The effort was launched in 2021 with approximately 1,800 farmers (over 200,000 acres).

Europe: Bayer launched its decarbonization program for agriculture in 2021. We are engaging in open discussions with key regional, local and global food chain partners.

Asia/Pacific: Flooded paddy rice has been identified as a significant contributor to emissions of methane, a potent greenhouse gas. As part of the India Sustainable Rice project started in 2021, Bayer is evaluating greenhouse gas emissions reduction potential in the cultivation of rice.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2c

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

Target reference number

NZ1

Target coverage

Company-wide

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

Abs1

Target year for achieving net zero

2050

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years

Please explain target coverage and identify any exclusions

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.

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

Yes

Planned milestones and/or near-term investments for neutralization at target year

Bayer has undertaken to achieve a net zero target for greenhouse gas emissions throughout the entire value chain by 2050 or earlier. As an external expression of commitment to net zero greenhouse gas emissions, the company also signed the Business Ambition for 1.5°C, a campaign of the SBTi in partnership with the U.N. Global Compact and the We Mean Business Coalition.

On our way to net zero, we aim to achieve climate neutrality at all our own sites by 2030.

We align our CAPEX spending with our ambition to achieve net zero GHG emissions by 2050, in line with the global goal to limit global warming to 1.5C. Bayer plans to invest EUR 500 million in energy efficiency and climate-friendly measures until 2030. We also engage in innovative lighthouse projects to foster techniques for long-term carbon removal.

To anticipate climate-related business risks and opportunities and drive internal change, we have set ourselves an internal carbon price of EUR 100 per metric ton when calculating our capital expenditure 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 of 100% purchased electricity from renewable sources.

To achieve climate neutrality, we will offset our own emissions (Scope 1 and 2) that still remain following reduction through technological measures and cannot be avoided (such as greenhouse gas emissions generated by chemical processes) by purchasing certificates from climate protection projects that meet recognized quality standards. These projects need to have a connection to our own business. Here as well, we have established specific criteria for our own procurement of certificates from climate protection projects. In this process, we focus on nature-based climate solutions, preferably concerning forestry and agriculture projects. We will also invest in innovative projects to promote the development of voluntary carbon markets. We report on our website on our strategy and the projects we support. We offset 300,000 metric tons of our greenhouse gas emissions in 2021 by financing reforestation and forest conservation projects, for example in Brazil, Indonesia, Nicaragua and Uganda.

Planned actions to mitigate emissions beyond your value chain (optional)

N/A

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	239	663583
To be implemented*	172	122358
Implementation commenced*	297	265970
Implemented*	147	359647
Not to be implemented	309	784683

C4.3b

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

Initiative category & Initiative type

Energy efficiency in buildings	Building Energy Management Systems (BEMS)
--------------------------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

2314

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

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

32000

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

58000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

In 2021, several projects have been implemented around Building Energy Management Systems, e.g. technology for automating and controlling energy consumption.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

1196

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

Scope 1

Voluntary/Mandatory

Voluntary

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

233000

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

1935000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2021, several projects have been implemented with HVAC-optimizations e.g. adapted operation of HVAC.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

598

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

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

107000

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

425000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

In 2021, several projects have been implemented to change lighting to LED and to modify the timing of common areas lighting schedules.

Initiative category & Initiative type

Low-carbon energy generation	Solar heating and cooling
------------------------------	---------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

18

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

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

3000

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

32000

Payback period

11-15 years

Estimated lifetime of the initiative

21-30 years

Comment

In 2021, a project has been implemented to install alternative heating technology (solar tubes on roof top).

Initiative category & Initiative type

Energy efficiency in production processes	Compressed air
---	----------------

Estimated annual CO2e savings (metric tonnes CO2e)

374

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

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

92000

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

177000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

In 2021, several projects have been implemented to improve compressor operation.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

1053

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

Scope 1

Voluntary/Mandatory

Voluntary

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

150000

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

467000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

In 2021, several projects have been implemented to improve cooling equipment and to reduce cooling demands.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

6811

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

Scope 1

Voluntary/Mandatory

Voluntary

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

198000

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

13084000

Payback period

>25 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2021, several projects have been implemented to replace various pumps 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)

1003

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

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

63000

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

111000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In 2021, 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)

6377

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

Scope 1

Voluntary/Mandatory

Voluntary

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

1679000

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

288000

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

In 2021, several projects have been implemented with process optimizations like heat recovery, pinch pointing, and effectiveness of steam generation.

Initiative category & Initiative type

Energy efficiency in production processes	Reuse of steam
---	----------------

Estimated annual CO2e savings (metric tonnes CO2e)

21387

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

Scope 1

Voluntary/Mandatory

Voluntary

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

285000

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

0

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

In 2021, several projects have been implemented to reuse steam and to reduce steam losses.

Initiative category & Initiative type

Energy efficiency in production processes	Smart control system
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

1965

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

Scope 1

Voluntary/Mandatory

Voluntary

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

291000

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

499000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In 2021, projects have been implemented to improve and automate process control.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

236

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

Scope 1

Voluntary/Mandatory

Voluntary

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

4000

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

7000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

In 2021, projects have been implemented to recover heat for further use in our production processes.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

315763

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

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

0

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

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

In 2021, 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)

83

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

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

8900

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

92000

Payback period

11-15 years

Estimated lifetime of the initiative

21-30 years

Comment

In 2021, projects have been implemented to install PV panels for own electricity consumption.

Initiative category & Initiative type

Transportation	Company fleet vehicle replacement
----------------	-----------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

40

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

Scope 1

Voluntary/Mandatory

Voluntary

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

9000

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

16000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

In 2021, several projects have been implemented to change transportation equipment from fossil fuel to electric and 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)

399

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

Scope 3 category 5: Waste generated in operations

Voluntary/Mandatory

Voluntary

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

1601000

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

145000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

In 2021, projects have been implemented to reuse and recycle various components, e.g. reuse of non-agrochemical empty container.

Initiative category & Initiative type

Waste reduction and material circularity	Waste reduction
--	-----------------

Estimated annual CO2e savings (metric tonnes CO2e)

30

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

Scope 3 category 5: Waste generated in operations

Voluntary/Mandatory

Voluntary

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

81000

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

7000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

In 2021, projects have been implemented to reduce waste and to apply alternative disposal methods.

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?**

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

Other, please specify (Internal evaluation in accordance with standardized taxonomies)

Type of product(s) or service(s)

Other	Other, please specify (Agricultural practices)
-------	---

Description of product(s) or service(s)

In close cooperation with growers, we are committed to reducing our customers' in-field GHG emissions per kg of crop produced by 30% in the most emitting cropping systems that we serve by 2030. Among other technologies, the Climate FieldView™ digital agriculture platform provides farmers with centralized field data management and visualization to optimize fertility and seeding management. The new Data Manager feature in FieldView (U.S. release summer 2022) will help users to track their adoption of CLIMATE-SMART AGRICULTURAL PRACTICES such as conservation tillage, cover crops and optimized N-fertilizer application.

NO TILLAGE:

Soil health depends on the continued capacity of soil to function as a living ecosystem. Tillage can contribute to soil erosion and is an environmental problem worldwide. Tillage releases CO2 from the ground. Conservation tillage helps sequester carbon in the soil and therefore mitigate climate change, support soil health and improve food security

COVER CROPS:

Cover crops are species of grass, small grains, legumes or brassicas grown for seasonal protection and/or soil improvement. Cover crops provide valuable biomass to the soil when left on the field and capture carbon.

N-FERTILIZER:

Bayer has a partnership with VariMax, a new Nitrogen Tool for FieldView™ customers. The N-CHECK Nitrogen Management tool provides real-time nitrogen prescriptions, using actual data from farmers' crops and fields to produce a specific application recommendation.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Internal calculation in accordance with best practice calculation methods (e. g. Cool Farm Tool) and scientific studies)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Gate-to-gate

Functional unit used

Applying CLIMATE-SMART AGRICULTURAL PRACTICES (on a one hectar field over a whole year)

vs.

Applying conventional agricultural practices (on a one hectar field over a whole year)

Measuring effects in kg CO2 per year and hectar.

Reference product/service or baseline scenario used

Conventional agricultural practices.

Tillage: It involves mechanically turning the soil which can contribute to soil erosion, releases CO2 and is an environmental problem worldwide. Fuel used for tillage also contributes to carbon emissions.

Leave fields fallow: Without cover crops, no additional carbon is captured and the soil is prone to erosion and CO2 release.

N-fertilizer use: Without active management use of nitrogen fertilizers is less efficient and leads to more nitrous oxide emissions.

Life cycle stage(s) covered for the reference product/service or baseline scenario

Gate-to-gate

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

2.861

Explain your calculation of avoided emissions, including any assumptions

PLEASE NOTE: We do not disclose information for particular business for competitive reasons. Therefore, the stated % of REVENUE GENERATED from low-carbon products DOES NOT reflect our current share of revenue from low-carbon products, as we can not disclose this specific information.

CALCULATION OF AVOIDED EMISSIONS:

To estimate avoided emissions we refer to the scientific paper from McNunn et al. (2020):

County-scale GHG reductions corresponding with a conversion from conventional tillage to no-tillage practices are estimated to be have a mean reduction potential of 1,477 kg CO2e per ha per yr (SOC, N2O, and CH4 flux reductions of 945, 549, -17 kg CO2e per ha per yr, respectively, where a negative reduction indicates an increase in emissions.) with a standard deviation of 605 kg CO2e per ha per yr. Additionally, the adoption of cover crops is predicted to provide a mean reduction of 678 kg CO2e per ha per yr (SOC, N2O, and CH4 flux reductions of 824, -173, 26.7 kg CO2e per ha per yr, respectively), and improved N-fertilizer timing is estimated to mitigate 413 kg CO2e per ha per yr (SOC, N2O, and CH4 flux reductions of 75, 337, 1 kg CO2e per ha per yr, respectively). The adoption of multiple CSA practices is estimated to have the greatest mean reduction potential of 2,861 kg CO2e per ha per yr (SOC, N2O, and CH4 flux reductions of 2,210, 611, 39 kg CO2e per ha per yr, respectively). Use of the spatially explicit subfield modeling approach based on public data provides a relatively low-cost approach for strategically targeting CSA practices to agricultural regions where adoption is most impactful (McNunn et al., 2020).

