

C0. Introduction

C0.1

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

This CDP submission is for Syngenta AG group, which encompasses the following operations of the Syngenta Group (www.syngentagroup.com): Syngenta Crop Protection, Syngenta Seeds and the operations of Syngenta AG group that now form part of Syngenta Group China. This scope is referred to as 'Syngenta' or 'Syngenta AG group' in this document.

Syngenta AG group (www.syngenta.com) comprises just over 30,000 employees and delivered USD 16.7 billion in sales in 2021. Syngenta plays a vital role in enabling the food chain to feed the world safely and take care of our planet. Our ambition is to be the most collaborative and trusted team in agriculture, providing leading seeds and crop protection innovations to enhance the prosperity of farmers, wherever they are. We support farmers with technologies, knowledge and services so they can sustainably provide the world with better food, feed, fiber and fuel.

Whether they grow corn or rice, vegetables or flowers, farmers trust Syngenta to help them produce healthy, premium crops and minimize the use of precious natural resources. We accelerate our innovation and invest to advance a more sustainable agriculture, which is good for nature, farmers and society. We contribute to addressing the global challenge of food security by increasing yields through technology, improving crop quality, helping farmers use natural resources more efficiently and creating benefits for rural communities. We also encourage farmers to adopt climate-smart farming practices that help them to optimize inputs, reduce soil-based carbon emissions and build crop resilience to changing weather patterns.

We are committed to helping farmers and fighting climate change, making agriculture more resilient and sustainable. At the heart of our contribution is The Good Growth Plan, which includes bold commitments to reduce agriculture's carbon footprint and help farmers deal with extreme weather patterns caused by climate change. Our business – and the world's food security – depend on sustainable natural resources, healthy ecosystems and thriving rural communities. Which is why we cooperate with industry partners, governments, academia and non-governmental organizations to support the achievement of the United Nations Sustainable Development Goals.

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	October 1 2020	September 30 2021	Yes	2 years

C0.3

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

- Albania
- Algeria
- Angola
- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- Bangladesh
- Belarus
- Belgium
- Belize
- Bolivia (Plurinational State of)
- Bosnia & Herzegovina
- Brazil
- Bulgaria
- Burkina Faso
- Cameroon
- Canada
- Chile
- China
- Colombia
- Costa Rica
- Côte d'Ivoire

Croatia
Cuba
Cyprus
Czechia
Denmark
Dominican Republic
Ecuador
Egypt
El Salvador
Estonia
Eswatini
Ethiopia
Finland
France
French Guiana
French Polynesia
Gabon
Georgia
Germany
Ghana
Greece
Guadeloupe
Guatemala
Honduras
Hong Kong SAR, China
Hungary
India
Indonesia
Iran (Islamic Republic of)
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kuwait
Kyrgyzstan
Latvia
Lebanon
Libya
Lithuania
Luxembourg
Malawi
Malaysia
Mali
Malta
Mauritius
Mexico
Morocco
Mozambique
Myanmar
Namibia
Netherlands
New Caledonia
New Zealand
Nicaragua
Nigeria
Norway
Oman
Pakistan
Panama
Paraguay
Peru
Philippines
Poland
Portugal
Puerto Rico
Qatar
Republic of Korea
Republic of Moldova
Réunion
Romania
Russian Federation
Saudi Arabia
Senegal
Serbia
Singapore
Slovakia

Slovenia
 South Africa
 Spain
 Sri Lanka
 State of Palestine
 Sudan
 Sweden
 Switzerland
 Taiwan, China
 Tajikistan
 Thailand
 Tunisia
 Turkey
 Turkmenistan
 Uganda
 Ukraine
 United Arab Emirates
 United Kingdom of Great Britain and Northern Ireland
 United Republic of Tanzania
 United States of America
 Uruguay
 Uzbekistan
 Viet Nam
 Yemen
 Zambia
 Zimbabwe

C0.4

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

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**
 - Specialty chemicals
 - Other, please specify (Seed production)

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
No	<Not Applicable>

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
Board-level committee	<p>RESPONSIBILITIES OF BOARD OF DIRECTORS: The sustainability governance is led by the Board of Directors of the parent company Syngenta Group Co. Ltd., which provides strategic direction regarding all sustainability matters – this includes climate-related issues – and exercises oversight over the Syngenta Group Co. Ltd. Group Leadership Team in this respect. The Syngenta Group Co. Ltd. Board of Directors delegates some of its powers and duties to the board level Syngenta Group Sustainability Committee. The committee is mainly responsible for sustainability matters in innovation and operations, and for the review of the company’s sustainable practices – these matters and practices include climate-related aspects. It also oversees the company’s sustainability framework and standards, including public ESG reporting, the company’s sustainability plan, strategic sustainability partnerships, and innovation dialogues. RESPONSIBILITIES OF BOARD-LEVEL COMMITTEE: In particular, the company’s efforts on sustainable and climate-smart agriculture fall under the responsibility of the Sustainability Committee. This committee is chaired by an individual with extensive experience and expertise in sustainable and responsible agriculture and food production. EXAMPLE 1: In June 2020, Syngenta and Syngenta AG’s Board of Directors took the decision to launch the new Good Growth Plan (www.goodgrowthplan.com). By doing so, they reaffirmed our commitment to reduce the carbon intensity of the Syngenta AG’s operations by at least 50% by 2030 and invest in innovation targeted at delivering a step change in agricultural sustainability, in particular to help farmers prepare for and tackle the increasing threats posed by climate change. EXAMPLE 2: In 2021, the Syngenta Group Board of Directors established a new board level Sustainability Committee to oversee our sustainability activities. Syngenta AG’s ESG Report 2021, including information about the company’s GHG emissions and climate-related performance and activities, was reviewed by the Sustainability Committee and approved by the Board of Directors of Syngenta AG in March 2022 before publication on March 31, 2022.</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 Reviewing and guiding major plans of action Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<Not Applicable>	<p>The Sustainability Committee of the Syngenta Group Board of Directors meets several times a year to discuss sustainability issues and reviews the business sustainability-related strategy and actions, including those related to climate change. The Board of Directors and its Sustainability Committee provide strategic direction regarding these matters and exercise oversight over the Group Leadership Team. The Sustainability Committee was established at the Syngenta Group Board of Directors level in 2021. In March 2022, the committee reviewed the Syngenta AG ESG Report 2021, which includes climate-related performance information, and recommended it for approval to the Syngenta AG Board of Directors. Previous activities led by the Syngenta AG Board of Directors include the approval of our commitment to invest USD 2 billion over five years in innovation targeted at delivering a step change in agricultural sustainability, including helping farmers tackle the threats posed by climate change. This was reaffirmed by the board in 2020 with the launch of our current Good Growth Plan, which consists of four ambitious global commitments to reduce agriculture’s carbon footprint and to help farmers deal with the extreme weather patterns caused by climate change. The Board of Directors also discusses performance objectives and long-term incentive plans, which are put in place once a year. The long-term incentive plans consider sustainability criteria associated with the Good Growth Plan, including aspects related to climate change. The Chief Sustainability Officer (CSO) briefs the Sustainability Committee regularly on these matters, including providing information on the company’s performance against sustainability targets set in Syngenta’s Good Growth Plan. These targets include our commitment to strive for carbon-neutral agriculture.</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	The company’s efforts on sustainable and climate-smart agriculture fall under the responsibility of the Sustainability Committee. This Committee is chaired by an individual, whose extensive experience and expertise in sustainable and responsible agriculture, which includes helping farmers tackle the threats posed by climate change, and food production is of key relevance for the committee activities.	<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>	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).

The CHIEF SUSTAINABILITY OFFICER (CSO), who reports to the CEO, leads the Sustainability function. This function coordinates and channels sustainability initiatives, performance management and policy engagements – including those related to climate change. It assesses and monitors the company’s performance in relation to climate change and the wider sustainability agenda. The CSO provides regular updates to the Group Leadership Team and the Board of Directors and its Sustainability Committee on the progress made regarding the company’s sustainability commitments and advises them on required actions.

The SUSTAINABILITY FUNCTION has global, regional and country representatives to ensure alignment of initiatives, performance management and policy engagement across the organization. The Sustainability function brings focus to our sustainability work and supports our commitment to work more closely and transparently with governments, NGOs and society to find the solutions we collectively need.

The GROUP LEADERSHIP TEAM directs sustainability-related standards, strategy, objectives, and partnerships – also including those related to climate issues. It reviews and advises on the effectiveness of implementation of internal policies. Sustainability should be every employee’s responsibility. Each member of the Group Leadership Team is responsible for embedding sustainability in her/his area of responsibility.

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	See more details in the following question.

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
Corporate executive team	Monetary reward	Company performance against a climate-related sustainability index	The Group Leadership Team's remuneration is linked to the overall company performance, including financial and sustainability performance. Sustainability targets are set in Syngenta's Good Growth Plan, including targets and measures to manage our impact on climate change and our contribution to address the climate change challenge. The long-term incentive plans consider sustainability criteria associated with the Good Growth Plan.
Management group	Monetary reward	Company performance against a climate-related sustainability index	Senior management's remuneration includes sustainability performance associated with Syngenta's Good Growth Plan. Sustainability targets include targets and measures to manage our impact on climate change and our contribution to address the climate change challenge. The long-term incentive plans consider sustainability criteria associated with the Good Growth Plan.
Chief Sustainability Officer (CSO)	Monetary reward	Emissions reduction project Efficiency project Behavior change related indicator Company performance against a climate-related sustainability index	As a member of the senior management group, the Chief Sustainability Officer's (CSO) remuneration includes sustainability performance associated with Syngenta's Good Growth Plan. As the most senior employee solely responsible for sustainability, the CSO's annual performance goals and results are directly linked to sustainability topics, including climate change.
Environment/Sustainability manager	Monetary reward	Emissions reduction project Emissions reduction target	Managers in our Sustainability and Sustainable Operations teams are responsible for designing, implementing and coordinating sustainability-related initiatives and tracking performance. As such, their annual goals and results are directly linked to these topics, which, depending on their area of responsibility, include management of GHG emissions, implementation of climate-smart agriculture programs, carbon measurement and reporting, to name a few.
Public affairs manager	Non-monetary reward	Behavior change related indicator	In our Sustainability team, managers responsible for our public affairs activities play a vital role in regularly and actively communicating on our climate change performance, actions and position.
All employees	Non-monetary reward	Efficiency project Other (please specify) (Innovation in practices, products and services)	We encourage employees to develop innovative practices, products and services that, for example, generate cost savings or business related to climate change. For example, employees research and develop new and improved plant varieties that are more resistant to extremes in weather and temperature. Employees in our production and supply function also investigate ways to make production processes more resource-efficient and reduce our carbon footprint. Employees' efforts are recognized as part of their annual performance review.

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	2	Current year (i.e., 2021) or the following one as part of the budgeting process.
Medium-term	2	5	Five-year horizon (i.e., 2021-2025) as part of the long-term planning performed by operational units.
Long-term	5	20	Strategic exercise performed at corporate level typically to cover the period from 5 up to 20 years.

C2.1b

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

According to our enterprise-wide framework definitions, a substantive impact has a major effect on the delivery of the organization's strategic objectives. A climate-related risk may be assessed in terms of financial impact or using an environmental dimension of the enterprise framework, which measures the direct impact on the environment. The framework is dynamic for use both at the corporate and asset level, and reflects adjusted definitions.

In financial terms, a substantive impact may represent a gross profit impact of 5-10% (major) or 10% and more (critical) in a year. The thresholds apply to corporate (Syngenta AG group), assets (e.g., sites, countries), direct operations and supply chain.

In environmental terms, a substantive impact would typically mean any release to the environment, which would justify media attention, regardless of the entity level in question. Environmental-related impacts would be escalated for assessment with regards to criticality and strategic impact on the business.

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

At Syngenta, risk management is everyone's responsibility from leadership teams through to each employee. All must consider and be accountable for risks within their functions and operations. The PROCESS OF IDENTIFYING, ASSESSING AND RESPONDING TO RISKS AND OPPORTUNITIES – including climate-related risks and opportunities – that could have a substantive financial or strategic impact is INTEGRATED into our overall multi-disciplinary Enterprise Risk Management (ERM) Framework. Based on the ISO 31000 Risk Management Standard, the framework is governed by the Group Leadership Team and covers all stages of our VALUE CHAIN. This PROCESS follows five steps: 1. Context: understanding the uncertainties surrounding the delivery of the strategy, setting the risk appetite and risk tolerance 2. Identification: identifying, recognizing and describing risks and opportunities (by screening current and emerging trends and ecosystem risks) 3. Assessment: gaining a deeper understanding of risks and opportunities by analyzing their likelihood and potential impact (on people, the environment, and business) in accordance with the overall ERM framework 4. Treatment: actively addressing the risks identified leading to reduce or remove the uncertainty of outcomes 5. Monitoring: regularly reviewing risks to evaluate the effectiveness of treatment measures and changes within the risk landscape Climate change is considered in the ERM framework both from a strategic LONG-TERM BUSINESS VALUE IMPACT perspective (e.g., opportunities through increasing need for drought-resistant seeds, changes in consumer diets and preferences) and a SHORT- AND MEDIUM-TERM, OPERATIONAL perspective at corporate and business unit level (e.g., supply chain disruptions and contingencies due to flooding, earthquakes, heatwaves, and other physical acute and chronic risks). Strategic LONG-TERM risks and opportunities are discussed on a REGULAR BASIS at global level and inform senior leadership decision making on significant trends for the next 10 to 20 years. This exercise is conducted with both internal and external experts. The ANNUAL risk IDENTIFICATION exercise, which looks at the SHORT- AND MEDIUM-TERM risks and opportunities within the next five years, follows the company's strategic planning cycle. Global, regional, business unit and country specific strategic risk identification always involves multi-disciplinary experts from Sustainability, R&D, Production and Supply, IT, Finance and Commercial teams. Functions and Operations mirror a similar approach to risk identification and consider impacts on downstream and upstream. For instance, our HSE Management System (MS) requires all sites to understand their climate-related risks and put improvement plans, targets and mitigation measures in place. Sites' progress is monitored and routinely reviewed through the HSE MS assurance processes. Further, Syngenta has engaged in in-depth CLIMATE SCENARIO ANALYSIS as a result of our commitment to implement the TCFD RECOMMENDATIONS, looking into medium- and long-term climate change-related risks and opportunities extending beyond 5 and 10 years and other transitional risks. Scenario results were shared within the company and published in our ESG Report 2020, and referenced in our ESG Report 2021. Once risks and opportunities have been identified, PRIORITIZATION is applied to focus and decide on the risks that could have a substantive impact on the delivery of the strategy and objectives, as well as on the opportunities to pursue. We consider both the potential likelihood of the downside risks materializing and their impact in environmental, people and financial terms. Risks with a more aggressive and volatile outlook (often based on expert opinion and discussion) undergo a more frequent assessment (based on their profile) to inform the potential impact and time to impact. Decisions on risk TREATMENT plans (mitigate, transfer, accept or control) are based on and guided by factors such as risk severity, risk appetite, business case in investment for mitigation, regulations and local conditions affected by such decisions. Once treatment plans have been identified and established, mitigation plans and progress are discussed and CONTINUOUSLY MONITORED, and adjusted to the potential changes in the business as required, such as in cases of supply interruptions due to weather disturbances. In case of supply disruption, decisions on re-routing distribution and other changes to distribution networks are discussed both at the company and asset level (e.g., production sites). Risks and opportunities are MANAGED AND REPORTED within business units and functions, and Group Risk Management challenges and consolidates the inputs from business units. The Board of Directors discusses critical business risks and reviews the overall effectiveness of the risk management process. Climate change is one of the core drivers of some of the biggest Group risks and opportunities, and discussions on climate-smart agriculture happen at an increased frequency. CASE STUDIES TRANSITION RISK: Future legislation could limit carbon dioxide emissions in the manufacture of Syngenta products or increase the costs associated with such emissions. In our climate scenario work, we analyzed the potential impact of transition risks on our own and supplier chemical production. We identified that the potential impact of transition risks in a <2°C scenario is greater on our own chemical production sites than on the supply chain, but that actions associated with our GHG reduction commitment could mitigate the risk and might even lead to a competitive advantage. Syngenta is working to make its production more energy-efficient and reduce carbon intensity. We have committed to reduce the carbon intensity of our operations and supply chain by at least 50% by 2030. PHYSICAL RISK: Within our supply chain, comprehensive risk assessments take place on a continuous basis to establish the exposure of our global operations to natural catastrophes. Each site exposure is determined by the likelihood and impact of a 100-year risk event and of a 500-year risk event for extreme weather events. The impact provides us with a number of potential days that a plant would be non-operational for each risk. To estimate the potential business interruption, we use the most severe downtime scenario weighted by: a) safety stock of the product held by Syngenta and b) the time taken to move to an alternative source. These days are then proportionally multiplied based on the manufacturing site's contribution to Syngenta's profit to estimate a potential overall business impact. Where high exposure to a natural catastrophe is identified, mitigating actions are taken to minimize the impact and/or likelihood of such an event. Actions include co-planning emergency responses with the supplier, reviewing and increasing the safety stock we hold, and identifying additional sources for the product.