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

1

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology	<p>Bayer applies a spend-based method to determine its Scope 3 emissions for category 3.1 (purchased goods and services), 3.2 (capital goods) and the warehousing part of 3.4 (upstream transportation and distribution). To enhance data quality and to exclude effects from extreme price fluctuations not covered in the statistical price model used in the basic approach, primary data from Bayer on price effects of our purchased goods are included in the model.</p> <p>An additional change was applied to the Scope 3.4. (upstream transportation and distribution) calculation method. The correction affected some of the activity data (weight of delivered product) that are extracted from Bayer's SAP system. Compared to previous year a threshold (from 100t to 60t) as well as the estimation approach (considering mode of transport and legal entity) were changed.</p>

C5.1c

(C5.1c) Have your organization's base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	Because of the methodological change we recalculated the baseline.

C5.2

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

Scope 1

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

2080000

Comment

N/A

Scope 2 (location-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1770000

Comment

N/A

Scope 2 (market-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1680000

Comment

N/A

Scope 3 category 1: Purchased goods and services

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

6621000

Comment

N/A

Scope 3 category 2: Capital goods

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

508000

Comment

N/A

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

728000

Comment

N/A

Scope 3 category 4: Upstream transportation and distribution

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

656000

Comment

N/A

Scope 3 category 5: Waste generated in operations

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

337000

Comment

N/A

Scope 3 category 6: Business travel

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

303000

Comment

N/A

Scope 3 category 7: Employee commuting

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

122000

Comment

N/A

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3 category 12: End of life treatment of sold products

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

718000

Comment

N/A

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

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)

1930000

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

N/A

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

N/A

C6.3

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

Reporting year

Scope 2, location-based

1560000

Scope 2, market-based (if applicable)

1240000

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

N/A

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

Emissions in reporting year (metric tons CO2e)

6315000

Emissions calculation methodology

Spend-based method
Average spend-based method

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

0

Please explain

"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. In 2021 we enhanced the embedded price-adjustment approach to mitigate inflation. The model uses GWP values from IPCC's AR 5 (2013) for a 100-year time horizon including carbon feedbacks.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

479000

Emissions calculation methodology

Spend-based method

Average spend-based method

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

0

Please explain

"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. In 2021 we enhanced the embedded price-adjustment approach to mitigate inflation. The model uses GWP values from IPCC's AR 5 (2013) for a 100-year time horizon including carbon feedbacks.

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

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

629000

Emissions calculation methodology

Average data method

Fuel-based method

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

0

Please explain

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.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

712000

Emissions calculation methodology

Average data method
Spend-based method
Average spend-based method
Distance-based method

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

0

Please explain

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.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

270000

Emissions calculation methodology

Average data method
Waste-type-specific method
Site-specific method

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

0

Please explain

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.

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

31000

Emissions calculation methodology

Supplier-specific method
Average data method
Distance-based method

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

5

Please explain

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 our relevant rental car companies, covering the main share of Bayer's global rental car travel emissions. (C) Selected rail providers share with Bayer the GHG footprint for our business trips. 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. We used primary data to the largest extent and only extrapolated if needed. (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. (B) GHG emissions are directly calculated by the rental car companies. (C) The total emissions are calculated as a sum of emissions provided by the rail providers and an estimation for the rest of world. For the latter, passenger-kilometers are estimated and then multiplied the latest emission factors available from Sphera's GaBi product sustainability database.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

119000

Emissions calculation methodology

Average data method
Distance-based method

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

0

Please explain

(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.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO₂e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Bayer's business model is not based on leasing assets, in line with the definition given by the GHG Protocol's "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" (page 47).

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO₂e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

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 included in category 4 (Upstream transportation and distribution).

Processing of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO₂e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

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).

Use of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO₂e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

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

Emissions in reporting year (metric tons CO₂e)

387000

Emissions calculation methodology

Average data method
Waste-type-specific method

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

0

Please explain

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.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

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 2021.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Scope 3 emissions resulting from franchises are not reported because this category is not applicable to Bayer.
A due-diligence check took place in 2021.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Scope 3 emissions resulting from investments are not reported because this category is not applicable to Bayer.
A due-diligence check took place in 2021.

Other (upstream)

Evaluation status

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

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

0.00007016

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

3170000

Metric denominator

unit total revenue

Metric denominator: Unit total

45183000000

Scope 2 figure used

Market-based

% change from previous year

15.1

Direction of change

Decreased

Reason for change

In 2021, Bayer's CO2 emissions intensity decreased. In 2021, our total CO2 emissions decreased by approximately 11%. In the same period, Bayer's revenue increased by approximately 4% (currency-adjusted). Therefore, in 2021, Bayer had a decrease of total specific emissions expressed in metric tons CO2e per revenue of approximately 15%.

Part of this decrease is due to EMISSION REDUCTION ACTIVITIES. In 2021, 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, 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 359,647 metric tons in CO2 emissions in 2021. The main reason for this decline is the increased share of electricity purchased from renewable sources (Scope 2: from 6.1% in 2020 to 24.7% in 2021). In 2021 we have used more than 760,000 MWh from renewable sources in the following countries: Spain, Netherlands, Finland, Italy, Romania, Germany, Brazil, Guatemala, Chile, the United States, Switzerland, Colombia and India. We have already signed contracts to further increase our renewables share. By 2029 we want to source 100% electricity from renewable sources.

Intensity figure

31.82

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

3170000

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

99637

Scope 2 figure used

Market-based

% change from previous year

11.5

Direction of change

Decreased

Reason for change

In 2021 Bayer's specific emissions expressed in metric tons CO2e per FTE were 31.82. In 2021 our total CO2 emissions decreased by approximately 11%. In the same period Bayer's overall number of FTEs increased by 0.1%. Therefore, in 2021, Bayer had a decrease of total specific emissions expressed in metric tons CO2e per FTE of approximately 12%.

Part of this decrease is due to EMISSION REDUCTION ACTIVITIES. In 2021, 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, 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 359,647 metric tons in CO2 emissions in 2021. The main reason for this decline is the increased share of electricity purchased from renewable sources (Scope 2: from 6.1% in 2020 to 24.7% in 2021). In 2021 we have used more than 760,000 MWh from renewable sources in the following countries: Spain, Netherlands, Finland, Italy, Romania, Germany, Brazil, Guatemala, Chile, the United States, Switzerland, Colombia and India. 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	1900000	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	3000	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	7000	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	14000	IPCC Fifth Assessment Report (AR5 – 100 year)
PFCs	0	IPCC Fifth Assessment Report (AR5 – 100 year)
SF6	0	IPCC Fifth Assessment Report (AR5 – 100 year)
NF3	0	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify (CCI3F2, CCI2F2, CHClF2, CH3Cl, CH3Br, CCl4)	9000	IPCC Fifth Assessment Report (AR5 – 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	1198000
Belgium	191000
Germany	276000
India	42000
Brazil	65000
Argentina	61000
Mexico	19000
France	13000
Spain	10000
China	4000
Other, please specify (Rest of World)	54000

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	181000
Consumer Health	19000
Crop Science	1609000
Others: Vehicle fleet, enabling functions	124000

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)
United States of America	970000	757000
Germany	342000	256000
India	49000	47000
Brazil	25000	18000
Belgium	7000	8000
China	34000	34000
Argentina	19000	19000
Mexico	26000	26000
Spain	6000	0
France	3000	3000
Other, please specify (Rest of the world)	75000	70000

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	174000	117000
Consumer Health	66000	54000
Crop Science	1312000	1064000
Others	4000	3000

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	316000	Decreased	8.83	i) Calculation: In 2021, the increase in consumption of renewable energy of 2,076 teraJ (2,816-740=2,076) led to a decrease of approximately 316,000 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 3,580,000 t CO2e, therefore we arrived at a reduction of 8.83% through $(-316,000 / 3,580,000) * 100 = -8.83\%$. ii) Explanation: In 2020, 25 Bayer sites consumed renewable energy. In 2021, 39 sites consumed renewable energy. This led to a total reduction of 8.83% due to significant increase in renewable energy consumption.
Other emissions reduction activities	44000	Decreased	1.23	i) Calculation: In 2021, approximately 44,000 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 3,580,000 t CO2e, therefore we arrived at a reduction of 1.23% through $(-44,000 / 3,580,000) * 100 = -1.23\%$. ii) Explanation: This decrease is due to EMISSION REDUCTION ACTIVITIES. In 2021, 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, reduction of leakage. HVAC optimizations and changing of lighting systems also had an influence.
Divestment	0	No change	0	N/A
Acquisitions	0	No change	0	N/A
Mergers	0	No change	0	N/A
Change in output	51000	Decreased	1.42	i) Calculation: In 2021, approximately 51,000 t CO2e were reduced due to changes in the product mix and volumes of our sales. Our total Scope 1 and Scope 2 (market-based) emissions in the previous year were 3,580,000 t CO2e, therefore we arrived at a reduction of 1.42% through $(-51,000 / 3,580,000) * 100 = -1.42\%$. ii) Explanation: This decrease is due to CHANGES IN THE PRODUCT MIX AND VOLUMES of our sales. Our differentiated product portfolio consists of products with specific CO2e intensities. In 2021, a change in the product mix and volumes of our sales (less volumes of products with higher CO2e intensities) led to a reduction of 1.42%.
Change in methodology	0	No change	0	N/A
Change in boundary	0	No change	0	N/A
Change in physical operating conditions	0	No change	0	N/A
Unidentified	0	No change	0	N/A
Other	0	No change	0	N/A

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)	276000	4744000	5020000
Consumption of purchased or acquired electricity	<Not Applicable>	760000	2313000	3073000
Consumption of purchased or acquired heat	<Not Applicable>	0	0	0
Consumption of purchased or acquired steam	<Not Applicable>	23000	1194000	1217000
Consumption of purchased or acquired cooling	<Not Applicable>	0	176000	176000
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	1059000	8427000	9486000

C-CH8.2a

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

Consumption of fuel (excluding feedstocks)

Heating value

MWh consumed from renewable sources inside chemical sector boundary

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

Consumption of purchased or acquired electricity

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

Consumption of purchased or acquired heat

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

Consumption of purchased or acquired steam

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

Consumption of purchased or acquired cooling

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

Consumption of self-generated non-fuel renewable energy

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

Total energy consumption

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

MWh consumed from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary

Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

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.