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	RELEVANCE AND RATIONALE FOR INCLUSION: Current regulation can pose a risk (and bring opportunities) to Syngenta's operations and is always included in climate-related risk (and opportunity) assessments. Current regulations are discussed in connection with the business planning and review processes and reported to relevant parts of the organization to ensure compliance with the regulations (risk). Government regulations encouraging climate-smart agriculture practices and areas to be planted with certain crops can also have a positive impact on our revenues by encouraging us to expand our product offering (opportunity). The impact of current regulations is reviewed both from an upside and downside potential on the business and the environment. EXAMPLE: Increased pricing of greenhouse gas emissions and regional emissions trading schemes (ETS) could affect our regional competitiveness. The risk could materialize in higher operating costs that might or might not be transferred to our customers. For example, two of our major sites in the UK (Huddersfield and Grangemouth) formerly participated in the EU ETS, but, due to BREXIT, they are now outside this system. The UK has not yet agreed to an ETS system; however, once agreed, Syngenta will participate and comply.
Emerging regulation	Relevant, always included	RELEVANCE AND RATIONALE FOR INCLUSION: Syngenta expects requirements from climate change-related regulations to intensify and increase. Emerging regulation is part of the risk landscape and universe that operational units and business consider when identifying risks (and opportunities) from different and broad aspects of our business. Emerging regulations and their impacts on the business are discussed regularly at country, regional and corporate (Group) level. EXAMPLE: In alignment with governments' commitments to the Paris Agreement, countries have set carbon reduction/neutral goals. As a result, legislation may be enacted in the future that would limit carbon dioxide emissions in the manufacture of Syngenta products or increase the costs associated with such emissions. In the climate scenario analysis conducted in 2020, we identified that our sites might be potentially impacted by transition risks, but that actions associated with our GHG emission reduction commitment could mitigate this risk and might even give us a competitive advantage. In our commitment to the Paris Agreement, Syngenta has agreed to reduce the carbon intensity in our operations by at least 50% by 2030. We are focusing efforts on our main manufacturing sites on the direct use of energy and on the efficiency of our manufacturing processes. Progress of site-based energy programs forms part of the business reviews. We also seek to partner with our crop protection and seeds suppliers to reduce their carbon footprint.
Technology	Relevant, always included	RELEVANCE AND RATIONALE FOR INCLUSION: Science and technology are critical enablers to meet farmers' needs, and are always relevant and included in climate-related risk (and opportunity) assessments. Syngenta has committed to delivering at least two technological breakthroughs to market each year until 2025 to reduce agriculture's contribution to climate change. We are also investing in new digital tools and platforms helping farmers in increasingly complex growing conditions due to climate change. EXAMPLE: Digital technology is transforming the agricultural industry. Companies that are not keeping pace with the digital agriculture transformation risk not meeting customer needs and losing market share. Syngenta already has digital tools, which commercial teams are using to position our products more accurately and efficiently with growers. As an example, Syngenta's FarmShots™ is a platform used by agronomists, retailers, farmers and insurance agencies to locate damage caused by pests, diseases and nutritional deficiencies in crops earlier, ensuring treatments are accurate and applied before it is too late. It uses high-resolution satellite imagery to look for bare ground as flood water recedes, identifying replant zones and providing tools that spot nitrogen deficiencies. Similarly, Cropwise Sustainability lets growers identify actionable opportunities to improve their farm's sustainability. Through a simple app, growers can capture farming practice data, calculate their sustainability score, compare with peers, identify opportunities to improve, and share results.
Legal	Relevant, always included	RELEVANCE AND RATIONALE FOR INCLUSION: Potential litigation related to climate change poses a risk to Syngenta and is, therefore, always included in climate-related risk assessments. Business units regularly discuss the likelihood of a litigation, current trends in the legal environment, and the potential impact on the business and its reputation. Risks, which pose a substantive impact on Syngenta, are reported annually to the Board of Directors and are evaluated regarding impact and likelihood in accordance with our enterprise-wide risk framework. Additionally, detailed mitigation plans to reduce the impact on the business are discussed. EXAMPLE: The Legal department takes a consolidated view across global operations on legal matters, including climate change-related legal threats and potential litigations, and discusses on a recurring basis the risk landscape and relevant legislation, including climate change-related regulations.
Market	Relevant, always included	RELEVANCE AND RATIONALE FOR INCLUSION: Syngenta's role in the food chain and our ambition to grow through customer-focused innovation requires continuous input from the market, which is relevant and always included in the risk and opportunity assessments. Syngenta considers the short- and long-term impacts of climate change on the market, industry as a whole, consumers and the environment, and we regularly assess stakeholder concerns and expectations by engaging with growers, employees, communities close to operations, industry associations, NGOs, governments and investors. EXAMPLE: Innovation is the basis for a more sustainable future. But with innovation come uncertainties, including the risk of new technologies not being accepted by certain stakeholder groups, leading to restriction in certain markets (e.g., GMO restrictions in several European countries). We have always been proactive in addressing our products' environmental and socio-economic benefits and risks as part of product registration. In 2020, we have gone further and launched a series of innovation dialogues with external stakeholders to address sustainability trade-offs and dilemmas linked to new technologies. Our first innovation dialogue in 2020 focused on a systems approach to sustainability in the beef and dairy value chains through the lens of feed efficiency supported by our new ENOGEN® Feed solutions. In 2021, we convened a South-East Asia Palm Oil Innovation Dialogue to explore whether and how a system-wide change strategy, driven by innovation and other key enablers, could create transformative economic, social and environmental value.
Reputation	Relevant, sometimes included	RELEVANCE AND RATIONALE FOR INCLUSION: Societal and customer expectations with regards to climate action are important inputs to our risk (and opportunity) assessments, and not responding to these could negatively impact Syngenta's reputation. Climate change mitigation and adaptation are critically important to Syngenta and our stakeholders on both short- and long-term horizons. Short-term, they help farmers to combat the climate impact facing them today, and long-term they provide solutions, which for example, can help to reduce agriculture's contribution to greenhouse gas emissions. EXAMPLE: Some technological advancements, which enable efficiency gains and new revenue streams from new product lines and product enhancements, are under close scrutiny by society and impact our freedom to operate (e.g., technologies that benefit climate-smart agriculture such as GMO, pest and weed management technologies or more recently New Genomic Techniques, including genome editing). In some cases, it is more political influence or local economic considerations that influence the ability to use these technologies rather than a sound scientific risk assessment.
Acute physical	Relevant, sometimes included	RELEVANCE AND RATIONALE FOR INCLUSION: Potential acute physical risks in the form of extreme weather events, such as floods or tsunamis, could affect our production sites and disrupt our manufacturing capacity. Extreme weather events are considered in the risk assessments both at site and corporate/functional level to ensure resilience and minimum disruption to operations. Risks are assessed using the enterprise-wide risk framework and treatment plans discussed in further detail based on the severity of the risk and criticality of site operations. A complete comprehensive risk review of all our production sites to natural catastrophe was conducted in 2017 in collaboration with our corporate insurer. A comprehensive risk review covering both our supply chain and all our production sites is ongoing and should yield detailed results in 2022. EXAMPLE: One of our manufacturing sites in the UK is exposed to a potential flooding risk due to its geographical location and a statistical 30+ year return on a river flooding. Floods could disrupt production and impact the delivery of certain products. Fortunately, the site has implemented good flood resilience measures, such as flood defense to protect the building and equipment, and established emergency plans and responses.
Chronic physical	Relevant, sometimes included	RELEVANCE AND RATIONALE FOR INCLUSION: Chronic physical risks and opportunities, such as droughts, are considered as part of the formal enterprise-wide risk framework (and opportunity process), which is further integrated into business planning and review processes. Chronic physical risks may influence the demand for certain products over the course of a season and are hence discussed at site, functional and business unit level. Risks and opportunities are prioritized according to their severity, mitigation plans discussed on an ongoing basis, and decisions taken depending on the business requirements. EXAMPLE: In 2019, our seeds operations were impacted by a severe drought in Australia. This affected our sales and bottom line in the region, and led to disruptions in our product delivery and to high inventories in our stocks. To reduce the impact of chronic physical risks on the business both short- and long-term, Syngenta sales teams and agronomists in the field provide deep specialist advice (seasonal, medium- and long-term advice) to address growers needs, such as using digital seed placement tools to enable data-driven, optimized decisions. Syngenta also ensures that R&D teams connect closely with farmers by bringing customers to our research facilities around the world to talk to our scientists and plant breeders. This ensures a well-calibrated portfolio of products in the long term.

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?

Downstream

Risk type & Primary climate-related risk driver

Acute physical	Drought
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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

Syngenta results may be affected positively or negatively by extreme weather conditions, such as floods and droughts, that could impact demand for certain products over the course of a season or affect the ability to collect revenues from customers impacted by the events. Although climate change may make growing certain crops more or less viable in different geographic areas in the long term, Syngenta believes it is not likely to reduce overall demand for food and feed. We currently sell and develop new products to improve the water productivity of plants and increase tolerance to drought and heat, thus helping farmers to fight crop losses. For example in 2019, extreme weather events in the USA and droughts in Australia had an impact on our sales and bottom line from these regions. We did not experience such exceptional adverse weather conditions in 2020 or 2021. Syngenta continues to recognize and address farmers' needs for high-performing products and data to make informed decisions, as well as provide them with deep agronomic advice.

Time horizon

Short-term

Likelihood

More likely than 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)

300000000

Potential financial impact figure – maximum (currency)

350000000

Explanation of financial impact figure

Extreme weather events mainly impact our country and regional sales but the overall risk for the global business is mitigated by geographical differences and Syngenta's global footprint. The climate scenario analysis conducted in 2020 identified a potential annual financial impact of approximately USD 300 million and USD 350 million in 2030 in a <2°C and 4°C climate scenario respectively. This potential impact was estimated by analyzing flood and drought risks in 20 key customer countries based on corn and soybean sales and the impact of past similar events, such as the floods experienced in the USA and the droughts in Australia in 2019. Financial implications are derived mainly from loss of sales, inability to collect receivables or missed product delivery and high inventories.

Cost of response to risk

546000000

Description of response and explanation of cost calculation

RESPONSE: Extreme weather events mainly impact our country and regional sales but the overall risk for the global business is mitigated by geographical differences. To mitigate exposure, Syngenta has established structured actions that are regularly reviewed, updated and improved. Commercial and supply teams have processes in place to ensure that: (a) discussions focus on relevant business topics and include weather variability topics; (b) there is a sound understanding of the agricultural environment and emerging trends that may impact our industry; (c) the evaluation of unpredictable variability is realistic and well established; (d) a pragmatic and realistic approach to respond to plan variations is in place and; (e) innovative weather intelligence projects are executed to improve productivity and fast response. Part of the cost of response is also accounted for in our investment in the research and development of abiotic stress-related products. For instance, AGRISURE ARTESIAN® corn delivers strong performance in both drought and excessively wet conditions. Our HYVIDO® hybrid barley seeds offer consistently higher yields thanks to improved water and nutrient uptake and stronger growth under stressful conditions. And TALETE, a biostimulant produced by Valagro (a company Syngenta acquired in 2020), increases crop water productivity. Syngenta aims to provide farmers with the right tools to tackle climate change. Through programs such as AgriClime™, we also help growers manage weather risks. In case of certain adverse weather events, the grower or distributor is reimbursed based on the investment made in Syngenta products. AgriClime™ is offered in several countries around the world. COST CALCULATION: In 2021, as part of our Good Growth Plan's commitment to accelerate innovation, we invested USD 546 million in sustainable agriculture breakthroughs. This figure includes investments in development and delivery of products, services and programs in 2021 that – among other sustainability-related objectives – help farmers tackle the impacts of climate change, soil erosion and biodiversity loss. We are not able to disaggregate this figure to identify the cost of only addressing extreme weather events. We use sustainability investment criteria to decide on these investments. Only investments that provide breakthrough technologies or have clear benefits enabling a step change in sustainability are counted toward our target.

Comment

N/A

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)
----------------	------------------------------------------------

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Although the largest potential substantive climate-related risk would be downstream, some climate-related risks exist at the site level in our own operations, which might be exposed to a certain extent to extreme weather events such as floods. As part of our insurance coverage analysis, we have examined which sites could be exposed to natural catastrophes. In particular, we have identified that one of our main sites located in the UK is directly exposed to flood risk. The Strategic Flood Risk Assessment records the site to be located in Flood Zone 3a (high risk) where the probability of a flood occurring is considered to be more than 1 in 100 years but less than 1 in 20 years. Floods could cause disruption in the production of active ingredients and our product manufacturing. Like many businesses, other Syngenta sites could be indirectly exposed to climate-related events, which temporarily limit production, through e.g., disruption of transport networks, or restrictions on water usage.

Time horizon

Long-term

Likelihood

Very unlikely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

70000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

A flood, with potential to occur once in 100 years at this site, could restrict operations and cause property damage. The value was calculated based on the probable maximum loss in property damage and business interruption, as per the insurance report for the site.

Cost of response to risk

500000

Description of response and explanation of cost calculation

RESPONSE: A written and proven emergency response plan exists. Flood resilience measures have also been implemented at the site, including the deployment of temporary flood defense to protect some buildings and equipment, concrete walls to protect Combined Heat and Power, and raising of some critical equipment. Response actions have been fully implemented and employees are regularly trained on emergency plans. We have recognized the likely increasing frequency and severity of extreme weather events due to man-made climate change, and we incorporate these factors into our business continuity plans. COST CALCULATION: The cost of the response to this risk is part of the operational costs and general contingency plans at the site and cannot easily be disaggregated and specified. We estimated this figure over five years: USD 100,000 in capital expenditure on plant protection measures, and USD 400,000 in revenue expenditure on cleaning out debris from the river.

Comment

The climate scenario analysis conducted in 2020 also provided insights about the extent to which extreme weather events could financially impact our sites. We estimated that the annual potential financial impact of extreme weather events on five of our key chemical sites (including the one referenced above) would approximately be USD 15 million and USD 20 million in 2030 in a <2°C and 4°C climate scenario respectively. This potential impact was estimated based on the potential impact of downtime days on the gross profit of these five sites.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)
----------------	------------------------------------------------

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Climate change impacts within our chemical supply chain are important as it represents a significant proportion of our business. Chemical manufacturing plants within our supply chain can be impacted by extreme weather events such as floods. We operate a comprehensive risk management process within our supply chain, and one of the risk elements we assess is natural catastrophe. We have analyzed the top 250 chemical supplier sites by business contribution to understand which of these sites may be exposed to natural risks. The location of each supplier site is analyzed to determine potential exposure to flood, storm, hail, tsunami, and storm surge risks using external risk data. We adjust this analysis to consider the impact of climate change on the likelihood and severity of those risks. In addition, to enhance the visibility of the likelihood of a climate-related event occurring at any Syngenta office, manufacturing, production, toller or supplier site, we also use a tool from Munich Re called NATHAN (Natural Hazard Assessment Network). NATHAN analyzes the likelihood of natural disasters happening based on data from events that have occurred. The tool receives direct data feeds from NASA, IPCC (Intergovernmental Panel on Climate Change), the German weather service, the Royal Netherlands Meteorological Institute, the UK Met Office, Météo-France, the Bureau of Meteorology (Australia), and the National Oceanic and Atmospheric Administration (USA).

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

120000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

We assess each site to determine the likelihood and impact of a 100-year risk event and of a 500-year risk event for extreme weather events such as floods, tsunamis, etc. The impact provides us with a number of potential downtime days (i.e., the number of days the plant will be non-operational) for each risk. We then take the most severe downtime scenario and calculate the estimated days of business interruption considering: a) safety stock of the product held by Syngenta and b) the time taken to move to an alternative source. We then multiply these days proportionally to the manufacturing site's contribution to Syngenta's profit to estimate a potential overall business impact. We took the risk scenarios where we classify the likelihood of the risk occurring as "possible", which according to our framework means within a decade or less, to estimate the potential financial impact figure above.

Cost of response to risk**Description of response and explanation of cost calculation**

RESPONSE: Where considerable risk is identified, actions are taken such as identifying mitigation or emergency response plans with the supplier, increasing the safety stock we hold, and identifying additional sources for the product. The process enables us to gain greater visibility of risk and exposure, quantify the risks through a likelihood and impact analysis, prioritize the risks that require mitigation actions, and ensure there is a clear owner responsible for taking action. COST CALCULATION: The cost of response for this risk cannot be disaggregated and specified as it is part of the overall cost of our supplier-related activities.

Comment

The climate scenario analysis conducted in 2020 also provided insights about the extent to which extreme weather events could financially impact our suppliers. We estimated that the annual potential financial impact of extreme weather events on 25 of our key chemical supplier sites would approximately be USD 180 million and USD 220 million in 2030 in a <2°C and 4°C climate scenario respectively. This potential impact was estimated based on the potential impact of downtime days on the gross profit of each site.

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 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

Consumer demand and public regulations are driving companies in the food and feed value chain to lower the carbon footprint of their supply chains. Markets for carbon credits from agriculture are emerging and the EU and USA have committed to implement carbon farming programs or carbon border adjustment mechanisms. This means growers need agronomic advice, inputs and digital tools to implement climate-friendly farming practices. We expect grower income from climate-related programs to be over USD 30 per ha per year. We believe Syngenta can generate revenues from the demand for products and services that enable climate-friendly farming. Our herbicide product range supports soil conservation and enables climate-friendly practices. For instance, weed control using herbicides lowers the need for tillage, leaving the plants' roots in the soil for better soil compaction and enhanced soil organic matter, which helps to reduce carbon emissions from the soil. Our herbicides such as AXIAL® or CALLISTO® (selective herbicide) and GRAMOXONE® (non-selective herbicide) are widely used in conservation agriculture, especially in Brazil and the USA, and now increasingly in Asia. Our seed treatment technology helps to sequester carbon in the soil. For example, VAYANTIS® fungicide not only controls diseases in corn, soybeans, canola, oilseed rape and cereal crops, but also protects the soil by enabling reduced- and no-till cropping systems. Seed treatment biostimulants, such as EPIVIO™, improve the incorporation of organic matter into the soil and hence improve carbon sequestration. We advise growers on climate-smart soil practices such as minimum tillage, crop rotation and effective nutrient management. In 2021, our Good Growth Plan benefited 7.5 million ha of farmland through soil conservation and biodiversity enhancement measures. We are expanding our Reverte Conservation Program in Brazil with a carbon farming layer and preparing to launch similar GHG farming initiatives in the EU, USA, Russia, and Ukraine according to regulatory developments and the evolution of carbon markets. We enrolled more than 50,000 ha in Ukraine in the 2021/22 season and continue to build partnerships with large grower customers in this space. To support the implementation of the EU Green Deal, we have joined a WEF initiative aiming to decarbonize the food value chain and engage with the European Commission on the EU carbon farming program scheduled to enter into force in 2023.

Time horizon

Long-term

Likelihood

Likely

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

We estimate incremental revenue opportunities for growers from climate-related activities to be about USD 30 per ha per year. This estimate excludes subsidies or similar incentives. On average, we estimate that regulation could link up one third of current transfer payments to environmental benefits. In the EU, this would equate to about USD 100 per ha per year, representing a significant change in farming incentives. Consequently, we estimate the potential total market growth opportunity for farm inputs to be modest but expect a shift in product preferences. The total market size is impossible to predict at this stage. Demand for voluntary carbon credits is nascent, regulation for carbon-farming markets under development, and consumers' willingness to pay for climate-friendly commodities unclear. Yet, we are confident that our strategy outlined below sets Syngenta up to successfully realize future value capture opportunities, both small and large.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

REALIZATION: As we continue to develop innovative products and services, we have identified five primary needs: 1) Promote farming systems that reduce GHG emissions and increase soil organic carbon; 2) Generate revenues from carbon credits; 3) Produce and market climate-friendly commodities; 4) Navigate the complexity of voluntary and compliance carbon markets; and 5) Use digital technology to manage these farming systems and capture data related to climate impact. Our strategy is to enroll customers on the supply (growers) and demand side (food value chain companies, carbon credit buyers), partner with industry-leading service providers (modelling, project development, credit sales), and create offers through pilots in a few geographies first and, once successful, scale them to more markets. We have either launched or are preparing to launch pilots in Brazil (1, 2, 3, 5), Ukraine (1, 3, 5), USA (4, 5), Russia (1, 3, 5) and the EU (1, 4). We also continue to invest in our collaborations with food value chain partners committed to carbon removal and reducing emissions in their raw material sourcing as part of their regenerative agriculture and Science Based Targets initiative (SBTi) targets. These collaborations include active participation on platforms such as the Cool Farm Alliance (carbon benefits quantification) and voluntary carbon markets, such as the Ecosystem Services Market Consortium in the USA. We are further working on building partnerships with organizations such as The Nature Conservancy and channel partners to help develop, aggregate and scale carbon projects, as well as partners willing to mobilize up-front investment for project development. We are also expanding our customer loyalty program to provide rewards to growers adopting climate smart farming practices. **COST CALCULATION:** Realizing this opportunity requires R&D and new projects in the target geographies. Syngenta committed to invest USD 2 billion over five years in sustainable agriculture breakthroughs. We believe that realizing this opportunity does not require additional funds. Costs will be covered by re-allocating existing budgets as part of our short-term and long-term planning cycles.

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

Climate change is one of the biggest challenges facing today's food systems. Changes to temperature, as well as to the frequency and severity of extreme weather events, are already hampering crop yields and productivity around the world. These effects are compounded by the increasingly warm and wet climates that many growers are working in, allowing weeds, pests, and fungal diseases in crops to thrive. In the past years, the seeds market has faced unprecedented challenges due to the increasingly extreme impacts of climate change. This is exemplified by the floods in the USA and severe droughts in Australia in 2019. Farmers need support more than ever to sustainably provide sufficient, nutritious food – and they need choice, high-performing products, data to make informed decisions, and deep agronomic advice. Syngenta supplies tailored solutions for different climate conditions, soil structures and crops. Through our solutions, digital services, and our network of partnerships, Syngenta is helping farmers address global challenges like climate change, empowering them to reduce their impact while remaining viable and productive. For example, our HYVIDO® hybrid barley seeds offer farmers consistently higher yields. Their root systems form earlier, with bigger and more roots, leading to stronger hybrid vigor, better water and nutrient uptake, and stronger growth under stressful conditions. Similarly, VIBRANCE™, a mode of action for seed treatment, supports conservation tillage and carbon capture. In addition to broad spectrum disease control, its root stimulating effect results in better biotic and abiotic stress management. When these products are combined with good management practices, agriculture is made more resilient to changes in climate and water availability. In 2019, Syngenta announced that it will accelerate its innovation to address the increasing challenges faced by farmers around the world and the changing views of society. In our Good Growth Plan launched in June 2020, we committed to invest USD 2 billion over the next five years and deliver at least two technological breakthroughs to market each year to reduce agriculture's contribution to climate change, harness its mitigation capacity, and help the food system stay within planetary boundaries. Syngenta's new approach aims to further improve the way crops are grown and protected, and find solutions that address interconnected environmental, societal and economic challenges.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

140000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The potential financial impact of opportunities associated with our products is sensitive information and cannot be disclosed. We expect sales of solutions for shifting pest patterns, new drought-tolerant plants as well as nitrogen and water-efficient technologies to increase. The figure reported is based on a selected offer and provided as an example. In the climate scenario analysis conducted in 2020, we assessed the potential financial impact of increased droughts on the demand for drought-resistant products. The assessment is based on the risk of droughts for a specific drought-resistant offer in 30 countries. In this 2020 analysis, we estimate that the annual potential financial impact would approximately be USD 140 million in 2030 for both <2°C and 4°C climate scenarios.

Cost to realize opportunity

546000000

Strategy to realize opportunity and explanation of cost calculation

REALIZATION: We manage this opportunity through increased investment in the development of products, services, programs, partnerships as well as capital expenditures, that offer a clearly differentiated sustainability benefit or are breakthrough technologies enabling a step change in sustainability. In 2020, we committed to invest USD 2 billion over the next five years and deliver at least two technological breakthroughs to market each year to reduce agriculture’s contribution to climate change, harness its mitigation capacity, and help the food system stay within planetary boundaries. For instance, the acquisition of Valagro in 2020 is enabling us to build a world-leading biologicals business. Valagro has a comprehensive crop portfolio in biologicals with a market-leading position in biostimulants and specialty nutrients. Valagro’s biostimulant portfolio offers farmers products with active ingredients of purely natural origin, which stimulate the main physiological processes of plants while promoting their growth and productivity. In particular, Valagro’s innovative biostimulant TALETE increases crop water productivity in conditions of adequate water availability and permanent or temporary water scarcity. Valagro’s portfolio extends our existing offer of products to help plants sustain abiotic stress. For instance, our EPIVIO™ brand family addresses abiotic stress through seed treatment. EPIVIO™ products stimulate seedling development by providing micronutrients and biostimulant compounds to the plant and by activating soil microflora. The resulting natural symbiotic cycle leads to stress-tolerant plants. We also continue to provide farmers with our AGRISURE ARTESIAN® technology, which helps them manage water more efficiently. AGRISURE ARTESIAN® corn hybrids are built with selected genes that enable the plant to convert water to grain more effectively. In our recent climate scenario analysis, we identified that farmers will likely face an increased risk of drought, intensifying the demand for our drought-resistant products. **COST CALCULATION:** In 2021, as part of our five-year USD 2 billion commitment, we invested USD 546 million in sustainable agriculture breakthroughs. Only investments that provide breakthrough technologies or have clear benefits enabling a step change in sustainability are counted toward our target.

Comment

N/A

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

In our Good Growth Plan, we committed to reducing the carbon intensity of our entire operations by at least 50% by 2030 (vs. the 2016 baseline). Our carbon reduction target has been validated by the Science Based Targets initiative (SBTi). We also committed to a 20% reduction in water intensity and waste intensity in the same period. These targets are intrinsic to our commitment to reduce agriculture’s carbon footprint and help farmers deal with extreme weather patterns caused by climate change. In addition to the environmental benefits associated with these commitments, improving the efficiency of our production processes and working with our supply chain partners to improve theirs will directly benefit our future operating costs as less resources are used. In the climate scenario analysis conducted in 2020, we assessed the potential financial impact of transition risks on our operations (<2°C global warming scenario). This analysis indicated that successfully achieving our targets could give us a competitive advantage, including protecting us from future CO2 pricing uncertainties.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-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)

50000000

Potential financial impact figure – maximum (currency)

100000000

Explanation of financial impact figure

The range above is an estimate based on the avoidance of additional annual operational costs that would result from increased energy prices, waste treatment costs and

carbon taxes that could be anticipated in a <2°C global warming transition scenario – including costs relating to our own operations and costs passed on to us by our suppliers. These additional costs would be avoided as a result of increased energy, material and waste efficiency and improved carbon intensity of energy, material and waste leading to lower carbon taxes. The range does not include opportunities in R&D or significant savings likely to be realized thanks to an increased focus on process efficiency during product development.