Sustainable biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

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

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

N/A

Other biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

276000

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

276000

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

N/A

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

N/A

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

169000

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

169000

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

N/A

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

128000

MWh fuel consumed for self-generation of electricity

5000

MWh fuel consumed for self-generation of heat

96000

MWh fuel consumed for self-generation of steam

16000

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self- cogeneration or self-trigeneration

11000

Comment

N/A

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

2963000

MWh fuel consumed for self-generation of electricity

68000

MWh fuel consumed for self-generation of heat

429000

MWh fuel consumed for self-generation of steam

723000

MWh fuel consumed for self-generation of cooling

19000

MWh fuel consumed for self- cogeneration or self-trigeneration

1724000

Comment

N/A

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

1484000

MWh fuel consumed for self-generation of electricity

8000

MWh fuel consumed for self-generation of heat

1160000

MWh fuel consumed for self-generation of steam

186000

MWh fuel consumed for self-generation of cooling

4000

MWh fuel consumed for self- cogeneration or self-trigeneration

126000

Comment

N/A

Total fuel

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

5020000

MWh fuel consumed for self-generation of electricity

81000

MWh fuel consumed for self-generation of heat

1685000

MWh fuel consumed for self-generation of steam

1370000

MWh fuel consumed for self-generation of cooling

23000

MWh fuel consumed for self- cogeneration or self-trigeneration

1861000

Comment

N/A

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	130000	96000	1000	1000
Heat	0	0	0	0
Steam	2294000	1695000	0	0
Cooling	3761000	3758000	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.

Electricity

Total gross generation inside chemicals sector boundary (MWh)

Generation that is consumed inside chemicals sector boundary (MWh)

Generation from renewable sources inside chemical sector boundary (MWh)

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

Heat

Total gross generation inside chemicals sector boundary (MWh)

Generation that is consumed inside chemicals sector boundary (MWh)

Generation from renewable sources inside chemical sector boundary (MWh)

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

Steam

Total gross generation inside chemicals sector boundary (MWh)

Generation that is consumed inside chemicals sector boundary (MWh)

Generation from renewable sources inside chemical sector boundary (MWh)

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

Cooling

Total gross generation inside chemicals sector boundary (MWh)

Generation that is consumed inside chemicals sector boundary (MWh)

Generation from renewable sources inside chemical sector boundary (MWh)

Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

C8.2e

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

Scope 2 figure reported in C6.3.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Country/area of low-carbon energy consumption

Netherlands

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

9100

Country/area of origin (generation) of the low-carbon energy or energy attribute

Netherlands

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, three sites purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Renewable energy)

Country/area of low-carbon energy consumption

Spain

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

31400

Country/area of origin (generation) of the low-carbon energy or energy attribute

Spain

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, six sites purchased low-carbon electricity.

Sourcing method

Unbundled energy attribute certificates (EACs) purchase

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Country/area of low-carbon energy consumption

Finland

Tracking instrument used

GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

19100

Country/area of origin (generation) of the low-carbon energy or energy attribute

Finland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, one site purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Country/area of low-carbon energy consumption

Italy

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

14400

Country/area of origin (generation) of the low-carbon energy or energy attribute

Italy

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, one site purchased low-carbon electricity.

Sourcing method

Other, please specify (Certificates from energy provider)

Energy carrier

Steam

Low-carbon technology type

Renewable energy mix, please specify (Hydropower, Wind, Solar)

Country/area of low-carbon energy consumption

Finland

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

22800

Country/area of origin (generation) of the low-carbon energy or energy attribute

Finland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, one site purchased low-carbon steam and heat.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Renewable energy)

Country/area of low-carbon energy consumption

Romania

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

3300

Country/area of origin (generation) of the low-carbon energy or energy attribute

Romania

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, one site purchased low-carbon electricity.

Sourcing method

Direct procurement from an off-site grid- connected generator e.g. Power purchase agreement (PPA)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Wind and Hydropower)

Country/area of low-carbon energy consumption

Germany

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

103100

Country/area of origin (generation) of the low-carbon energy or energy attribute

Germany

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, seven sites purchased low-carbon electricity.

Sourcing method

Unbundled energy attribute certificates (EACs) purchase

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Country/area of low-carbon energy consumption

Brazil

Tracking instrument used

I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

67100

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Comment**

In 2021, six sites purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Country/area of low-carbon energy consumption

Guatemala

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

7600

Country/area of origin (generation) of the low-carbon energy or energy attribute

Guatemala

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Comment**

In 2021, three sites purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Country/area of low-carbon energy consumption

Chile

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

4000

Country/area of origin (generation) of the low-carbon energy or energy attribute

Chile

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Comment**

In 2021, three sites purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Wind, Hydropower, Solar)

Country/area of low-carbon energy consumption

United States of America

Tracking instrument used

US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

478300

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Comment**

In 2021, five sites purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Wind, Hydropower, Solar)

Country/area of low-carbon energy consumption

Switzerland

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

15800

Country/area of origin (generation) of the low-carbon energy or energy attribute

Switzerland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Comment**

In 2021, one site purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Hydropower (capacity unknown)

Country/area of low-carbon energy consumption

Colombia

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

2600

Country/area of origin (generation) of the low-carbon energy or energy attribute

Colombia

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Comment**

In 2021, one site purchased low-carbon electricity.

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Country/area of low-carbon energy consumption

India

Tracking instrument used

Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

3100

Country/area of origin (generation) of the low-carbon energy or energy attribute

India

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

In 2021, one site purchased low-carbon electricity.

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area

Netherlands

Consumption of electricity (MWh)

9100

Consumption of heat, steam, and cooling (MWh)

100

Total non-fuel energy consumption (MWh) [Auto-calculated]

9200

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Spain

Consumption of electricity (MWh)

31400

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

31400

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Italy

Consumption of electricity (MWh)

17900

Consumption of heat, steam, and cooling (MWh)

400

Total non-fuel energy consumption (MWh) [Auto-calculated]

18300

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Finland

Consumption of electricity (MWh)

19100

Consumption of heat, steam, and cooling (MWh)

26000

Total non-fuel energy consumption (MWh) [Auto-calculated]

45100

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Romania

Consumption of electricity (MWh)

6600

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

6600

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Germany

Consumption of electricity (MWh)

407000

Consumption of heat, steam, and cooling (MWh)

693600

Total non-fuel energy consumption (MWh) [Auto-calculated]

1100600

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Brazil

Consumption of electricity (MWh)

165600

Consumption of heat, steam, and cooling (MWh)

76800

Total non-fuel energy consumption (MWh) [Auto-calculated]

242400

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Guatemala

Consumption of electricity (MWh)

8300

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

8300

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Chile

Consumption of electricity (MWh)

4500

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

4500

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

United States of America

Consumption of electricity (MWh)

2001400

Consumption of heat, steam, and cooling (MWh)

485300

Total non-fuel energy consumption (MWh) [Auto-calculated]

2486700

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Switzerland

Consumption of electricity (MWh)

15700

Consumption of heat, steam, and cooling (MWh)

85100

Total non-fuel energy consumption (MWh) [Auto-calculated]

100800

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Colombia

Consumption of electricity (MWh)

3200

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

3200

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

India

Consumption of electricity (MWh)

68100

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

68100

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Other, please specify (Rest of World)

Consumption of electricity (MWh)

315100

Consumption of heat, steam, and cooling (MWh)

25700

Total non-fuel energy consumption (MWh) [Auto-calculated]

340800

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

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

1001000

Metric numerator

Tons

Metric denominator (intensity metric only)

-

% change from previous year

7

Direction of change

Increased

Please explain

The total volume of waste generated rose by 7.1% in 2021 compared to 2020. This was mainly attributable to seed production being increased at several sites in Latin America and larger volumes of plant byproducts then being disposed of.

Description

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

Metric value

138600

Metric numerator

MWh

Metric denominator (intensity metric only)

-

% change from previous year

20

Direction of change

Increased

Please explain

Waste used for conversion into energy slightly rose by 20% compared to 2020, still at an insignificant level.