Cost to realize opportunity

40000000

Strategy to realize opportunity and explanation of cost calculation

REALIZATION: To achieve our 2030 carbon intensity reduction target, we continue to focus on improving the efficiency of our manufacturing processes, designing and implementing site-based energy saving programs, increasing the share of renewable energy sources, and partnering with our crop protection and seeds suppliers to reduce their carbon footprint. Projects that have already been completed since 2016 (baseline year for our SBTi commitment) include the installation of PV electricity generation at various of our sites, improved heat energy generation efficiency, reduction in hazardous waste generation (resulting in reduced treatment requirements) and a number of process efficiency improvement projects at manufacturing sites across the world. Each site is responsible for generating a roadmap to meet its environmental targets. Collectively, these will ensure the successful achievement of our company targets. New sustainability project ideas are evaluated and prioritized in terms of their contribution to meeting our commitments, as well as financial return metrics. In addition, all new major investment projects (including those not focused primarily on environmental sustainability outcomes) undergo a sustainability assessment to identify the most environmentally sustainable way to fulfill their objectives. **COST CALCULATION:** The estimated figure for the annual cost to realize this opportunity is based on: 1) A representative mix of small, medium and large capital projects needed to achieve the targeted improvements; 2) Estimated cost increases passed on by suppliers for undertaking similar projects at their manufacturing locations; and (3) Increased operational costs (e.g., renewable energy certification).

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

No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a transition plan within two years

Publicly available transition plan

<Not Applicable>

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

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

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

<Not Applicable>

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

We will develop a low-carbon transition plan as we align our sustainability agenda and activities across Syngenta Group’s business units. Currently, Syngenta AG group has a target to reduce the carbon intensity of its operations that has been validated by the SBTi. This is an important milestone toward a business model compatible with a low carbon economy.

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	IEA SDS	Company-wide	<Not Applicable>	This scenario reflects actions needed by the energy sector to limit global warming under 2°C and supports the Sustainable Development Goals 7, 3.9 and 13. PARAMETERS: • Carbon price introduced (up to USD 140/t CO2 by 2040) • Fossil fuel subsidies phased out by 2050 for net importers and by 2035 for net exporters • Expanded support for deployment of Carbon Capture & Storage (CCS) • Increased generation from renewables and nuclear ASSUMPTIONS: For our analysis, we assumed that Syngenta would have the same business activities in 2030 as in 2020 when the analysis was conducted, and that no additional actions besides those already ongoing or planned were conducted to mitigate or adapt to adverse impacts or to seize positive impacts. ANALYTICAL CHOICES: A 2030 time horizon was used for the analysis as it best aligns with our business planning, strategy and R&D timelines. On average, the registration of any new crop protection product takes 10 years before a product is commercially launched. Similarly, it takes around 13 years from discovery of a new genetic sequence until registration and launch. We identified and conducted deep dive scenario modelling for five climate-related risks and opportunities (see question 3.2b) to understand their potential financial impact on Syngenta in 2030. For each deep dive, calculation pathways were designed to estimate the financial impact of the risks and/or opportunities. Insights to design the pathways and data to perform the calculations were derived from internal and external sources. Internal data used in the calculations (e.g., sales, profits, costs) was mostly from 2019. We used a combination of quantitative and qualitative methods in our analysis, giving preference to quantitative information where good quality, decision-useful data was available from reputable sources.
Transition scenarios	IEA STEPS (previously IEA NPS)	Company-wide	<Not Applicable>	This scenario shows the future energy outlook based on existing policies and upcoming policy intentions, as expressed in official targets and plans. PARAMETERS: • Carbon price introduced (up to USD 44/t CO2 by 2040) • Fossil fuel subsidies phased out in the next 10 years • Increased generation from renewables but oil remains the largest source of primary energy ASSUMPTIONS: For our analysis, we assumed that Syngenta would have the same business activities in 2030 as in 2020 when the analysis was conducted, and that no additional actions besides those already ongoing or planned were conducted to mitigate or adapt to adverse impacts or to seize positive impacts. ANALYTICAL CHOICES: A 2030 time horizon was used for the analysis as it best aligns with our business planning, strategy and R&D timelines. On average, the registration of any new crop protection product takes 10 years before a product is commercially launched. Similarly, it takes around 13 years from discovery of a new genetic sequence until registration and launch. We identified and conducted deep dive scenario modelling for five climate-related risks and opportunities (see question 3.2b) to understand their potential financial impact on Syngenta in 2030. For each deep dive, calculation pathways were designed to estimate the financial impact of the risks and/or opportunities. Insights to design the pathways and data to perform the calculations were derived from internal and external sources. Internal data used in the calculations (e.g., sales, profits, costs) was mostly from 2019. We used a combination of quantitative and qualitative methods in our analysis, giving preference to quantitative information where good quality, decision-useful data was available from reputable sources.
Physical climate scenarios	RCP 2.6	Company-wide	<Not Applicable>	This scenario reflects the Paris Agreement’s commitment to limit global warming to 2°C, preferably to 1.5°C, and is consistent with an ambitious reduction of GHG emissions. PARAMETERS: • Global emissions peak by 2020 and decline to zero by 2080 • Global mean sea level rise of 0.4m by 2100 • High frequency and intensity of heat waves and extreme precipitation events ASSUMPTIONS: For our analysis, we assumed that Syngenta would have the same business activities in 2030 as in 2020 when the analysis was conducted, and that no additional actions besides those already ongoing or planned were conducted to mitigate or adapt to adverse impacts or to seize positive impacts. ANALYTICAL CHOICES: A 2030 time horizon was used for the analysis as it best aligns with our business planning, strategy and R&D timelines. On average, the registration of any new crop protection product takes 10 years before a product is commercially launched. Similarly, it takes around 13 years from discovery of a new genetic sequence until registration and launch. We identified and conducted deep dive scenario modelling for five climate-related risks and opportunities (see question 3.2b) to understand their potential financial impact on Syngenta in 2030. For each deep dive, calculation pathways were designed to estimate the financial impact of the risks and/or opportunities. Insights to design the pathways and data to perform the calculations were derived from internal and external sources. Internal data used in the calculations (e.g., sales, profits, costs) was mostly from 2019. We used a combination of quantitative and qualitative methods in our analysis, giving preference to quantitative information where good quality, decision-useful data was available from reputable sources.
Physical climate scenarios	RCP 8.5	Company-wide	<Not Applicable>	This scenario is consistent with a future with no policy changes to reduce emissions and characterized by increasing GHG emissions that lead to high atmospheric GHG concentrations. PARAMETERS: • Global emissions continue to rise because of high carbon intensity of the energy system • Global mean sea level rise of 0.63m by 2100 • Very high frequency and intensity of heat waves and extreme precipitation events ASSUMPTIONS: For our analysis, we assumed that Syngenta would have the same business activities in 2030 as in 2020 when the analysis was conducted, and that no additional actions besides those already ongoing or planned were conducted to mitigate or adapt to adverse impacts or to seize positive impacts. ANALYTICAL CHOICES: A 2030 time horizon was used for the analysis as it best aligns with our business planning, strategy and R&D timelines. On average, the registration of any new crop protection product takes 10 years before a product is commercially launched. Similarly, it takes around 13 years from discovery of a new genetic sequence until registration and launch. We identified and conducted deep dive scenario modelling for five climate-related risks and opportunities (see question 3.2b) to understand their potential financial impact on Syngenta in 2030. For each deep dive, calculation pathways were designed to estimate the financial impact of the risks and/or opportunities. Insights to design the pathways and data to perform the calculations were derived from internal and external sources. Internal data used in the calculations (e.g., sales, profits, costs) was mostly from 2019. We used a combination of quantitative and qualitative methods in our analysis, giving preference to quantitative information where good quality, decision-useful data was available from reputable sources.

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

FOCAL QUESTIONS: What risks and opportunities could Syngenta face due to climate change and how could Syngenta contribute to a low-carbon transition?

RATIONALE: Two contrary climate-related scenarios were analyzed for their impact on Syngenta: a low-carbon transition scenario (i.e., successful transformation of the economies to curb GHG emissions and limit global warming well below 2°C) and a physical climate impact scenario (i.e., GHG emissions are not reduced rapidly enough and physical climate change impacts materialize). The scenarios were chosen to identify climate-related transition risks, and physical risks and opportunities. These scenarios were selected because they provide a holistic description of future climate-related developments, and the underlying assumptions are among the most frequently used and recommended by the TCFD. They are also in line with those used by peers and competitors. **AREAS CONSIDERED FOR SCENARIO ANALYSIS:** We developed a materiality heat map to identify high-priority climate-related transition and physical risks and opportunities in each value chain phase (i.e., supply chain, own operations, customer, consumer). We then conducted deep dive scenario modelling in the following five climate-related risks and opportunities to understand their potential financial impact on Syngenta in 2030: 1) Impact of extreme weather on own and supplier chemical production sites 2) Impact of climate change policies on countries with owned and supplier chemical production 3) Impact of extreme weather on key customer countries for corn and soybean production 4) Impact of increased droughts on the demand for drought-resistant portfolio 5) Impact of changes in consumer diets on the demand for plant-based proteins and feed crops

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

ANSWERING THE FOCAL QUESTION: Our analysis shows that the scenarios modeled present both financial risks and financial opportunities for Syngenta in 2030. While certain financial risks in our operations and activities would need to be managed, we would also be able to actively pursue innovation opportunities to help farmers deal with the impacts of climate change and to address the shifts in consumer preferences. Our findings confirm climate-related aspects that are already considered in our business objectives and strategy development processes. **RESULTS SUMMARY** for each deep dive: 1) The potential impact of extreme weather events on our chemical production activities does not differ significantly between the two scenarios, with flooding being the most material risk. 2) The potential impact of transition risks in a <2°C scenario is greater on our own chemical production sites than on the supply chain, but actions associated with our GHG emission reduction commitment (approved by the Science Based Targets initiative) mitigate risks and might even give us a competitive advantage. 3) The potential impact of extreme weather events on our customers will increase under both scenarios, affecting our business more in the case of droughts than floods. 4) The impact of increased droughts could intensify the demand for drought-resistant seeds under both scenarios but geographical shifts might be observed as impact of chronic changes to the climate will be different depending on the production area. 5) The impact of changes in consumer diets increases seed sales opportunities in both scenarios, although less in a <2°C scenario. **INFLUENCE ON BUSINESS STRATEGY AND FINANCIAL PLANNING:** The climate scenario analysis showed that by 2030, growers would be faced with increased risks from droughts and floods. By offering farmers products that can help them adapt to climate change, Syngenta can tap into new market opportunities. Launched in June 2020, our current five-year Good Growth Plan includes bold commitments to accelerate innovation and strive for carbon-neutral agriculture. We committed to invest USD 2 billion over the next five years in R&D of products, services and programs for farmers in alignment with the findings from our deep dives 3, 4 and 5. We also committed to reduce the carbon intensity of our operations by at least 50% by 2030 and support the mitigation of the risks identified in deep dives 1 and 2.

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	INFLUENCE: Our strategy continues to evolve in consideration of trends that will impact the agricultural industry in the short, medium and long term. Changes in weather patterns that impact growing conditions and pest pressure are particularly important. Weather events that are unfavorable to agriculture tend to negatively affect our sales. For example, the dramatic flooding in the USA during 2019 impeded cultivation of tens of millions of acres, which had a direct negative impact on our seeds and crop protection sales in that market. At the same time, future weather patterns constitute a valuable input into our product development process. The climate scenario analysis conducted in 2020 showed that by 2030, growers would be faced with increased risks from droughts and floods. Among other insights, the analysis showed that by offering farmers products that can help them adapt to climate change, Syngenta can tap into new market opportunities related to the transition to a low-carbon economy. For example, plants that are more tolerant to droughts will be needed to produce food as temperature increases. Weed control using herbicides lowers the need for tillage, leaving the plants' roots in the soil for better soil compaction and enhanced soil organic matter, which helps, among other things, to retain more water and reduce carbon emissions from the soil. STRATEGIC DECISION: As a result, in our current Good Growth Plan launched in June 2020, Syngenta committed to invest USD 2 billion over the next five years to advance sustainable agriculture, including helping farmers mitigate and adapt to climate change. Investments will partly be directed toward products and services, and although they will take place within the next five years, we believe they will contribute to shape the future of agriculture long-term. As part of this commitment, in 2021, we invested USD 546 million in sustainable agriculture breakthroughs, reaching more than USD one billion in just the first two years. This amount was mainly driven by investments in crop protection and seeds R&D and in the strategic acquisition of Valagro, a leading biologicals company. TIME HORIZON: Long-term
Supply chain and/or value chain	Yes	INFLUENCE: Our strategy is also influenced by the need to make our supply chain less emission-intensive in the medium term. Our supply chain accounts for about 90% of our carbon footprint. Clearly, managing our environmental performance means working closely with our suppliers to help them manage their impacts. STRATEGIC DECISION: As a result, in 2019, we committed to reducing the carbon intensity of our entire operations, including our supply chain, by at least 50% by 2030. This target was validated by the Science Based Targets initiative and is part of our current Good Growth Plan launched in June 2020. As part of the analysis conducted in 2019 to determine our carbon reduction target, we identified that our chemical supplier base has the most significant impact on our total emissions and that a small portion of companies within our chemical supply chain represents a considerable amount of our carbon emissions. Subsequently, in 2021, we engaged with 72 companies representing around 40% of our Scope 3 emissions to request information on their carbon targets and measures, and to obtain data on their product-, site- or corporate-level carbon footprints. We ran webinars in English and Chinese to explain the challenge and encourage our suppliers to support us. TIME HORIZON: Long-term
Investment in R&D	Yes	INFLUENCE: Same as in the case of products and services above, our investment in R&D is influenced by climate change in the medium and long term – it is mainly driven by the opportunities it creates to help farmers mitigate and adapt to it. STRATEGIC DECISION: As a result, in our current Good Growth Plan launched in June 2020, Syngenta committed to invest USD 2 billion over the next five years to reduce agriculture's contribution to climate change and help farmers adapt to it. Among others, this investment covers R&D of products, services and programs. Examples of investments that Syngenta is making include the Reverte program in Brazil, where the company is working with partners to enhance the sustainable growth of agriculture by promoting integrated cattle/crop farming in degraded areas of the Cerrado biome. Through a holistic approach involving best agronomic practices, financial tools and input protocols, Reverte will help farmers and cattle holders improve the productivity of degraded pastureland. Today, some 18 million hectares of Cerrado areas are in some stage of degradation – meaning that more areas than necessary are used to deliver the needed ecosystem services. Reverte allows farmers to sustainably expand agriculture into lands that are already open without tree cover, but uncultivated due to soil degradation. The initiative aims to demonstrate the economic viability of reclaiming land rather than opening new areas for cultivation, thereby contributing to the preservation of native vegetation. The goal is to increase farmer productivity in the short term to enable a return on investment and prevent further degradation. Land recovery brings benefits to both Syngenta and the farmer. For Syngenta, it generates new sustainable market segments. For the farmer, it provides the opportunity to expand agriculture through regenerative and climate-resilient farming practices, such as carbon sequestration, soil recovery and water efficiency. TIME HORIZON: Long-term
Operations	Yes	INFLUENCE: Our strategy is also influenced by the need to ensure business continuity. Extreme weather events could affect Syngenta's own production facilities, which could impact our costs or ability to meet supply requirements. In the climate scenario analysis conducted in 2020, we identified that physical risk of extreme weather events (floods and storms) on our chemical production increases under both scenarios. In addition, as part of our insurance coverage analysis (time horizon analysis of 100 and 500 years), we have identified that some Syngenta facilities are located in areas of potential floods. Flood management plans have therefore been put in place and this is assessed via site-specific environmental impact assessments. However, in the climate scenario analysis, we have also identified that in the case of a <2°C scenario, our actions associated with our carbon reduction commitment are expected to mitigate the financial impact of transition risks and might even generate a competitive advantage. STRATEGIC DECISION: Syngenta works actively to ensure business continuity, for example by implementing flood resilience measures in the short term. We have recognized the likely increasing frequency and severity of extreme weather events due to man-made climate change, and we incorporate this into our business continuity plans. We also work actively to make our production operations more efficient in the short term and to reduce carbon dioxide emissions per unit of sales revenue in the medium term – in line with our commitment to reducing the carbon intensity of our operations and supply chain by at least 50% by 2030. TIME HORIZON: Short- and medium-term

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	Capital expenditures Capital allocation Acquisitions and divestments	Climate is a key determinant for Syngenta's products and operations. A changing climate affects agriculture in terms of growing seasons, water availability, pests and crop productivity, as a result altering demand for our products. This could impact positively or negatively the company's financial results in different geographic areas depending on whether growing certain crops is more or less viable in that area (climate change is however not likely to reduce overall global demand for food and feed). This creates the opportunity for Syngenta to develop solutions that help farmers mitigate and adapt to climate change. Our capital allocation as well as decisions on capital expenditure or potential acquisitions are thus driven by our desire to address farmers' needs and return on investment in support of our long-term strategy and commitment to sustainable agriculture. In our Good Growth Plan launched in 2020, Syngenta committed to invest USD 2 billion over the next five years to reduce agriculture's contribution to climate change, harness its mitigation capacity, and help the food system stay within planetary boundaries. Our investment model allocates capital and resources toward products, services, programs, partnerships, and capital expenditures, that offer a clearly differentiated sustainability benefit or are breakthrough technologies enabling a step change in agricultural sustainability. These investments are distinct from those we make as part of good practice and – wherever possible – benefit large-scale and smallholder farmers, and contribute to meeting the United Nations Sustainable Development Goals. A clear process and associated criteria – developed with The Nature Conservancy – are used for assessing investments. As a result of this commitment, in 2021, we invested USD 546 million in sustainable agriculture breakthroughs. This was mainly driven by investments in crop protection and seeds R&D and in the strategic acquisition of Valagro, a leading biologicals company. An example of investment we are making under this commitment includes our new insecticide active ingredient (AI) Spiropidion, marketed under the brand name ELESTAL®. This AI offers farmers a new tool for Integrated Pest Management programs, which is safe to beneficial insects and pollinators. We are also partnering with farmers worldwide to promote sustainable agriculture practices. In China for example, we are scaling up our Run Tian project, which encourages farmers to reduce straw burning and to incorporate straw and crop leftovers into the soil, improving air quality and sequestering carbon in the soil. In 2021, our soil conservation and biodiversity enhancement projects benefited 7.5 million hectares and generated a carbon benefit potential of 3 million tonnes of CO ₂ e. TIME HORIZON: Medium-term

C4. Targets and performance

C4.1

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

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Year target was set

2019

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 3

Scope 2 accounting method

Market-based

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 5: Waste generated in operations

Category 6: Business travel

Category 7: Employee commuting

Category 8: Upstream leased assets

Category 9: Downstream transportation and distribution

Category 10: Processing of sold products

Category 12: End-of-life treatment of sold products

Category 13: Downstream leased assets

Category 15: Investments

Intensity metric

Metric tons CO₂e per USD(\$) value-added

Base year

2016

Intensity figure in base year for Scope 1 (metric tons CO₂e per unit of activity)

0.000082

Intensity figure in base year for Scope 2 (metric tons CO₂e per unit of activity)

0.000061

Intensity figure in base year for Scope 3 (metric tons CO₂e per unit of activity)

0.001113

Intensity figure in base year for all selected Scopes (metric tons CO₂e per unit of activity)

0.001256

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

100

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2030

Targeted reduction from base year (%)

67.6

Intensity figure in target year for all selected Scopes (metric tons CO₂e per unit of activity) [auto-calculated]

0.000406944

% change anticipated in absolute Scope 1+2 emissions

54.2

% change anticipated in absolute Scope 3 emissions

54.2

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

0.00006

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

0.000042

Intensity figure in reporting year for Scope 3 (metric tons CO2e per unit of activity)

0.001276

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0.001378

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

-14.3688991067727

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

Well-below 2°C aligned

Please explain target coverage and identify any exclusions

The Syngenta target covers Scope 1, 2 and 3 emissions for our operations as per the reporting boundary disclosed in C0.5. Scope 3 emissions include 13 of the 15 Scope 3 categories except the categories "Use of sold products" and "Franchises." The Use of sold products category is not applicable in alignment with our SBTi commitment, reflecting the absence of externally validated methodologies that consider both benefits and emissions from the use of agricultural inputs. The "Franchises" category is not applicable as we do not have franchises. CO2 emissions and removals from bioenergy are not relevant to our organization.

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

OUR 2021 PERFORMANCE: In 2021, intensity-based CO2 emissions from Scope 1, 2 and 3 sources increased by 10% based on value added compared to the 2016 baseline. The increase was driven by an increase in Scope 3 emissions, which was partially compensated by a decrease in Scope 1 and 2 emissions. Absolute Scope 1 and 2 emissions decreased by 19% since 2016, while absolute Scope 3 emissions increased by 30% in the same period. Representing about 93% of our total absolute emissions, absolute Scope 3 emissions increased to 9,070k tonnes in 2021 from 6,994k tonnes in 2016. PLAN AND NEXT STEPS: To reduce our Scope 1 and 2 emissions, we keep focusing on improving the efficiency of our manufacturing processes, designing and implementing site-based energy-saving programs, increasing the share of renewable sources of energy, and partnering with our crop protection and seed suppliers to reduce their carbon footprint. To achieve our targets, we need to reduce our Scope 3 emissions in the supply chain as these represent more than 90% of our total emissions. This challenge demands focused effort and commitment from Syngenta and its supply chain partners. Reducing our Scope 3 emissions is a high priority, and significant work is ongoing across the organization to do so. At the same time, we continue to provide innovative solutions and encourage the use of agricultural practices that help farmers mitigate climate change. We believe we can make a significant contribution to helping farmers mitigate and adapt to climate change.

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?

Other climate-related target(s)

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

2020

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

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

Land use change	Other, please specify (Hectares of benefited farmland)
-----------------	--------------------------------------------------------

Target denominator (intensity targets only)

<Not Applicable>

Base year

2021

Figure or percentage in base year

0

Target year

2021

Figure or percentage in target year

3000000

Figure or percentage in reporting year

7500000

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

250

Target status in reporting year

Achieved

Is this target part of an emissions target?

This target is part of Syngenta's current five-year Good Growth Plan launched in June 2020, in which we committed to strive for carbon-neutral agriculture and in particular to "enhance biodiversity and soil health on 3 million hectares of rural farmland every year". This is a renewed target which was also part of our first Good Growth Plan (2013-2019), reinforcing our commitment to soil health and biodiversity conservation. As an integral part of this target, we encourage and train farmers on conservation agriculture practices that reduce greenhouse gas emissions and increase carbon sequestration in the soil. One way to prevent carbon from being released from the soil is through practices such as minimum soil disturbance, permanent soil cover (e.g., crop residues or cover crops), and crop rotation. Not tilling the soil also prevents the passing of heavy machinery on the field that burns fossil fuels. This means farmers can grow more crops, while keeping carbon in the soil and releasing less fuel emissions in the air. In 2021, more than 120 soil conservation and biodiversity enhancement projects benefited 7.5 million hectares of farmland. We also report on the estimated carbon benefit on farmland adopting our soil conservation and biodiversity enhancement projects. The carbon benefit potential corresponds to the net change in soil carbon pools, reflecting the accumulated difference between carbon inputs to the soil after CO₂ uptake by plants and CO₂ release due to decomposition in the soil. The carbon benefit potential is calculated based on the number of hectares on which our soil- and biodiversity-related practices were applied, multiplied by the corresponding practice and climatic zone factors outlined in the IPCC fourth assessment report, Table 8.4, page 512 (https://www.ipcc.ch/site/assets/uploads/2018/03/ar4_wg3_full_report-1.pdf). In 2021, the carbon benefit potential on farmland associated with our soil conservation and biodiversity enhancement projects was 3,038k tonnes CO₂e, which is 55% higher than in 2020. Please note that this carbon benefit potential is not included in our science-based target emissions reporting.

Is this target part of an overarching initiative?

Other, please specify (Climate Smart Agriculture - CSA 100)

Please explain target coverage and identify any exclusions

Since 2013, we have measured our impact on sustainable agriculture through our first and now our current Good Growth Plan. Our commitment seeks to empower global food systems to contribute to the United Nations Sustainable Development Goals (SDGs), including SDG 13: "Climate action". By encouraging farmers to implement climate-smart practices, we support them in turning agricultural fields into carbon sinks, helping to remove carbon dioxide from the atmosphere. Therefore, our biodiversity and soil health targets are particularly relevant here.

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

<Not Applicable>

List the actions which contributed most to achieving this target

In 2021, 81 soil health projects in 17 countries benefited a total of 6.03 million hectares of farmland. Latin America accounted for about 46% of the total hectares benefited by soil conservation measures. Our continued collaboration with the ILPF (Integração Lavoura Pecuária Floresta) network, which aims to accelerate the adoption of integrated crop-livestock-forest systems in Brazil, contributed approximately 1.45 million hectares. Also in Brazil, we continued implementing our flagship soil project Reverte, which aims to return more than one million hectares of degraded land to profitable agricultural production by 2025 through livestock integration and crop rotation. We also continued our efforts across other regions. For example, in our Europe, Africa and Middle East region, soil health projects benefited a total of 2.2 million hectares. Launched in late 2020, our Run Tian project has benefited about 50 thousand hectares in 2021. Through training, Run Tian encourages farmers to avoid straw burning and to incorporate straw and crop leftovers into the soil. By doing so, they improve air quality and sequester carbon in the soil. In 2021, 61 projects in 32 countries benefited 1.44 million hectares of farmland. Over 90% of the 1.44 million hectares of farmland benefited by biodiversity enhancement measures were linked to trainings, agronomic advice, and farmers' support to implement multifunctional field margins through our Operation Pollinator, Sustainable Solutions projects and other programs. Developed by Syngenta more than 15 years ago, our global Operation Pollinator program continues to create essential habitats in field margins and on fallow land in agricultural, golf course or other landscapes. The program uses specially selected wildflowers to attract a variety of pollinators and increase biodiversity, but also promotes the establishment of multifunctional field margins by providing habitat and wildlife corridors that connect landscapes. As its Sustainable Solutions projects continue to grow, North America accounted for 87% of the total biodiversity hectares. We support farmers in the USA with solutions and digital platforms to continually improve their productivity while demonstrating how conservation practices enhance natural resource management. In particular, we helped farmers implement multifunctional field margins benefiting 1.2 million hectares of farmland.