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-2021.pdf

Page/ section reference

Bayer Sustainability Report 2021: Independent Auditor's Report on a Limited Assurance: p. 114f; Assured Scope 1 emissions on p. 90: 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-2021.pdf

Page/ section reference

Bayer Annual Report 2021: Independent Auditor's Report on Reasonable Assurance: p. 223ff; Assured Scope 1 emissions on p. 67: 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-2021.pdf

Page/ section reference

Bayer Sustainability Report 2021: Independent Auditor's Report on a Limited Assurance: p. 114f; Assured Scope 2 location-based emissions p. 90: 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-2021.pdf

Page/ section reference

Bayer Sustainability Report 2021: Independent Auditor's Report on a Limited Assurance: p. 114f; Assured Scope 2 market-based emissions p. 90: 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-2021.pdf

Page/ section reference

Bayer Annual Report 2021: Independent Auditor's Report on Reasonable Assurance: p. 223ff; Assured Scope 2 market-based emissions on p. 67: 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: Purchased goods and services
Scope 3: Capital goods
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: End-of-life treatment of sold products

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-2021.pdf

Page/section reference

Bayer Sustainability Report 2021: Independent Auditor's Report on a Limited Assurance: p. 114f; Assured Scope 3 emissions p. 91: 7.4 Greenhouse Gas Emissions.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Purchased goods and services
Scope 3: Capital goods
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: End-of-life treatment of sold products

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-2021.pdf

Page/section reference

Bayer Annual Report 2021: "Limited Assurance Report of the Independent Auditor on the Group's Supplemental Non-Financial Reporting in the Combined Management Report": p. 233f; Assured Scope 3 emissions on page 67: "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-2021.pdf Bayer-Annual-Report-2021.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-2021.pdf Bayer-Annual-Report-2021.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-2021.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-2021.pdf Bayer-Annual-Report-2021.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-2021.pdf Bayer-Annual-Report-2021.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 2021

Period end date

December 31 2021

Allowances allocated

185000

Allowances purchased

196000

Verified Scope 1 emissions in metric tons CO2e

315000

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

N/A

C11.1d

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

STRATEGY FOR COMPLYING WITH THE REGULATIONS:

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.

APPLICATION OF THE STRATEGY:

As written above, in the light of the EU ETS Bayer set ambitious reduction plans and targets to secure our ongoing compliance. Starting in 2007 with the Bayer Climate Program. This 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.

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 therefore developed a net zero roadmap to achieve our ambitious climate targets. This roadmap comprises various measures in the areas of energy & efficiency, governance and offsetting. To implement our long-term climate strategy, our focus lies on reducing the greenhouse gas emissions associated with our operations and on the resilience of our business fields. To achieve an absolute reduction in our remaining emissions, we intend to invest €500 million through 2030 in renewable energies and in increasing the energy efficiency of our facilities and buildings. We are investing in process innovations, more efficient facilities and building technology, as well as in the implementation and optimization of energy management systems, particularly at our production sites. Furthermore we are aligning our capital expenditures to our goal of achieving net zero greenhouse gas emissions by 2050. This is in line with the international goal of limiting global warming to 1.5°C. To drive this transition, we have established an internal CO2 price of €100 per metric ton of CO2 for the calculation of our capital expenditure projects. 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

Location: Indonesia

Project Type: Restoration/ Afforestation

Project Summary: The CCB Gold Sumatra Merang Peatland Project is restoring more than 22,900 hectares of peatland rainforest in the Merang region of Indonesia. Protecting an area more than 3.5 times the size of Manhattan, the project targets the Merang biodiversity corridor, one of the largest and deepest peat swamps in South Sumatra.

Location: Nicaragua

Project Type: Afforestation

Project Summary: Our project in eastern Nicaragua has planted more than 1 million plants of a native species of giant clumping bamboo, covering 2,361 hectares while protecting an additional 1,000 hectares of old forest as a conservation zone. It has transformed a degraded landscape into a flourishing and biodiverse ecosystem.

Location: Peru

Project Type: Afforestation

Project Summary: The Rainforest Community Project brings together hundreds of local families and small-scale concession holders which harvest Brazil nuts in the Peruvian Amazon. Through investment from the project, these nuts can be sustainably harvested, processed and sold directly to international export markets for the first time. The project provides a viable alternative to deforestation in providing sustainably generated income for local communities.

Location: Uganda

Project Type: REDD+

Project Summary: The plantation sites are located in the Bukaleba Central Forest Reserve (BCFR) in the district of Mayuge in Eastern Uganda. It establishes and manages exotic and indigenous reforestation on 2,000 hectares of degraded shrub and grassland.

Location: Uruguay

Project Type: Afforestation

Project Summary: Based in eastern Uruguay, the project covers various forest sites that were previously used for grazing by beef cattle, a form of land use which causes major soil erosion and land degradation. The areas were degraded beyond the point of natural regeneration, so the project involves replanting the area with native trees.

Verified to which standard

VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)

300000

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

300000

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. Carbon price is applied to all divisions and business units.

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 energy taxation trends. The price and the framework of the incentive scheme will be reviewed after two years to ensure effectiveness and revalidate market assumptions. This shadow pricing approach improves the net present value (NPV) of climate-friendly projects and gives them a higher priority.

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.

As a tool to steer sufficient investment into sustainable alternatives, Bayer decided to apply a cross-divisional stimulus to CAPEX projects with an incentive of EUR 100 per metric ton of reduced or avoided CO2e emissions. By applying this incentive in NPV / DCF calculations, the payback time is shortened, and projects which reduce / avoid CO2e emissions become financially competitive with other projects.

A technical procedure "Sustainability in Investment Project Approvals" provides details on formal integration into CAPEX project approvals.

First evaluations show that the incentive is well accepted and adopted by all functions and divisions.

Example 1:

A project to install a new wastewater evaporator at one site was approved following the new procedure. The project appeared especially attractive with a payback including the incentive of 1.7 years compared with a payback without the incentive of 4.3 years.

Example 2:

A project to install an economizer at a boiler at one site was approved following the new procedure. The project appeared especially attractive with a payback including the incentive of 2.1 years compared with a payback without the incentive of 4.9 years.

Additionally, we conduct ecological assessments of relevant investments.

C12. Engagement

C12.1

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

- Yes, our suppliers
- Yes, our customers/clients
- 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

4

% total procurement spend (direct and indirect)

41

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

44

Rationale for the coverage of your engagement

As Scope 3 emissions account for 70.6% of our total emissions, suppliers are a strategic priority for us. Bayer had in 2021 about 93,844 suppliers in 144 countries.

RATIONALE:

Because we cannot engage with all, we selected relevant suppliers to be evaluated. For climate-related evaluation, we use two main approaches:

i) CDP SUPPLY CHAIN (CDP SC),

ii) Our Supplier Sustainability Evaluation (SSE) instruments, which are EcoVadis online assessments and Sustainability Audit protocols from the Together for Sustainability (TfS) initiative and the Pharmaceutical Supply Chain Initiative (PSCI). Excluding duplicates, we covered 3,462 suppliers (4%), representing 41% of total procurement spend and 44% of Scope 3 emissions.

i) Bayer is a lead member of the CDP SC initiative. In 2021, we invited 273 corporations, equaling 2,285 Bayer-suppliers, to disclose to us: (a) top-GHG-emitting suppliers, (b) strategically important suppliers, (c) suppliers that are active in relevant sustainability initiatives.

ii) We nominated suppliers for an EcoVadis assessment and a TfS-audit or PSCI-audit (a) because of the sustainability risk scoring (i.e., a combined sustainability risk score that considers the sustainability risk of country where the material is purchased from as well as the sustainability risk of the sub-category to which the purchased material belongs to) or (b) because of the strategic importance of the supplier. In 2021, Bayer assessed: 802 suppliers via EcoVadis, 77 suppliers via sustainability audits (67 on-site audits and 10 virtual audits). In addition to the 802 suppliers, we also received in 2021 from 1,251 suppliers additional EcoVadis. EcoVadis includes in its assessment climate and energy related aspects. The audit criteria cover the issues from our Bayer Supplier Code of Conduct (SCoC), which includes a section on "Natural Resource Conservation and Climate Protection". The audit protocols include industry-specific requirements; both initiatives standardize and advance sustainability requirements in their supply chain (chemical / pharmaceutical).

The Bayer SCoC is integrated in our Purchase Orders (POs) and contracts. An extra document, the Bayer SCoC Guidance, is available for suppliers and contains detailed key expectations, leading practices, and references for each SCoC topic.

Impact of engagement, including measures of success

i) MEASURES OF SUCCESS:

We set ambitious targets and measure TARGET FULFILLMENT.

TARGET #1: We have a Science-based Target (SBT) to reduce our absolute GHG supply chain emissions (Scope 3) by 12.3% till end of 2029 (base year 2019).

TARGET #2: All strategically important suppliers have to present an EcoVadis rating of at least 45 of 100 points or a comparable result in a TfS or PSC audit.

ii) IMPACT OF ENGAGEMENT:

To enable its efforts, Bayer has joined several initiatives.

(A) Via the CDP SC initiative we asked in 2021 our top-GHG-emitting suppliers and our strategically important suppliers to disclose to us their climate program and GHG data. We hosted supplier webinars together with CDP and focused our engagement on 11 KPIs from the CDP questionnaire, which we selected. One of the KPIs is the identification of reduction potential. Those suppliers, which we evaluated in 2021, received a personalized feedback email in which we laid out our perception of their performance with respect to those 11 KPIs. We included a guidance how the supplier can improve on those 11 KPIs and will evaluate in the next reporting cycle.

(B) The EcoVadis online assessments and sustainability audits are analyzed to identify specific improvement measures. In case suppliers had received a critical result, Bayer requests that the suppliers remedy the identified weaknesses within an appropriate timeframe based on specific action plans. Our monthly monitoring shows that 508 of 879 suppliers evaluated in 2021 improved their sustainability performance.

Also in 2021, Bayer headed in the TfS initiative the working group "GHG Scope 3 Emissions". This group aims to standardize the calculation of product carbon footprints (PCF) for the chemical industry and to develop a PCF collection and sharing approach for the chemical supply chain. This TfS group is collaborating with the Partnership for Carbon Transparency (PACT), a working group of the World Business Council for Sustainable Development's (WBCSD) "SOS 1.5". Bayer is also a direct member of the WBCSD's PACT. In the PSCI, Bayer joined several meetings from the "Environmental" and the "Scope 3" working groups in 2021 to share what Bayer is doing, and what the TfS initiative is doing with respect to Scope 3 emissions, to engage in dialogue within the pharmaceutical industry about measures to reduce Scope 3 emissions.

Comment

Also, we sent in 2021 to our suppliers in scope for CDP SC and for our classical Supplier Sustainability Evaluation a letter from our Chief Procurement Officer (CPO) in which we strategically and clearly position Bayer's Climate Protection ambition, which includes our SBT and our Scope 3-reduction ambition. Our CPO raised the expectation to suppliers to take respective Climate Protection action at their end too.

Also in 2021, Bayer organized a global virtual Supplier Day. Climate Protection and Sustainability in the Supply Chain were fully included by addressing it in the central plenary session and by hosting sustainability-breakout sessions. One titled "SCIENCE-BASED TARGETS: SO WHAT?" with a guest speaker from CDP on setting Science-based Targets and one titled "RENEWABLE ELECTRICITY – HOW TO PURCHASE IT AROUND THE WORLD" with a guest speaker from one of our utilities providing Bayer with renewable electricity.

Also in 2021, Bayer became a member of the EcoTransIT World Initiative and thereby joined our biggest transport and logistics suppliers and various other industrial companies. EcoTransIT World aims to continuously evolve and harmonize the methods for determining emissions in the transport sector worldwide and thus creating a globally acknowledged methodology.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Education/information sharing	Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services
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% of customers by number

100

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

Please explain the rationale for selecting this group of customers and scope of engagement

Global agriculture and food systems are confronted with major challenges, such as climate change, water scarcity and population growth. Intensive agriculture with high yields per hectare of farmland is a crucial factor for ensuring the continued availability of high-quality and affordable food. Agricultural intensification leads to less land being required for the same amount of food produced. Digital technologies play an important role here, as do improved seed and good agricultural practices.

i) RATIONALE:

According to a report of the Intergovernmental Panel on Climate Change (IPCC), agriculture, forestry and other land use account for about 25% of all greenhouse gas (GHG) emissions worldwide. Bayer can influence 25% of the agricultural value chains worldwide. The role we can play in protecting the climate is enormous. That's why we are doing everything in our power to fully exhaust decarbonization potential in farming and to make it more efficient and resilient. With the help of new processes, GHG emissions from farming can not only be reduced, but can also be captured in the soil. Tremendous, still largely untapped potential exists here. We create the financial incentives that will enable farmers to tap into this potential in the future.

ii) SCOPE OF ENGAGEMENT:

To achieve our target, we foster the adoption of climate-smart practices and technologies by our farming customers. These include high-yielding crop genetics, crop protection products, precision irrigation systems, soil management tactics through no-till and cover crops, crop rotation, root health, fertilization management, microorganisms and inoculants, a switch to dry-seeded rice, and digital and precision farming tools. Combining different levers can lead to customized profitable tailored solutions for our farming customers. To learn how to scale the adoption of climate-smart practices and solutions, create new value streams for our farming customers and business opportunities for ourselves, and at the same time benefit the environment, Bayer is driving the implementation of CARBON FARMING INITIATIVES in every region we serve. We promote the sustainable intensification of farming through innovative, ever more productive crops. This allows farmers to produce more food from the same amount of farmland. In this way, we play an important role in reducing deforestation.

Impact of engagement, including measures of success

i) MEASURES OF SUCCESS:

We aim to enable our farming customers to reduce their greenhouse gas emissions per kilogram of crop produced by 30% through 2030. This applies for the highest greenhouse gas emitting crop systems and in the regions Bayer serves with its products. Therefore, our focus lies on soy and corn in the United States, Brazil and Argentina, paddy rice in India, and wheat, cotton and oilseed rape/canola in various geographies. The scope of our efforts is focused on emissions of major greenhouse gases: carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) from field operations. The sources of greenhouse gas emissions include cultivation, decomposition of applied fertilizers and organic matter, and irrigation. To measure progress against our target, we will use representative samples of field-level data from a third-party market research data provider (Kynetec UK Ltd.) obtained in interviews with randomly selected farmers.

ii) THRESHOLD:

We aim to reduce our farming customers' in-field greenhouse gas emissions in our key markets by 30% per kg of crop produced by 2030.

iii) IMPACT OF ENGAGEMENT:

Climate change is presenting major challenges for farmers worldwide. Crop losses not only threaten the farmers' future and that of their families, but also pose a risk to the global food supply. At the same time, the cultivation of food produces greenhouse gas emissions. Farming therefore plays a key role on the road to a climate-neutral global economy. Through innovations in the areas of seeds, crop protection, agricultural practices and digital solutions, we are helping to make farming both climate-neutral and climate-resilient. We work together with farmers and partners throughout the value chain. We work to ensure that farmers also benefit financially from such solutions, as that is the only way to enable their rapid implementation. Our CARBON FARMING INITIATIVE launched in 2020 already offers farmers in Brazil, the United States, Europe and Asia financial incentives to apply climate-friendly methods and capture greenhouse gases in the soil. For example, in 2021, approximately 1,800 farmers from 16 different states in Brazil (over 200,000 acres) participated in the Bayer Carbon Program.

C12.1d

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

EXAMPLE 1:

PARTNER:

Bayer collaborates with organizations and stakeholders representing every link in the food value chain, as a lighthouse project of the **World Economic Forum's (WEF) CEO Action Group**. The **European Carbon+ Farming Coalition** is an ecosystem of partners from 9 sectors (farmers associations, agribusiness, banking, digital, insurance, academic research, food processors, non-governmental organizations, and international organizations). Bayer is a partner and ACTIVELY SUPPORTED the work of the European Carbon+ Farming Coalition. Our Head of Crop Science Division and Member of the Board of Management of Bayer AG is a member.

ENGAGEMENT STRATEGY:

The **European Carbon+ Farming Coalition** aims to accelerate the farm-level transition towards sustainable agriculture and accelerate progress towards achieving the goals of the European Green Deal. An ambitious group of 14 multistakeholder organizations have stepped out of their competitive spaces and come together under the Carbon+ Farming Journey coalition. They will develop and enact cost-effective, practical solutions that will accelerate the uptake of sustainable agriculture, such as regenerative or climate-smart practices.

The coalition aims to keep farmers at the centre of the decision-making process. Partners will innovate with farmers, rather than for farmers. A recent report from the World Economic Forum with Deloitte and NTT Data finds that if farmers are supported to take climate-smart actions, by 2030 the EU could reduce its agricultural GHG emissions by an estimated 6%, restore soil health of over 14% of its total agricultural land, and add between €1.9bn and €9.3bn annually to farmers' incomes.

EXAMPLE 2:

PARTNER:

As an innovative platform to promote partnerships and address challenges throughout the food system, our **Bayer Food Chain Partnership** brings together farmers, food processors, retailers, traders, and others along the food value chain.

ENGAGEMENT STRATEGY:

The central element is the **BayG.A.P. service program** via which Bayer TRAINS growers to successfully implement good agricultural practices. Our TRAININGS enable farmers on how to reduce the environmental footprint of farming, use crop protection products effectively and safely, and how to ensure human rights of the farms' workforce. 382 food value chain partnership initiatives in 35 countries and 62 crops are initiated. 250,569 growers worldwide have been trained with BayG.A.P. 1,749 growers from India, Mali, and Thailand obtained the G.A.P. Letter of Conformance or local G.A.P. certification.

Bayer also reinforces its support for sustainable agriculture with **Bayer ForwardFarming**. There are currently 26 ForwardFarms spread across Europe (20), Latin America (4) and Asia (2).

Bayer's industry-leading **CARBON INITIATIVE** is the result of years of work validating a SCIENCE-BASED approach and methodology. 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 in-field GHG emissions of our farming customers per kg of crop produced in our key markets by 30% till 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. Since the launch, in July 2020, over 2,600 growers were enrolled from 10 different countries, 1.4M+ acres were added, and 500,000 tonnes of carbon was sequestered in the soil. In addition, \$4 million was returned to farmers.

EXAMPLE 3:

PARTNER:

Bayer is engaging with other partners in the value chain through SusChem. 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.

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**. 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.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Complying with regulatory requirements

Description of this climate related requirement

Bayer works continuously to strategically evolve sustainability topics in procurement. In the coming years, the company intends to place increasing importance on environmental and human rights requirements throughout the supply chain and on the Supplier Diversity Program. In 2021, we began developing indicators to monitor progress in the various sustainability focus areas and define suitable targets. In 2021, we continued to ensure that all strategically important suppliers had to present an EcoVadis rating of at least 45 of 100 points ("green" assessment) or a comparable audit result. Since 2021, furthermore, potential new suppliers with a high inherent sustainability risk and procurement spend of more than EUR 250,000 have been examined in advance with regard to sustainability aspects. The core principles of our sustainability requirements are established in Bayer's Supplier Code of Conduct, which is based on our Bayer Human Rights Policy, the principles of the U.N. Global Compact and the core labor standards of the International Labour Organization. The code is available in 12 languages and covers the areas of ethics, relations with employees and other stakeholders (including human rights), health, safety, environment and quality, and governance and management systems. In our Supplier Code of Conduct, we state that complaints and (compliance) violations can be reported – anonymously if desired – via a central compliance hotline set up by Bayer that is available worldwide.

% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

95

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment

Supplier scorecard or rating

Other, please specify (Contracts in which the Bayer SCoC is not used, are tracked in a Sourcing Exception Repository)

Response to supplier non-compliance with this climate-related requirement

Retain and engage

Climate-related requirement

Implementation of emissions reduction initiatives

Description of this climate related requirement

Bayer works continuously to strategically evolve sustainability topics in procurement. In the coming years, the company intends to place increasing importance on environmental and human rights requirements throughout the supply chain and on the Supplier Diversity Program. In 2021, we began developing indicators to monitor progress in the various sustainability focus areas and define suitable targets. In 2021, we continued to ensure that all strategically important suppliers had to present an EcoVadis rating of at least 45 of 100 points ("green" assessment) or a comparable audit result. Since 2021, furthermore, potential new suppliers with a high inherent sustainability risk and procurement spend of more than EUR 250,000 have been examined in advance with regard to sustainability aspects.