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	46	
To be implemented*	94	4596
Implementation commenced*	44	83184
Implemented*	58	18283
Not to be implemented	3	

C4.3b

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

Initiative category & Initiative type

Waste reduction and material circularity	Product or service design
------------------------------------------	---------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

176

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)

152000

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

0

Payback period

No payback

Estimated lifetime of the initiative

6-10 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

37

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

0

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

5000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

130

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

Scope 1
Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

0

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

156000

Payback period

No payback

Estimated lifetime of the initiative

16-20 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

300

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)

30000

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

320000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

160

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

12000

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

25000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

100

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)

10000

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

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

95

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

7000

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

0

Payback period

No payback

Estimated lifetime of the initiative

11-15 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

1800

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)

1000000

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

830000

Payback period

<1 year

Estimated lifetime of the initiative

1-2 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

52

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

Scope 3 category 1: Purchased goods & services

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

3-5 years

Comment

No comment

Initiative category & Initiative type

Waste reduction and material circularity	Product or service design
------------------------------------------	---------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

180

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

Scope 3 category 1: Purchased goods & services

Voluntary/Mandatory

Voluntary

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

152000

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

0

Payback period

No payback

Estimated lifetime of the initiative

3-5 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

8963

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)

730000

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

10000000

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

No comment

Initiative category & Initiative type

Low-carbon energy consumption	Hydropower (capacity unknown)
-------------------------------	-------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

2000

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

1-2 years

Comment

No comment

Initiative category & Initiative type

Transportation	Other, please specify (Goods Movement Optimisation)
----------------	-----------------------------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

780

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

Scope 3 category 4: Upstream transportation & distribution

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

1-2 years

Comment

No comment

Initiative category & Initiative type

Company policy or behavioral change	Waste management
-------------------------------------	------------------

Estimated annual CO2e savings (metric tonnes CO2e)

60

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

Scope 3 category 1: Purchased goods & services

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

3-5 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

3043

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

Scope 3 category 1: Purchased goods & services

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

3-5 years

Comment

No comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

100

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

17500

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

173000

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

Installation of photovoltaic panels on an R&D site to reduce the consumption of electricity generated from fossil fuels

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

93

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

20611

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

73492

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

LED lighting projects, introduction of energy management systems in buildings, building insulation, and thermal efficiency improvements

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

214

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

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

50901

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

161159

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

Replacing centrifugal fans with electronically commutated fans, installing frequency inverters for HVAC cooling pumps, and installing variable frequency drives

C4.3c

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

Method	Comment
Dedicated budget for low-carbon product R&D	We invest in R&D of new plant varieties that can capture energy from the sun more effectively and use nitrogen more efficiently. In addition, we invest in R&D of new and sophisticated herbicides – helping growers to adopt conservation tillage, which improves soil fertility and provides higher productivity. In our Good Growth Plan launched in 2020, we committed to invest USD 2 billion over the next five years to help farmers prepare for and tackle the increasing threats posed by climate change. In 2021, we invested USD 546 million in sustainable agriculture breakthroughs. This was mainly driven by investments in crop protection and seeds R&D and in the strategic acquisition of Valagro, a leading biologicals company.
Dedicated budget for energy efficiency	To achieve our 2030 carbon intensity reduction target, we are focusing on improving the efficiency of our manufacturing processes, designing and implementing site-based energy saving programs, increasing the share of renewable sources of energy, and partnering with our crop protection and seeds suppliers to reduce their carbon footprint. In addition, we are working to further optimize our logistics network and business travel.
Dedicated budget for other emissions reduction activities	We invest in farmers' training and capacity building to enable more farmers to improve their farming practices in order to maximize crop yield and to support greater carbon storage in soils and vegetation. Responsible soil management makes agriculture more resilient to the causes and effects of climate change. Soil is a major storage area for carbon in our ecosystem, but when it is degraded or disturbed, carbon is released back into the atmosphere, becoming a greenhouse gas. As part of our Good Growth Plan's commitment to strive for carbon-neutral agriculture, we encourage and train farmers on conservation agriculture practices that reduce greenhouse gas emissions and increase carbon sequestration in the soil. In 2021, our soil conservation and biodiversity enhancement projects benefited 7.5 million hectares of farmland. The estimated carbon benefit on farmland from adopting these projects was 3,038k tonnes CO2e. This carbon benefit potential corresponds to the net change in soil carbon pools, reflecting the accumulated difference between carbon inputs to the soil after CO2 uptake by plants and CO2 release due to decomposition in the soil.
Employee engagement	Internally, we are sharing stories about improvement activities at our sites, in our functions and at the global level through webinars, newsletters, company intranet, etc. to showcase the local achievements and inspire others to implement similar improvements at their sites or in their regions.

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

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Chemicals and plastics	Other, please specify (Crop protection chemicals)
------------------------	---------------------------------------------------

Description of product(s) or service(s)

We contribute to reducing GHG emissions and enhancing carbon sequestration in the agricultural sector through our products and services. Although the sector is the world's second largest emitter of GHGs, literature suggests that agriculture has the potential to simultaneously sequester a significant amount of emissions. Our herbicide product range supports modern farming practices like minimum or no-till and thus helps to reduce the amount of carbon dioxide released from the soil. For instance, weed control using herbicides lowers the need for tillage, leaving the plants' roots in the soil for better soil compaction and enhanced soil organic matter, which helps, among other things, to reduce carbon emissions from the soil. While penetration of low- and no-tillage practices today is estimated at 11% of hectares globally, it has shown rapid growth in key markets, with approximately 40% of hectares in Brazil and the USA now using low- and no-tillage practices (source: McKinsey, Agriculture and climate change report, p.21: <https://www.mckinsey.com/industries/agriculture/our-insights/reducing-agriculture-emissions-through-improved-farming-practices>). In particular, our non-selective herbicides are widely used for conservation agriculture. The % revenue calculation is estimated based on sales of non-selective herbicides and corn and soybean seeds as outlined in our Financial Report 2021, p.5, and on the estimated adoption rate of conservation practices.

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

No

Methodology used to calculate avoided emissions

<Not Applicable>

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

<Not Applicable>

Functional unit used

<Not Applicable>

Reference product/service or baseline scenario used

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions

<Not Applicable>

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

2.4

Level of aggregation

Product or service

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

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Chemicals and plastics	Other, please specify (Crop protection chemicals)
------------------------	---------------------------------------------------

Description of product(s) or service(s)

Syngenta's AGRISURE ARTESIAN® is a drought-tolerant corn hybrid seed that produces reliable yields even in drier and semi-arid conditions increasingly encountered by farmers around the world. Better technologies, such as AGRISURE ARTESIAN® drought-tolerant seeds, help to optimize crop yields and thereby reduce land use-based emissions by decreasing the amount of arable land needed per unit of crop, consequently allowing for higher carbon sequestration by the remaining untouched land, leaving it in its natural state. Research found that, in terms of land cover, technology-driven intensification provides benefits for global nature conservation. However, these benefits are uneven, with deforestation still occurring in specific regions. Productivity gains must thus be complemented by measures to reduce agricultural land expansion into carbon and biodiversity-rich lands (sources: Derek Byerlee, James Stevenson, Nelson Villoria (2014); Robert Ewers, Jörn Scharlemann, Andrew Balmford and Rhys Green (2009)). A 2010 study from Stanford University had also found that the net effect of higher yields in agriculture – driven by the adoption of higher-yielding crop varieties, increased use of pesticides and fertilizers, and improved access to irrigation and mechanization – has avoided emissions of up to 161 gigatons of carbon (GtC), the equivalent of 590 GtCO2e, between 1961 and 2005 (source: Jennifer A. Burney, Steven J. Davis, and David B. Lobell (2010)).

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

No

Methodology used to calculate avoided emissions

<Not Applicable>

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

<Not Applicable>

Functional unit used

<Not Applicable>

Reference product/service or baseline scenario used

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions

<Not Applicable>

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

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?

Yes, an acquisition

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

Facility in Muttenz, Switzerland

Details of structural change(s), including completion dates

On August 31, 2020, Syngenta completed the acquisition of a manufacturing facility in Muttenz, Switzerland from Novartis Pharma Schweizerhalle AG, a subsidiary of Novartis International AG, by acquiring manufacturing assets and transferring employees. October 2020 to September 2021 is the first reporting period, when the emissions from this facility have been included.

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>CHANGES IN METHODOLOGY OCCURRED FOR SCOPE 3 CATEGORIES In 2021, the process of assigning emission factors to materials and services in Scope 3 categories 1, 2, 3, 5 and 10 was automated and standardized following the introduction of an in-house purpose-built algorithm. This formalized the assumptions behind emission factor assignments and made the reasoning behind each material-emission factor match traceable. The algorithm also reduced data processing time significantly, allowing to experiment with potential methodology changes. In addition, the algorithm enabled to further refine the calculation method for Category 10 (Processing of sold products) – resulting in significantly closer matches of emission factors for materials and increasing match accuracy in the category. Also, improving the granularity of information in the internal spend database allowed to more accurately allocate spend items to Category 10. Moreover, in 2021, a small amount of supplier data collected by the Supplier Engagement program became available to include in the Scope 3 Category 1 emissions calculation. A module was included in the emission factor assignment algorithm to assign supplier-specific emission factors based on supplier and material name. For spend relating to the Seeds business in Category 1 (Purchased goods and services), the emission factors for seeds materials were improved using a module in the algorithm to identify whether a material purchased by the organization is in the seed, packaging, treatment or services category, and assigning emissions factors accordingly. In the 2016 baseline calculation, spend related to non-flight business travel had been included as indirect purchasing in Category 1 as it could not be accurately separated and included in the category Business Travel. In 2021, emissions related to Business Travel from non-air travel were moved to the right category.</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	No, because the impact does not meet our significance threshold	The SBTi requires companies to recalculate and resubmit targets at least every 5 years to ensure the validity of targets, if significant (defined as 5% of reported total baseline emissions) cumulative errors or method changes are identified, or if significant changes in company structure or activities occur. Syngenta adheres to this requirement.

C5.2

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

Scope 1

Base year start

October 1 2009

Base year end

September 30 2010

Base year emissions (metric tons CO2e)

684000

Comment

Please note that this base year is not the same year used for our carbon reduction target as outlined in question C4.1b. Base year 2010 was selected because a significant revision of our central environmental data reporting system (SERAM) was conducted to improve data quality and methodologies. We believe base year 2010 offers a fair comparison with the current reporting.

Scope 2 (location-based)

Base year start

October 1 2009

Base year end

September 30 2010

Base year emissions (metric tons CO2e)

301000

Comment

Please note that this base year is not the same year used for our carbon reduction target as outlined in question C4.1b. Base year 2010 was selected because a significant revision of our central environmental data reporting system (SERAM) was conducted to improve data quality and methodologies. We believe base year 2010 offers a fair comparison with the current reporting.

Scope 2 (market-based)

Base year start

October 1 2009

Base year end

September 30 2010

Base year emissions (metric tons CO2e)

301000

Comment

Please note that this base year is not the same year used for our carbon reduction target as outlined in question C4.1b. Base year 2010 was selected because a significant revision of our central environmental data reporting system (SERAM) was conducted to improve data quality and methodologies. We believe base year 2010 offers a fair comparison with the current reporting. As the value of market-based emissions was not defined in 2010, we estimate their value to be identical to location-based emissions.

Scope 3 category 1: Purchased goods and services

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

5360000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 2: Capital goods

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

238000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

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

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

311000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 4: Upstream transportation and distribution

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

562000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 5: Waste generated in operations

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

133000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 6: Business travel

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

43000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 7: Employee commuting

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

6000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 8: Upstream leased assets

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

105000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 9: Downstream transportation and distribution

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

49000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 10: Processing of sold products

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

107000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not applicable in alignment with our Science Based Targets initiative commitment, reflecting the absence of externally validated methodologies that consider both benefits and emissions from the use of agricultural input.

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

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

79000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 13: Downstream leased assets

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

1000

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Not applicable. Like today, Syngenta did not have any franchises in the base year.

Scope 3 category 15: Investments

Base year start

October 1 2015

Base year end

September 30 2016

Base year emissions (metric tons CO2e)

0

Comment

Same base year used for our carbon reduction target as outlined in question C4.1b Emissions from this category were not material for the base year and thus included in category 1: Purchased good and services. This has changed over time and we now report progress on this category.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

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

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

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)

427000

Start date

October 1 2020

End date

September 30 2021

Comment

Syngenta sites report annually into our central environmental data reporting system (SERAM). For Scope 1 emissions, sites report the quantity and source (natural or liquid gas, diesel, heavy fuel oil, wood or other sources) of energy used, based on which the emissions of carbon dioxide, NOx, SO2 and other components are calculated using standardized emission factors. For other Scope 1 emissions, sites report the direct emissions of carbon dioxide, methane, and other GHG including fugitive refrigerants. As appropriate, sites either measure the quantity of gas directly, calculate it based on process stoichiometry, or in the case of fugitive gases, based on the quantity of refrigerants refilled into the system during the year. The carbon dioxide equivalent is calculated based on standardized emission factors. These figures are used to calculate the total carbon dioxide equivalent emissions per site and in total.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

440000

Start date

October 1 2019

End date

September 30 2020

Comment

2020 reporting values were restated due to energy reporting errors found at three of our sites. Previous value reported was 476,700.

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

584000

Start date

October 1 2018

End date

September 30 2019

Comment

2019 reporting values were restated due to energy reporting errors found at three of our sites. Previous value reported was 615,000.

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

For most sites, only location-based figures are available as only a limited number of sites currently have non-standard electricity contracts in place. Work is currently ongoing to assess the impact and availability of green electricity sources.

C6.3

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

Reporting year

Scope 2, location-based

319000

Scope 2, market-based (if applicable)

301000

Start date

October 1 2020

End date

September 30 2021

Comment

For most sites, only location-based figures are available as only a limited number of sites currently have non-standard electricity contracts in place. A project is currently ongoing to assess the impact and availability of green electricity sources.

Past year 1

Scope 2, location-based

330000

Scope 2, market-based (if applicable)

324000

Start date

October 1 2019

End date

September 30 2020

Comment

2020 reporting values were restated due to energy reporting errors found at three of our sites. Previous value reported was 319,900 market-based and 325,900 location-based. For most sites, only location-based figures are available as only a limited number of sites currently have non-standard electricity contracts in place. A project is currently ongoing to assess the impact and availability of green electricity sources.

Past year 2

Scope 2, location-based

364000

Scope 2, market-based (if applicable)

357000

Start date

October 1 2018

End date

September 30 2019

Comment

2019 reporting values were restated due to energy reporting errors found at three of our sites. Previous value reported was 355,000 market-based and 361,000 location-based. For most sites, only location-based figures are available as only a limited number of sites currently have non-standard electricity contracts in place. A project is currently ongoing to assess the impact and availability of green electricity sources.

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?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

These are emissions from small sites with limited or part-time staff.

Relevance of Scope 1 emissions from this source

Emissions are not evaluated

Relevance of location-based Scope 2 emissions from this source

Emissions are not evaluated

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not evaluated

Explain why this source is excluded

Based on preliminary analysis, we believe that the emissions from these small sites are negligible. However, we have not yet fully quantified the impact that the exclusion of these sites has on our global emission reporting. Thresholds to include and exclude sites from environmental reporting are set in Syngenta's operating procedures. On an annual basis, country and regional HSE staff verify that the correct reporting sites are included. Sites with individual energy consumption $\leq 0.1\%$ of the total Syngenta (≤ 8500 GJ/year) are excluded from environmental reporting and thus from our carbon disclosure. However, sites with total energy consumption $<0.1\%$ of the total may be included if their waste generation or water use is significant ($>0.1\%$ of the total). We also include a number of sites, which are below the reporting thresholds, to drive cultural change.