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% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

95

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment

Supplier scorecard or rating

Other, please specify (Contracts in which the Bayer SCoC is not used, are tracked in a Sourcing Exception Repository)

Response to supplier non-compliance with this climate-related requirement

Retain and engage

Climate-related requirement

Purchasing renewable energy

Description of this climate related requirement

Bayer works continuously to strategically evolve sustainability topics in procurement. In the coming years, the company intends to place increasing importance on environmental and human rights requirements throughout the supply chain and on the Supplier Diversity Program. In 2021, we began developing indicators to monitor progress in the various sustainability focus areas and define suitable targets. In 2021, we continued to ensure that all strategically important suppliers had to present an EcoVadis rating of at least 45 of 100 points ("green" assessment) or a comparable audit result. Since 2021, furthermore, potential new suppliers with a high inherent sustainability risk and procurement spend of more than EUR 250,000 have been examined in advance with regard to sustainability aspects.

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% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

95

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment

Supplier scorecard or rating

Other, please specify (Contracts in which the Bayer SCoC is not used, are tracked in a Sourcing Exception Repository)

Response to supplier non-compliance with this climate-related requirement

Retain and engage

Climate-related requirement

Setting a low-carbon energy target

Description of this climate related requirement

Bayer works continuously to strategically evolve sustainability topics in procurement. In the coming years, the company intends to place increasing importance on environmental and human rights requirements throughout the supply chain and on the Supplier Diversity Program. In 2021, we began developing indicators to monitor progress in the various sustainability focus areas and define suitable targets. In 2021, we continued to ensure that all strategically important suppliers had to present an EcoVadis rating of at least 45 of 100 points ("green" assessment) or a comparable audit result. Since 2021, furthermore, potential new suppliers with a high inherent sustainability risk and procurement spend of more than EUR 250,000 have been examined in advance with regard to sustainability aspects.

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% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

95

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment

Supplier scorecard or rating

Other, please specify (Contracts in which the Bayer SCoC is not used, are tracked in a Sourcing Exception Repository)

Response to supplier non-compliance with this climate-related requirement

Retain and engage

Climate-related requirement

Waste reduction and material circularity

Description of this climate related requirement

Bayer works continuously to strategically evolve sustainability topics in procurement. In the coming years, the company intends to place increasing importance on environmental and human rights requirements throughout the supply chain and on the Supplier Diversity Program. In 2021, we began developing indicators to monitor progress in the various sustainability focus areas and define suitable targets. In 2021, we continued to ensure that all strategically important suppliers had to present an EcoVadis rating of at least 45 of 100 points ("green" assessment) or a comparable audit result. Since 2021, furthermore, potential new suppliers with a high inherent sustainability risk and procurement spend of more than EUR 250,000 have been examined in advance with regard to sustainability aspects.

The core principles of our sustainability requirements are established in Bayer's Supplier Code of Conduct, which is based on our Bayer Human Rights Policy, the principles of the U.N. Global Compact and the core labor standards of the International Labour Organization. The code is available in 12 languages and covers the areas of ethics, relations with employees and other stakeholders (including human rights), health, safety, environment and quality, and governance and management systems. In our Supplier Code of Conduct, we state that complaints and (compliance) violations can be reported – anonymously if desired – via a central compliance hotline set up by Bayer that is available worldwide.

% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

95

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment

Supplier scorecard or rating

Other, please specify (Contracts in which the Bayer SCoC is not used, are tracked in a Sourcing Exception Repository)

Response to supplier non-compliance with this climate-related requirement

Retain and engage

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

Bayer-Sustainability-Report-2021.pdf

Bayer_Sustainability-Website.pdf

Bayer Industry Association Climate Review 2021.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

To ensure transparency in our collaboration with stakeholders and political decision-makers, we proactively publish our global policy positions including on climate policy. Our global climate policy position is in line with our climate commitments, in line with the Paris Agreement and the SBTi.

Sustainability is a core element of our Group Strategy and is the direct responsibility of the Chairman of the Board of Management (BoM). In his role as Chief Sustainability Officer, he is supported by the Public Affairs, Science & Sustainability (PASS) function, which is responsible, inter alia, for the outreach to political stakeholders, the development of sustainability strategies and management systems.

Operational implementation takes place in the divisions and along the value chain. Reviewing and revising regulations and internal audits ensure our management systems are continuously improved and aligned with the respective requirements. The organizational setup guarantees maximum consistency of sustainability commitments and political engagement strategies, both directly and indirectly.

In addition, Bayer critically scrutinize its memberships in relevant industry associations and their positions regarding climate policy measures. To ensure transparency in this connection, we published an Industry Association Climate Review for the first time in 2021. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours. It is of paramount importance to us that we maintain a dialogue with our associations to achieve an amicable solution. Where differences exist, dialogue enables us to take measures to close these gaps. An engagement update on the key findings of the Industry Association Climate Review will be published in Q4 2022.

In 2020, Bayer established an independent Sustainability Council (SC) to advise the BoM and the organization in all sustainability matters. The SC comprises internationally recognized experts representing a broad range of expertise, differing geographical origin and different genders. Besides supporting the further development of Bayer's business strategy as regards sustainability, another goal for the SC is to promote cooperation with networks in society, education, industry and politics.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate

Other, please specify (Clean energy generation)

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EEG Novelle

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

Germany

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

Bayer supported the German way to end certain exceptions from the Renewable Energy Fee combined with a bridge for companies privileged by the current regime.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Other, please specify (Cap and Trade)

Specify the policy, law, or regulation on which your organization is engaging with policy makers

EU ETS

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

EU27

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

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. 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

At the EU, Bayer publishes the main targeted legislative and policy initiatives and all contributions to public consultations, roadmaps as well as meetings with the political level at the European Commission in the EU Transparency Register. In 2021, we have involved in activities on.

Bayer always stresses – in associations internal debates as well as external talks with politics - that Cap and Trade models are preferred instruments to combine climate protection with market instruments.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Climate-related targets

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Climate related measures under the U.S. Build Back Better plan

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

United States of America

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

In the U.S., all our lobbying activity on climate change at the federal level has been publicly disclosed through the Secretary of the Senate and Clerk of the House. In 2021, we have engaged with stakeholders primarily concerning the U.S. Build Back Better proposals and the Growing Climate Solutions Act. Due to the halted legislative process, Bayer did not have the opportunity to inform the proposed provisions related to prescription drug prices under the U.S. Build Back Better, which we do not support as proposed. However, Bayer does and did support the climate change provisions without exclusion and has spoken to lawmakers about ways to include those provisions in other moving legislation. Additionally, Bayer has supported various open letters to the U.S. government to support adopting the ambitious and attainable target of cutting GHG emissions by at least 50% below 2005 levels by 2030. We are also supporting bi-partisan efforts to establish a high standard for carbon farming to mobilize agricultural lands in the effort to reduce and remove carbon emissions.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Climate-related targets

Food security

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Growing Climate Solutions Act

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

United States of America

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

In the U.S., all our lobbying activity on climate change at the federal level has been publicly disclosed through the Secretary of the Senate and Clerk of the House. In 2021, we have engaged with stakeholders primarily concerning the U.S. Build Back Better proposals and the Growing Climate Solutions Act. Additionally, Bayer has supported various open letters to the U.S. government to support adopting the ambitious and attainable target of cutting GHG emissions by at least 50% below 2005 levels by 2030. We are also supporting bi-partisan efforts to establish a high standard for carbon farming to mobilize agricultural lands in the effort to reduce and remove carbon emissions. Leo Bastos, head of US Carbon Business, testified in support of the legislation before the House Agriculture Committee in September of 2021.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Adaptation and/or resilience to climate change

Other, please specify (Voluntary Carbon Markets)

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Communication on sustainable carbon cycles

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

EU27

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

At the EU, Bayer publishes the main targeted legislative and policy initiatives and all contributions to public consultations, roadmaps as well as meetings with the political level at the European Commission in the EU Transparency Register. In 2021, we have mainly involved in activities on carbon farming and carbon removal certification, such as meetings with EU-Commission Executive Vice-President Frans Timmermans as well as contributions to public consultations on, land use, land-use change and forestry, and on restoring sustainable carbon cycles.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Adaptation and/or resilience to climate change

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Land use, land-use change, and forestry (LULUCF) regulation renewal proposal Commission

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

EU27

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

At the EU, Bayer publishes the main targeted legislative and policy initiatives and all contributions to public consultations, roadmaps as well as meetings with the political level at the European Commission in the EU Transparency Register. In 2021, we have mainly involved in activities on carbon farming and carbon removal certification, such as meetings with EU-Commission Executive Vice-President Frans Timmermans as well as contributions to public consultations on, land use, land-use change and forestry, and on restoring sustainable carbon cycles.

We embrace the proposal and suggested to the Commission to strengthen the proposal by:

- Including a removal incentive mechanism into the current proposal.
 - Ensure flexibility between member states to increase demand for removals.
- Synchronize with the Common Agricultural Policy (CAP) to manage regulatory linkage with further carbon farming mechanisms

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Climate-related targets

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Climate Friendly Coalition Agreement for the new German Government.

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

Germany

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

In Germany, Bayer and other companies that are part of the Stiftung 2 Grad have appealed to the new German government to declare the transformation to climate neutrality as the focus economic project of the coming legislative period.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

German Chemical Industry Association (VCI)

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

PREAMBLE: We are focusing on continuing last year's reporting and associations where we have identified a (partial) misalignment regarding the Paris Agreement. The analysis of all associations (65 organizations were included in the analysis) and their climate positioning can be reviewed in our Industry Association Climate Review 2021.

i) POSITION OF THE ASSOCIATION:

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.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

1. Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration: Explicitly publicly support alignment with the Paris Agreement (or not)

2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

In case of the VCI the positions of VCI and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.3, 2.4 and 2.5.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

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.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

600000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. The funding is the membership fee which is determined based on the revenue of the given year.

We are part of the association since the VCI is the main chemical association in Germany and it therefore represents the industry interests towards politicians, authorities, and other relevant stakeholders. Furthermore, it offers a platform for best-practice sharing within the industry.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Federation of German Industries (BDI)

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

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.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)

2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of BDI and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.2 and 1.3.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

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.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

230000

Describe the aim of your organization's funding

The disclosed figure is an approximate value.

We are part of the association since the BDI is an important industry association in Germany and it therefore represents interests towards politicians, authorities, and other relevant stakeholders. Furthermore, it offers a platform for best-practice sharing within the industry.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

US Chamber of Commerce

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The Chamber (USCC) supports U.S. participation in the Paris Agreement. It 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.

USCC 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.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours. Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of the Chamber and Bayer are PREDOMINANTLY ALIGNED. Material misalignment exists in 1.2 and partial misalignment in 2.3.

Details on material misalignment 1.2:

Association position in 2021:

USCC has lobbied against the introduction of a federal clean-energy standard until widespread, cost-effective technologies are available to ensure the transition.

Bayer position:

Bayer supports a just approach to the transition to net zero; however, delaying actions that will enforce reductions of GHG emissions risks missing the crucial deadlines outlined in the Paris Agreement.

Bayer's position is that enforcement measures, as well as voluntary reductions and technological innovations can all play a role in the transition to a net zero world.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

700000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. The funding is the membership fee which is paid in USD and was translated with the exchange rate of the 31st of May 2022.

Besides interests in general industry topics such as innovation and trade we are also participating in the U.S. Chamber of commerce for special topics such as US China engagements, sustainability, data protection and regulatory coherence.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (CropLife America)

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

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.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of CLA and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 2.1.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

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.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

1400000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. The funding is the membership fee.

We are part of the association since CLA is one of the main agricultural associations in America which represents the industry interests towards politicians, authorities, and other relevant stakeholders. Furthermore, it offers a platform for best-practice sharing within the industry.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Russian Union of Industrialists & Entrepreneurs (RSPP))

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

While the Russian Union of Industrialists & Entrepreneurs eventually changed its position on the Paris Agreement to support Russia's ratification of the deal (in 2019), the association continues to publicly support a restrained approach to climate action, to not hinder economic development.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of RSPP and Bayer are PREDOMINANTLY MISALIGNED. Partial misalignment exists in 1.1., material misalignment exists in 1.2., 1.3. and 2.5.

The detailed analysis is published in our Industry Association Climate Review 2021. Regarding material misalignments see also C-FI.

Details on partial misalignment 1.1:

Association position in 2021:

The association does support the Paris Agreement as an instrument to avoid any disadvantages through sustainability legislation but does not support the goals of the agreement nor explicitly commit to these.

Bayer position:

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

3000

Describe the aim of your organization's funding

Disclaimer: As this questionnaire is about our engagement in the year 2021 this answer reflects our engagement before Russia's invasion of Ukraine.

The funding is an approximation of the membership fee with a fixed rate for all members.

Today, we are participating in it mainly to observe and receive insights on regulation and legislative trends.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Agrofarma (Italy))

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

While the association understands the need to reduce the environmental impact of industry practices and the necessity of policy changes with respect to this issue it shows no explicit commitment or positions to climate goals.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our

own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

Due to the absence of significant positions there is no alignment and a partial misalignment in criteria 1.1.

Details on partial misalignment 1.1:

Association position in 2021:

The association acknowledges the fight against climate change and the reduction of GHG emissions, they do emphasize the relevancy of the industry's competitiveness regarding possible legislation.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement. This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

100000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. The funding is the membership fee which is determined by the number of employees.

We are participating in the association because Agrofarma is the main association representing the producers of crop protection products in Italy.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (AmCham Mexico)

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The association acknowledges climate goals, however mostly for competitiveness reasons rather than to advocate for climate.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of AmCham and Bayer are PARTIALLY MISALIGNED. Partial misalignment exists in criteria 1.1., 1.3., 2.1. and 2.3.

Details on partial misalignment 1.1:

Association position in 2021:

AmCham is supportive of Paris agreement but mostly uses it as an argument to ensure competitiveness between public and private sector rather than to advocate for climate.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

3000

Describe the aim of your organization's funding

The value in the funding represents an approximation of the membership fees.

We are participating in the association as it gives us a lot of interactions with other companies related to agriculture and pharma as well as sustainability objectives in the country. There are a lot of companies that, even though their corporate offices are in other countries, participate in this chamber, as long as they have offices in the USA which allows industry exchanges.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Association of British HealthTech Industries (ABHI))

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

ABHI's engagement with the NHS to discuss sustainability ambitions is pointing into the right direction, yet there is no clear public positioning to business practices and public support to pursue climate goals.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

- 1. Explicitly publicly support alignment with the Paris Agreement (or not)
- 2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of ABHI and Bayer are PARTIALLY MISALIGNED. Partial misalignment exists in criteria 1.1. and 1.3.

Details for 1.1:

Association position in 2021:

ABHI acknowledges the need of reducing GHG emissions but does not explicitly support the goals of the Paris Agreement. For instance there is no own position, but good public discussion of how to support the NHS's net zero goals.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

12000

Describe the aim of your organization's funding

The funding represents an approximation of the membership fee.

ABHI is the UK's leading industry association for health technology (HealthTech).

ABHI supports the HealthTech community to save and enhance lives. Members, including both multinationals and small and medium sized enterprises (SMEs), supply products from syringes and wound dressings to surgical robots and digitally enhanced technologies. We are mainly participating in ABHI as it represents the industry to stakeholders, such as the government, NHS and regulators.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Crop Life Europe (CLE))

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The association acknowledges the importance of sustainability and supports various climate related objectives but does not explicitly commit to the Paris Agreement.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our

own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of CLE and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.1.

Details on the partial misalignment:

Association position in 2021:

While there is implicit support of the Paris Agreement and the Farm to Fork Commitment and CLE positions show support of the Paris Agreements we are missing an explicit commitment to the agreement's goals that exceeds the development of new technologies.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

1500000

Describe the aim of your organization's funding

The funding is the approximation of the membership fee to be part of the association based on the association's budget and the company's revenue. 8% of the total membership fee is for relevant activities under the EU Transparency Register.

CropLife Europe represents sustainable crop protection solutions: innovative and science-based, our solutions keep crops healthy and contribute to providing Europeans with a safe, affordable, healthy, and sustainable food supply.

We promote modern farming practices and champion the use of innovation and technology for a more sustainable model of agriculture.

Our members provide a wide variety of innovative farm solutions:

- Our members are market leading companies that develop and supply pesticides and biopesticides to organic, conservation (low till, no till), agroforestry and conventional agriculture models.

- Our members invest in precision applications, which enable delivery of the minimum amount of product, at the right place, at the right time.

Our members look for future plant biotech traits that will enable crops to thrive in difficult conditions or provide greater benefit in people's diets.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Crop Life International)

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The association acknowledges the need to tackle climate change and supports various climate goals. However, for instance it does not explicitly support and dedicate to the Paris Agreement.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of Crop Life India and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.1, 1.2 and 1.3.

Details on partial misalignment of criteria 1.1.

Association position in 2021:

The association acknowledges the need to reduce GHG emissions and points out the possible positive impact of biotech. However, there is no explicit support of the Paris Agreement.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

3000000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. We are part of CLI as it is an important agricultural global association which represents the industry interests towards politicians, authorities, and other relevant stakeholders. Furthermore, it offers a platform for best-practice sharing within the industry.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Digital Europe)

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The association acknowledges the importance of sustainability and supports various climate goals e.g. policies to enable net zero. However, it does not explicitly support the Paris Agreement, nor does it commit to its goals.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria we're used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of Digital Europe and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.1.

Details on misalignment:

Association position in 2021:

The position does not express explicit support of the Paris Agreement and its goals of the reduction of GHG emissions as aimed by the Paris Agreement.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

40000

Describe the aim of your organization's funding

The funding is the membership fee to be part of the association.

DIGITAL EUROPE is the leading trade association representing digitally transforming industries in Europe. We stand for a regulatory environment that enables European businesses and citizens to prosper from digital technologies. We wish Europe to grow, attract and sustain the world's best digital talents and technology companies.

Our Mission

To shape, on behalf of our members, a business, policy and regulatory environment in Europe that best realizes our vision.

We achieve this by working as a positive partner with the European institutions, other European and global bodies and, through our national trade associations, the European Member States.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Federation of Indian Chambers of Commerce and Industry (FICCI))

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The association acknowledges the need of the reduction of GHG emissions, the transition to net zero and the importance of new technologies. However, it does not explicitly commit to the goals of the Paris Agreement.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of FICCI and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.1 and 2.3.

Details on partial misalignment under 1.1:

Association position in 2021:

The association acknowledges the need of the reduction of GHG emissions but does not commit explicitly to the goals of the Paris Agreement and rather highlights the need for innovation.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

10000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. The fee is a fixed membership fee for corporates based on the revenues of a given year.

We are members of this association to get access to high-level dignitaries in order to engage in the political process.

Furthermore, it is a platform that allows industry exchange, collaboration and thought leadership.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (France Chimie)

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The association acknowledges the importance of sustainability and the reduction of GHG emissions but does not explicitly support and dedicate to the ambitions of the Paris Agreement.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria were used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of France Chimie and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.1, 1.2. and 1.3.

Details on 1.1:

Association position in 2021:

France Chimie acknowledges the need to reduce GHG emissions and the resulting ambitions in the political sphere. However, the goals of the Paris Agreement are not explicitly shared and neither is there an explicit commitment to the goals of the agreement.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

400000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. The funding consists of the membership as well as regional fees based on the DADS / based on the payroll.