Estimated percentage of total Scope 1+2 emissions this excluded source represents

<Not Applicable>

Explain how you estimated the percentage of emissions this excluded source represents

<Not Applicable>

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

6975000

Emissions calculation methodology

Supplier-specific method
Hybrid method
Average data method
Spend-based method

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

1

Please explain

Emissions related to Purchased goods and services are calculated using a hybrid method of supplier, average and spend-based emission factors. A small number of supplier product emission factors for chemical raw materials – that were validated as being complete and accurate – were collected in a supplier data survey in 2020, and used for the corporate carbon footprint calculation in 2021. These are assigned based on both the product code and the supplier name. Further work is ongoing to collect product carbon footprint data on purchased materials from suppliers for use in the corporate carbon footprint calculation. The first two supplier engagement questionnaires showed that while not many suppliers could provide accurate and complete data in 2019/2020, many are working on improving the situation and should be able to provide this data in the next years. Where supplier data is not available but the quantity of a purchased material is measurable in standardized metric units, the average method usingecoinvent and Agri-Footprint emission factors is used. These are assigned using an in-house algorithm that allocates the best available emission factor to each line item by considering both the nature of the material and its geographical origin. Where a matching emission factor is not available (for example, for fine chemicals or custom intermediates), a proxy emission factor is assigned using the general chemical class of the material. For indirect purchases and services where an emission factor cannot be assigned to reflect the volume of a material and for raw materials measured in non-standard units, the spend-based method using USEEIO factors is used instead. Emission factors are assigned using the same algorithm as average volume-based and supplier-specific emission factors. Where multiple emission factors are available for a purchased item, the middle one is selected and the lower and higher options are listed as non-selected options. This occurs when different factors for different production pathways are available for a chemical, but when Syngenta doesn't know which one is used by the supplier, and when multiple proxies but no clear match exist. The intent is to ensure that neither a low nor a high bias is present in the calculation method.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

198000

Emissions calculation methodology

Spend-based method

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

0

Please explain

Emissions related to Capital goods are calculated using the spend-based method using USEEIO factors. The Syngenta in-house corporate emissions calculation algorithm that is used to calculate several Scope 3 categories, including Capital goods, prioritizes average volume-based emission factors as much as possible. However, as capital goods are usually not measurable in standardized units, the spend-based method is used. The factors used are USEEIO adjusted for inflation each year. Our program to collect real data from suppliers for the Scope 3 category Purchased goods and services does not currently include Capital goods. This is due to the greater complexity of assigning unit-specific emission factors to Capital goods, and the smaller total magnitude of the category compared to Purchased goods and services.

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

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

182000

Emissions calculation methodology

Spend-based method

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

0

Please explain

Emissions related to the category Fuel-and energy-related activities are calculated by applying spend-based USEEIO factors (adjusted annually for inflation) to the spend data related to purchased fuels and energy. As this category only covers aspects of energy- and fuel-related activities not already covered by Scope 1 and 2 emissions, the applied factors are adjusted down to 20% of the original factor to conservatively cover transmission and distribution losses. The 20% allocation is based on a previous analysis of the average transmission losses in countries where Syngenta has significant manufacturing assets. In early 2022, to see if both methods produced similar results, we used a separate volume-based method to calculate the 2021 figure independently of the reported figure. The emissions reported by Syngenta sites related to energy and fuel were multiplied by the same assumed 20% as in the spend-based method to generate an estimate of the emissions related to transmission and distribution losses. The figure generated using this method for 2021 was very close to the reported 2021 figure using the spend-based method. Due to planned changes in site reporting, the volume-based method will not be implemented in 2022. However, the similarity of the results validates and gives confidence in the spend-based method and the reported results.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

583000

Emissions calculation methodology

Average spend-based method

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

0

Please explain

This category is currently calculated using a financial model based on the value and geographical location of finished and unfinished products, combined with historical Syngenta data on the carbon impact of transportation estimated using regional surveys. This model is an interim solution, which will be superseded when supplier data reaches a sufficient level of coverage, which is expected in 2022. A project is ongoing to collect real data on the carbon emissions of both up- and downstream transportation and distribution from our main third-party transportation partner.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

169000

Emissions calculation methodology

Spend-based method

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

0

Please explain

Emissions related to the category Waste generated in operations is calculated by assigning a spend-based emission factor to spend data on waste disposal and treatment. This is done with the same emission factor assignment algorithm used for a number of the other Scope 3 categories, including Purchased goods and services and Processing of sold products. A different method was piloted in early 2022 to check that the results of this calculation method were similar to the method currently used. This experimental method used the reported volume data from waste treatment and disposal from Syngenta sites, and applied volume-based factors to generate a carbon footprint. The waste disposed was classified as either hazardous or non-hazardous, and as landfilled or incinerated, and emission factors describing these treatments were applied. The end result was very close to the above reported figure for 2021. Due to the ongoing process to upgrade the site environmental reporting system, this volume-based method will not be used going forward. However, the similar outputs produced validate and give confidence in the current spend-based method.

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

15000

Emissions calculation methodology

Spend-based method
Distance-based method

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

21

Please explain

Data from two sources is used to calculate carbon emissions related to Business travel. The first source is data received from the travel agency used by Syngenta to book all business travel by air. The travel agency classifies flights taken by Syngenta employees as either domestic, international or long-haul, and as economy, business or first class. Depending on the classification, emission factors are applied on the flight distance. The data is then shared with and checked by Syngenta. This data covers only air travel, and represents 21% of the data obtained from suppliers. The rest of the business travel-related emissions are calculated using the spend-based method and data on travel-related spending and expenses of Syngenta employees. This data is extracted from the internal spend database, and suitable spend-based factors are applied. To avoid double counting, expenses related to air travel are excluded. In previous years, non-flight business travel-related emissions were reported under Purchased goods and services. Due to improvements in the identification of related spend, we are now able to allocate these emissions to the appropriate category.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

11000

Emissions calculation methodology

Other, please specify (Average method based on the number of employees and UK average commuting patterns)

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

0

Please explain

To calculate the emissions related to the category Employee commuting, the total number of Syngenta employees is multiplied by an emission factor per person per year, derived from the data on the average commuting habits of people in Britain based on DEFRA data. We believe this figure is a conservative value to estimate emissions from Syngenta employee commuting. Although the per-person average of Syngenta employees may be higher than this average in some areas (such as in Brazil and the USA, where vehicular travel is more common), in other areas (such as in Switzerland where public transport, bicycling and pedestrianism are common, or in China and India, where small vehicles are common) the per-person average is expected to be lower; therefore, the UK factor is seen as a suitable average. Due to the very small magnitude of this category compared to other Scope 3 categories, this method is seen as sufficient and calculation improvement efforts are focused on other categories.

Upstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

316000

Emissions calculation methodology

Other, please specify (Method based on asset size and function)

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

100

Please explain

For the calculation of the category Upstream leased assets, data about the size, function and leasing status of Syngenta assets is obtained from the facilities management partner company. To avoid double counting, sites owned by Syngenta or leased sites that already report into the annual environmental data reporting system SERAM are excluded. The remaining relevant data is then multiplied by emission factors for different building types (e.g., warehouse, office) derived from the 2012 CBECs building survey in terms of kgCO₂e/m²/year to generate the category footprint.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

51000

Emissions calculation methodology

Average spend-based method

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

0

Please explain

This category is currently calculated using a financial model based on the value and geographical location of finished and unfinished products, combined with historical Syngenta data on the carbon impact of transportation estimated using regional surveys. This model is an interim solution, which will be superseded when supplier data reaches a sufficient level of coverage, which is expected in 2022. A project is ongoing to collect real data on the carbon emissions of both up- and downstream transportation and distribution from our main third-party transportation partner.

Processing of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

431000

Emissions calculation methodology

Hybrid method
Average data method
Spend-based method

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

0

Please explain

The emissions related to the category Processing of sold products are calculated using an adjusted version of the method used for Purchased goods and services. As for Purchased goods and services, the best available emission factor is assigned to each line item from the centralized purchasing dataset, based on the material's chemical class and available emission factors, and where possible, taking into consideration geography. This category covers materials whose raw materials have been purchased and partly produced by Syngenta, before being finished by an external processor. Therefore, the raw materials already appear in Syngenta's Purchased goods and services figure, and the activity done by the processing company represents the last few production steps of the finished material. After the relevant emission factor has been assigned to the purchased material, it is multiplied by 25% to reflect the contribution of the processing company. The 25% factor allocation is based on the split between Scope 1+2 and Scope 3 emissions of Syngenta's own operations across the three years where Syngenta has calculated a Scope 3 footprint as well as the historical annual Scope 1 and 2 reporting. Scope 1 and 2 have contributed around 10% of the total corporate carbon footprint. A similar split is expected for Syngenta's processing partner companies, whose activities are similar to Syngenta's. Therefore, 25% was selected as a conservative adjustment factor to describe the activities relevant to Processing of sold products. Work is ongoing to collect supplier data for this category to replace the external database emission factors.

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

The use of Syngenta's products is not currently in scope of the calculation. This category is not applicable in alignment with our Science Based Targets initiative commitment, reflecting the absence of externally validated methodologies that consider both benefits and emissions from the use of agricultural input.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

200

Emissions calculation methodology

Average data method

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

0

Please explain

The category End of life treatment of sold products only includes emissions from the incineration of expired treated seeds. For the rest of Syngenta's products, when the products are used according to the label by the user, then no end-of-life treatment is required. The quantity of disposed seeds is reported by the relevant geographies, and an emission factor describing waste incineration is applied to the volume. Asking for supplier data from the relevant treatment facilities would be time-consuming and would not improve the quality of the overall Scope 3 calculation, given it is a small and geographically diverse category. Therefore, supplier data for this category is not currently being collected.

Downstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

500

Emissions calculation methodology

Other, please specify (Method based on asset size and function)

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

100

Please explain

To calculate emissions for the Downstream leased assets category, data about the size, function and leasing status of Syngenta assets is obtained from the facilities management partner company. To avoid double counting, sites owned by Syngenta or leased sites that already report into the annual environmental data reporting system SERAM are excluded. The remaining relevant data is then multiplied by emission factors for different building types (e.g., warehouse, office) derived from the 2012 CBECS building survey in terms of kgCO2e/m2/year to generate the category footprint.

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

Syngenta does not have any franchises.

Investments

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

138000

Emissions calculation methodology

Average data method

Spend-based method

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

0

Please explain

Data from two sources is used to calculate emissions related to Investments. The first is data on the value, size, location, type of business activity and percentage of Syngenta ownership of companies it has invested in. Appropriate spend-based emission factors are identified based on the activity type and applied to the proportion of the company owned by Syngenta. The second is data related to the trading of agricultural products. These are classified as Investments rather than Purchased goods and services due to the ownership structure of the trading system. Where the volume of the traded agricultural product is listed in standardized units, a suitable volume-based emission factor from Agri-Footprint is applied. Where the volume listed is not in standardized units, a suitable spend-based factor is applied. For both factor types, the end result is divided by two to reflect the ownership structure of the materials and specifically the portion owned by Syngenta.

Other (upstream)

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

Syngenta's upstream activities are sufficiently covered by the above Scope 3 categories.

Other (downstream)

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

Syngenta's downstream activities are sufficiently covered by the above Scope 3 categories.

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date

October 1 2019

End date

September 30 2020

Scope 3: Purchased goods and services (metric tons CO2e)

7305400

Scope 3: Capital goods (metric tons CO2e)

190830

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

268255

Scope 3: Upstream transportation and distribution (metric tons CO2e)

590063

Scope 3: Waste generated in operations (metric tons CO2e)

162239

Scope 3: Business travel (metric tons CO2e)

24925

Scope 3: Employee commuting (metric tons CO2e)

10848

Scope 3: Upstream leased assets (metric tons CO2e)

127209

Scope 3: Downstream transportation and distribution (metric tons CO2e)

51310

Scope 3: Processing of sold products (metric tons CO2e)

65789

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

208

Scope 3: Downstream leased assets (metric tons CO2e)

618

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

162000

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

No restatement needed for Scope 3 emissions for 2020. Only Scope 1 and 2 emissions needed to be restated – see questions C6.1 and C6.3.

Past year 2

Start date

October 1 2018

End date

September 30 2019

Scope 3: Purchased goods and services (metric tons CO2e)

Scope 3: Capital goods (metric tons CO2e)

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

Scope 3: Upstream transportation and distribution (metric tons CO2e)

578000

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)

37000

Scope 3: Employee commuting (metric tons CO2e)

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)

50000

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

No restatement needed for Scope 3 emissions for 2019. Only Scope 1 and 2 emissions needed to be restated – see questions C6.1 and C6.3. Since 2020, Scope 3 emission values include all categories in alignment with our Science Based Targets initiative commitment and associated 2016 baseline. In previous years, only Scope 3 emissions from transportation, distribution and business travel were reported.

C6.7

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

Yes

C6.7a

(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	31000	Syngenta sites report their Scope 1 and 2 energy use by energy type in our central environmental data reporting system (SERAM). Based on the quantity and source of energy used, emissions of CO2, NOx and other gases are calculated using standardized emission factors. Three sites report the use of wood and corn cobs as an energy source (this constitutes Syngenta's biogenic carbon emissions).

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

0.000044

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

728000

Metric denominator

unit total revenue

Metric denominator: Unit total

16733000000

Scope 2 figure used

Market-based

% change from previous year

18.6

Direction of change

Decreased

Reason for change

The decrease in Scope 1 and 2 emissions in 2021 was achieved by efficiency gains in our operations, such as improved containment for process emissions of R113a at our site in Huddersfield (UK), as well as enhancements in reporting at our St. Gabriel (USA) site. The decrease in Scope 2 emissions was also due to broad decarbonization in the energy purchased. There was also a 17% increase in sales in 2021. All our sites are constantly seeking for ways to contribute to Syngenta's carbon reduction target. For instance, the manufacture of an active ingredient (AI) used in fungicides at our Grangemouth (UK) site accounts for about 90% of the site's energy use. Due to operational efficiency gains and decarbonization of the UK's grid electricity supply, the site was able to reduce the energy-driven carbon emissions per tonne of AI by 35% since 2016. Also, upon recommendation from an energy audit, our Research Triangle Park (USA) site upgraded the control capabilities of the building management system, improving the site's ability to regulate energy consumption. Subsequently, the annual energy demand decreased by about 400 thousand kWh – translating into a reduction of carbon output of about 300 tonnes per year.

Intensity figure

23.57

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

728000

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

30892

Scope 2 figure used

Market-based

% change from previous year

9.7

Direction of change

Decreased

Reason for change

The decrease in Scope 1 and 2 emissions in 2021 was achieved by efficiency gains in our operations, such as improved containment for process emissions of R113a at our site in Huddersfield (UK), as well as enhancements in reporting at our St. Gabriel (USA) site. The decrease in Scope 2 emissions was also due to broad decarbonization in the energy purchased. There was also a 6% increase in employment in 2021. All our sites are constantly seeking for ways to contribute to Syngenta's carbon reduction target. For instance, the manufacture of an active ingredient (AI) used in fungicides at our Grangemouth (UK) site accounts for about 90% of the site's energy use. Due to operational efficiency gains and decarbonization of the UK's grid electricity supply, the site was able to reduce the energy-driven carbon emissions per tonne of AI by 35% since 2016. Also, upon recommendation from an energy audit, our Research Triangle Park (USA) site upgraded the control capabilities of the building management system, improving the site's ability to regulate energy consumption. Subsequently, the annual energy demand decreased by about 400 thousand kWh – translating into a reduction of carbon output of about 300 tonnes per year.