We are part of the association since France Chimie is the main chemical association in France and it therefore represents the industry interests towards politicians, authorities, and other relevant stakeholders. Furthermore, it offers a platform for best-practice sharing within the industry.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Polish-German Chamber of Commerce (AHK Poland))

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are attempting to influence them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

i) POSITION OF THE ASSOCIATION:

The association acknowledges the need to reduce GHG emissions and to pursue sustainability. Yet, there is no explicit support and commitment of the Paris Agreement.

ii) CONSISTENCY:

In 2021 Bayer published an Industry Association Climate Review for the first time. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions and where they diverge from ours.

Two key criteria we're used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)
2. Does not contravene relevant policies that Bayer has

For further details regarding sub-criteria please see C-FI and the full report.

The positions of AHK Poland and Bayer are PREDOMINANTLY ALIGNED. Partial misalignment exists in criteria 1.1, 1.2. and 1.3.

Details on the partial misalignment under 1.1:

Association position in 2021:

The need to pursue sustainability ambitions according to the Paris Agreement is acknowledged, however explicit commitment and support of the Paris Agreement are missing.

Bayer position:

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.

We are dedicated to supporting and enabling a climate policy that is in harmony with our ambitious climate targets and therefore advocate for decarbonization measures in line with meeting the goals of the Paris Agreement.

This means we seek to actively support 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.

iii) ATTEMPT TO INFLUENCE:

Instances of misalignment between Bayer's climate policy positions and those of an association identified in our assessment will make that organization a priority for Bayer to engage with. In this process of engagement Bayer will examine and understand differences in the policy positions. Furthermore, Bayer will seek to take a more active role to influence a change in policy at the association.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

5000

Describe the aim of your organization's funding

The disclosed figure is an approximate value. The funding consists of the membership fee based on revenues.

The Polish-German Chamber of Industry and Commerce (AHK Poland) has been representing the interests of Polish and German companies in both neighboring countries for over 25 years. As the official representative of the German economy, it represents over 5,500 companies with German capital in Poland.

It helps us to drive the implementation of our sustainability strategy and foster the well-being of people and the environment as a role model company in Poland & CEE (PL, CZ, SK, HU) region.

The Senior Bayer Representative & Country Division Head for Pharma Central Eastern Europe is President of this Chamber.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3c

(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

Type of organization

Private company

State the organization to which you provided funding

POLITICO, a global nonpartisan politics and policy news organization, launched in Europe in April 2015. POLITICO Europe is a subsidiary of Axel Springer SE.

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)

500000

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

We sponsored or co-organized jointly with POLITICO Europe the climate-related events titled Farming in a climate-neutral Europe, The future of Europe's agriculture and food production system post-pandemic, and The future of food and farming summit 2021. POLITICO was convening top EU policymakers, farmers and experts for the second chapter of its Drive Sustainable Progress series to explore the pathway to green Europe's agricultural system.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Type of organization

Other, please specify (Technology Platform)

State the organization to which you provided funding

SusChem, a European Technology Platform for Sustainable Chemistry, which brings together industry, academia, governmental policy groups and the wider society

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)

0

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

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 and sustainable-by-design for chemicals and materials, as well as building on education and skills capacity in Europe.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Type of organization

Other, please specify (business network founded on the initiative of the Federation of German Industries)

State the organization to which you provided funding

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

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)

20000

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

Bayer is an active member of econsense. 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.

The disclosed figure is an approximate value.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

Bayer-Annual-Report-2021.pdf

Page/Section reference

The chapter "1.7 Environmental Protection and Safety" of Bayer's Annual report 2021 on pages 67-69 includes Bayer's GHG EMISSIONS PERFORMANCE and ENERGY CONSUMPTION. Furthermore, Bayer's Combined Management Report on pages 27-69 includes a description of our sustainability strategy and governance (incl. climate), our emission targets and on pages 99-113 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 2021. 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-2021.pdf

Page/Section reference

The chapter "7. Climate Protection" of Bayer's Sustainability report 2021 on p. 84-92 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 20-31). Climate-related risks and opportunities are described in our Climate Protection chapter (p. 84ff).

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 2021. 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. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	<p>The highest level of responsibility for sustainability issues incl. biodiversity 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 ACTIVITIES FOCUSING ON THE RESPONSIBLE USE OF NATURAL RESOURCES TO CONSERVE AND PROTECT ECOSYSTEMS, SPECIES AND GENETIC BIODIVERSITY.</p> <p>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 BIODIVERSITY STRATEGY. Relevant topics in the field of sustainability incl. biodiversity topics are discussed during their regular meetings.</p> <p>Biodiversity is an interdisciplinary topic that affects several areas of Bayer as well as our entire value chain. Therefore activities at Bayer focus on the responsible use of natural resources to conserve and protect ecosystems, species and genetic biodiversity. Active ingredients for pharmaceutical development and the agriculture sector benefit especially from biodiversity conservation and enhancement. We have spelled out this stance in our Position on Conservation and Restoration of Biodiversity in Agriculture and Forestry.</p> <p>Bayer is committed to the objectives of the United Nations' Convention on Biological Diversity (CBD), including the fair and equitable sharing of benefits arising from the utilization of genetic resources, as well as the International Treaty on Plant Genetic Resources for Food and Agriculture of the FAO, which prescribes the balanced and fair division of use of genetic resources.</p>	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Other, please specify (position on biodiversity, position on deforestation, view on insect decline)	SDG

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Yes, we assess impacts on biodiversity in our downstream value chain only	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity-related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water management Education & awareness

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No, we do not use indicators, but plan to within the next two years	Please select

C15.6

(C15.6) Have you published information about your organization’s response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Influence on public policy and lobbying Risks and opportunities Biodiversity strategy	Bayer Sustainability Report 2021, p. 53ff Bayer-Sustainability-Report-2021.pdf
In mainstream financial reports	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Influence on public policy and lobbying Risks and opportunities Biodiversity strategy	Bayer Annual Report 2021, p.30, 53-54 https://www.bayer.com/sites/default/files/2022-03/Bayer-Annual-Report-2021.pdf Bayer-Annual-Report-2021.pdf
Other, please specify (reports published by the World Benchmarking Alliance (e.g. Nature and Biodiversity Benchmark))	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Details on biodiversity indicators Influence on public policy and lobbying Risks and opportunities Biodiversity strategy	Nature Benchmark World Benchmarking Alliance Nature Benchmark World Benchmarking Alliance.pdf Nature Benchmark World Benchmarking Alliance.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization’s response. Please note that this field is optional and is not scored.

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 C8:

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.

Comment to C12.3b:

Two key criteria we’re used to gauge scope for alignment, with related sub-criteria for consideration:

1. Explicitly publicly support alignment with the Paris Agreement (or not)

1.1. The Paris Agreement and meeting its goals.

1.2. The transition to achieving net zero emissions, including an interim target.

1.3. Policies that enable the transition to net zero.

2. Does not contravene relevant policies that Bayer has

2.1. Lowering GHG emissions per kg of harvested produce in major agricultural markets by 30% by 2030.

2.2. Promoting technologies and innovation that improve climate performance, including energy efficiency.

2.3. Sourcing 100% of procured electricity from renewable sources of energy by 2030.

2.4. Support for a market-based approaches to carbon pricing and trading.

2.5. Acknowledgment of climate-related trade measures within the rules-based international trade system.

2.6. Use of carbon offsetting and natural climate solutions to deliver net zero.

Details on material misalignment with the Russian Union of Industrialists & Entrepreneurs (RSPP):

Criteria 1.2:

While the RSPP eventually changed its position on the Paris Agreement to support Russia's ratification of the deal (in 2019), the association continues to publicly support a restrained approach to climate action, to not hinder economic development. Their official statements do not advocate for a transition to net zero and are also predicated on the reduction of Russia's emissions against a 1990 baseline and the country's natural carbon sinks (forests, peat bogs...etc.), as already compensating for industrial emissions.

Bayer position:

Bayer is dedicated to a climate policy based on ambitious climate targets and net zero emissions. We therefore advocate for an unambiguous commitment to these objectives and ambitious targets for business and governments in order to pursue the Paris Agreement target of limiting climate change to 1.5°C.

Criteria 1.3:

RSPP has supported the creation of a regulatory framework to measure the carbon emissions of Russian firms. However, the association and its senior executives opposed the inclusion of fees attached to emissions within draft legislation, claiming that Russia's natural carbon sinks already compensate for any emissions by the country's industry. Moreover, the association promotes only voluntary measures on emissions reduction - in order to maintain the investment activity of Russian businesses and keep economic growth above the global average.

Bayer position:

Bayer is committed to reducing its own carbon emissions and offsetting the remaining emissions by purchasing certificates from climate protection projects with recognized quality standards. We also have set ourselves an internal carbon price of €100 per metric ton when calculating our capital expenditure projects and additionally conduct ecological assessments of relevant investments. Emissions measurement in isolation from other measures does not promote the ambitious contribution to tackling global climate change that Bayer is looking for in its associations - to achieve the Paris targets ambitious Nationally Determined Contributions (NDC) and net zero commitments are required through to 2050 at the latest.

Criteria 2.5.

RSPP challenges the EU's approach to the proposed Border Adjustment Mechanism for carbon emissions, critiquing that it largely reproduces the requirements of the cap-and trade system. It claims that the approach is not proven to address issues around climate change and risks creating a precedent for governments imposing internal regulations on other countries. The association's position is that any such measure should be subject to negotiation with all parties concerned.

Bayer position:

Bayer supports the consideration of climate protection and Paris Agreement goals in trade agreements. We favor rule-based free trade, thus, we advocate for a full compliance of any climate regulatory measure with WTO rules to ensure international cooperation and to avoid counter measures from third countries. In addition, we also expect suppliers to fulfil sustainability standards that are above national legal requirements (e.g. ILO standards) and all goods imported to comply with REACH standards.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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