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	349414	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify (Various chlorinated or fluorinated refrigerant gases)	78181	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)
Argentina	5676
Bangladesh	49
Belgium	2500
Brazil	37568
Chile	715
China	28205
Colombia	53
Ethiopia	379
France	8157
Germany	450
Greece	127
Guatemala	312
Hungary	2275
India	240
Indonesia	2
Italy	1086
Kenya	1372
Republic of Korea	81
Mexico	13652
Morocco	419
Pakistan	144
Singapore	0
South Africa	40
Spain	225
Switzerland	8008
Thailand	36
Netherlands	7115
Turkey	344
United Kingdom of Great Britain and Northern Ireland	115203
United States of America	135947
Viet Nam	15
Other, please specify (Non-stationary sources)	57200

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

- By business division
- By facility

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Crop Protection	281827
Seeds	88568
Corporate	57200

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
St Gabriel, LA	116455	30.25	-91.1
Huddersfield	110879	53.66	-1.75
Nantong	27706	31.9	120.92
Ituiutaba	23031	-18.97	-49.46
Culiacan	13635	24.8	-107.39
Formosa	9282	-15.56	-47.22
Saint Pierre	5318	49.16	1.39
Enkhuizen	3861	52.7	5.27
Kaisten	3853	47.55	8.03
Monthey	3752	46.25	6.96
Jealotts Hill	3657	51.45	-0.74
De Lier	3254	51.98	4.27
Venado Tuerto 1	3046	-33.75	-61.97
Paulinia	2862	-22.75	-47.15
Greensboro, NC	2509	36.07	-79.91
Seneffe	2500	50.52	4.23
Waterloo, NE	2493	41.29	-96.28
Mezotur	2275	47	20.61
Research Triangle Park, NC	2272	35.9	-78.86
Venado Tuerto 2	2040	-33.75	-61.97
Lone Tree, IA	2022	41.48	-91.43
Omaha, NE	2001	41.21	-95.92
Matao	1518	-21.6	-48.37
Phillips, NE	1450	40.9	-98.21
Pasco, WA	1252	46.24	-119.11
Slater R&D, IA	1187	41.88	-93.68
Casalmorano	1086	45.29	9.9
Thika	924	-1.05	37.08
Sarrians	893	44.08	4.97
Gilroy West Flowers, CA	808	37.01	-121.56
Aigues-Vives	802	43.23	2.53
Clinton, IL	730	38.59	-89.42
Grangemouth	667	56.02	-3.72
Salinas, PR	596	17.98	-66.3
Santa Isabel R&D	590	-23.32	-46.23
Stanton, MN	558	44.47	-93.02
Beijing SBC	499	39.91	116.39
Arica	492	-18.48	-70.32
Slater P&S, IA	485	41.88	-93.68
Bad Salzuflen	450	52.09	8.75
Pollen	448	68.66	14.6
Nerac	433	44.14	0.4
Lombez	430	43.48	0.91
Agadir	419	30.42	-9.58
Munchwilen	384	47.54	7.96
Koka	379	34.96	136.17
Mustafakemalpasa	344	39.95	28.57
Woodland, CA	312	38.68	-121.77
Uberlandia	311	-18.92	-48.28
Saint-Sauveur	281	47.36	5.41
Lucas do Rio Verde	272	-13.07	-55.92
Alva, FL	261	26.72	-81.62
Graneros	221	-34.06	-70.73
Seward, NE	175	40.87	-97.17
Goa R&D	172	15.3	74.09
Cascavel	167	-24.96	-53.46
Vero Beach, FL	163	27.64	-80.4
Karachi	144	24.85	67.02
Enofyta	127	38.32	23.63
Naples, FL	114	26.15	-81.8
Jardines Mil Flores	109	18.58	-91.03
Spain R&D Veg Sites	108	39.32	-4.83
Bay, AR	104	35.74	-90.56
Other sites	827	0	0
Non-stationary sources	57200	0	0

(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	281827	<Not Applicable>	These emissions relate to our chemical production activities (i.e., our Crop Protection business unit). Operational control boundaries are used.
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)
Argentina	4509	4509
Bangladesh	584	584
Belgium	1053	1413
Brazil	6224	5081
Chile	1017	1017
China	43170	43170
Colombia	244	244
Ethiopia	14	14
France	1402	1402
Germany	819	505
Greece	231	231
Guatemala	1145	1145
Hungary	1069	1069
India	8457	8457
Indonesia	923	923
Italy	349	349
Kenya	868	771
Republic of Korea	4514	4514
Mexico	656	656
Morocco	341	341
Pakistan	368	368
Singapore	242	242
South Africa	1380	1380
Spain	965	850
Switzerland	101416	100530
Thailand	1372	1372
Netherlands	10352	5181
Turkey	161	161
United Kingdom of Great Britain and Northern Ireland	28184	17896
United States of America	96475	96475
Viet Nam	564	564

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

- By business division
- By facility

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)
Crop Protection	246800	234728
Seeds	72268	66686

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Monthey	63054	63054
St Gabriel, LA	45904	45904
Nantong	38116	38116
Kaisten	28077	27797
Grangemouth	17896	17896
Research Triangle Park, NC	10194	10194
Goa R&D	7798	7798
Enkhuizen	7516	2345
Omaha, NE	7474	7474
Greensboro, NC	6924	6924
Huddersfield	6173	0
Waterloo, NE	4824	4824
Iksan	4514	4514
Phillips, NE	4322	4322
Jealotts Hill	4115	0
Stein	4006	4006
Munchwilen	3645	3645
Beijing SBC	3525	3525
Clinton, IL	3520	3520
Lone Tree, IA	2841	2841
De Lier	2836	2836
Venado Tuerto 2	2493	2493
Formosa	2465	2465
Muttenz	2454	1848
Paulinia	1974	894
Slater R&D, IA	1848	1848
Vero Beach, FL	1733	1733
Pasco, WA	1660	1660
Venado Tuerto 1	1582	1582
Kunshan	1529	1529
Brits	1380	1380
Stanton, MN	1127	1127
Alva, FL	1126	1126
Seneffe	1053	1413
Mezotur	965	965
Gunung Putri	923	923
Ituiutaba	873	873
Bad Salzuflen	819	505
Woodland, CA	817	817
Arica	736	736
Slater P&S, IA	722	722
Jalapa	671	671
Lopburi	663	663
Aurangabad	659	659
Saint Pierre	648	648
Salinas, PR	640	640
Chittagong	584	584
San Luis Potosi	575	575
Bien Hoa	564	564
Thika	560	560
Porrino	545	430
Santa Isabel R&D	434	434
Bangpoo	430	430
Uberlandia	385	385
Gilroy West Flowers, CA	371	371

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Karachi	368	368
Casalmorano	349	349
Agadir	341	341
Jardines Mil Flores	337	337
Pollen	308	211
Carmona	300	300
Tak Fah	279	279
Matao	255	255
Aigues-Vives	253	253
Cartagena	244	244
Tuas	242	242
Enofyta	231	231
Naples, FL	230	230
Nerac	225	225
Basel	180	180
Mustafakemalpasa	161	161
Graneros	152	152
Bay, AR	150	150
Saint-Sauveur	136	136
Santiago Laboratory	129	129
Spain R&D Veg Sites	120	120
Lucas do Rio Verde	101	101
Other sites	695	632

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	246800	234728	These emissions relate to our chemical production activities (i.e., our Crop Protection business unit). Operational control boundaries are used
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
Ammonia	0.53	The overall carbon footprint related to Scope 3, Category 1 is calculated by assigning the best available emission factor to each individual line item describing a purchased material. Where possible, the emission factor is assigned based on the CAS number and country of origin; if these are unavailable, we use the product description and region of origin. For raw materials, volume-based emission factors can generally be used as the purchased quantity is labelled in standardized units. For indirect materials and services, spend-based factors are used, but for raw materials, volume-based factors are preferred and used as much as possible. This calculation method means that carbon emissions related to individual purchased materials or groups of materials can be identified within and separated from the overall category footprint. This is done by searching for the material name using its CAS number and product name in the Syngenta corporate carbon footprint visualization tool, which is a custom Power BI dashboard designed to provide data users with easy access to consolidated data and the details behind it. The carbon emissions related to the feedstock were hence identified, and divided by the total Scope 3 Category 1 footprint to calculate the percentage of the category represented by the material. Materials purchased in small quantities only contribute to a very limited extent to the Purchased Goods and Services (PGS) category total. Materials that contribute less than 0.005% of the PGS category total are not individually listed in this table.
Methanol	0.05	The overall carbon footprint related to Scope 3, Category 1 is calculated by assigning the best available emission factor to each individual line item describing a purchased material. Where possible, the emission factor is assigned based on the CAS number and country of origin; if these are unavailable, we use the product description and region of origin. For raw materials, volume-based emission factors can generally be used as the purchased quantity is labelled in standardized units. For indirect materials and services, spend-based factors are used, but for raw materials, volume-based factors are preferred and used as much as possible. This calculation method means that carbon emissions related to individual purchased materials or groups of materials can be identified within and separated from the overall category footprint. This is done by searching for the material name using its CAS number and product name in the Syngenta corporate carbon footprint visualization tool, which is a custom Power BI dashboard designed to provide data users with easy access to consolidated data and the details behind it. The carbon emissions related to the feedstock were hence identified, and divided by the total Scope 3 Category 1 footprint to calculate the percentage of the category represented by the material. Materials purchased in small quantities only contribute to a very limited extent to the Purchased Goods and Services (PGS) category total. Materials that contribute less than 0.005% of the PGS category total are not individually listed in this table.
Polymers	0.08	The overall carbon footprint related to Scope 3, Category 1 is calculated by assigning the best available emission factor to each individual line item describing a purchased material. Where possible, the emission factor is assigned based on the CAS number and country of origin; if these are unavailable, we use the product description and region of origin. For raw materials, volume-based emission factors can generally be used as the purchased quantity is labelled in standardized units. For indirect materials and services, spend-based factors are used, but for raw materials, volume-based factors are preferred and used as much as possible. This calculation method means that carbon emissions related to individual purchased materials or groups of materials can be identified within and separated from the overall category footprint. This is done by searching for the material name using its CAS number and product name in the Syngenta corporate carbon footprint visualization tool, which is a custom Power BI dashboard designed to provide data users with easy access to consolidated data and the details behind it. The carbon emissions related to the feedstock were hence identified, and divided by the total Scope 3 Category 1 footprint to calculate the percentage of the category represented by the material. Materials purchased in small quantities only contribute to a very limited extent to the Purchased Goods and Services (PGS) category total. Materials that contribute less than 0.005% of the PGS category total are not individually listed in this table.
Lubricants	0.04	The overall carbon footprint related to Scope 3, Category 1 is calculated by assigning the best available emission factor to each individual line item describing a purchased material. Where possible, the emission factor is assigned based on the CAS number and country of origin; if these are unavailable, we use the product description and region of origin. For raw materials, volume-based emission factors can generally be used as the purchased quantity is labelled in standardized units. For indirect materials and services, spend-based factors are used, but for raw materials, volume-based factors are preferred and used as much as possible. This calculation method means that carbon emissions related to individual purchased materials or groups of materials can be identified within and separated from the overall category footprint. This is done by searching for the material name using its CAS number and product name in the Syngenta corporate carbon footprint visualization tool, which is a custom Power BI dashboard designed to provide data users with easy access to consolidated data and the details behind it. The carbon emissions related to the feedstock were hence identified, and divided by the total Scope 3 Category 1 footprint to calculate the percentage of the category represented by the material. Materials purchased in small quantities only contribute to a very limited extent to the Purchased Goods and Services (PGS) category total. Materials that contribute less than 0.005% of the PGS category total are not individually listed in this table.
Soda ash	0.02	The overall carbon footprint related to Scope 3, Category 1 is calculated by assigning the best available emission factor to each individual line item describing a purchased material. Where possible, the emission factor is assigned based on the CAS number and country of origin; if these are unavailable, we use the product description and region of origin. For raw materials, volume-based emission factors can generally be used as the purchased quantity is labelled in standardized units. For indirect materials and services, spend-based factors are used, but for raw materials, volume-based factors are preferred and used as much as possible. This calculation method means that carbon emissions related to individual purchased materials or groups of materials can be identified within and separated from the overall category footprint. This is done by searching for the material name using its CAS number and product name in the Syngenta corporate carbon footprint visualization tool, which is a custom Power BI dashboard designed to provide data users with easy access to consolidated data and the details behind it. The carbon emissions related to the feedstock were hence identified, and divided by the total Scope 3 Category 1 footprint to calculate the percentage of the category represented by the material. Materials purchased in small quantities only contribute to a very limited extent to the Purchased Goods and Services (PGS) category total. Materials that contribute less than 0.005% of the PGS category total are not individually listed in this table.
Carbon black	0.07	The overall carbon footprint related to Scope 3, Category 1 is calculated by assigning the best available emission factor to each individual line item describing a purchased material. Where possible, the emission factor is assigned based on the CAS number and country of origin; if these are unavailable, we use the product description and region of origin. For raw materials, volume-based emission factors can generally be used as the purchased quantity is labelled in standardized units. For indirect materials and services, spend-based factors are used, but for raw materials, volume-based factors are preferred and used as much as possible. This calculation method means that carbon emissions related to individual purchased materials or groups of materials can be identified within and separated from the overall category footprint. This is done by searching for the material name using its CAS number and product name in the Syngenta corporate carbon footprint visualization tool, which is a custom Power BI dashboard designed to provide data users with easy access to consolidated data and the details behind it. The carbon emissions related to the feedstock were hence identified, and divided by the total Scope 3 Category 1 footprint to calculate the percentage of the category represented by the material. Materials purchased in small quantities only contribute to a very limited extent to the Purchased Goods and Services (PGS) category total. Materials that contribute less than 0.005% of the PGS category total are not individually listed in this table.
Other (please specify) (Remaining chemical feedstock purchases not listed above, including both fine chemicals and base chemicals)	28.1	The overall carbon footprint related to Scope 3, Category 1 is calculated by assigning the best available emission factor to each individual line item describing a purchased material. Where possible, the emission factor is assigned based on the CAS number and country of origin; if these are unavailable, we use the product description and region of origin. For raw materials, volume-based emission factors can generally be used as the purchased quantity is labelled in standardized units. For indirect materials and services, spend-based factors are used, but for raw materials, volume-based factors are preferred and used as much as possible. The category Other contains emissions related to all other chemical feedstocks not listed individually above. These are identified by category description in the Syngenta corporate carbon footprint visualization tool, which is a custom Power BI dashboard designed to provide data users with easy access to consolidated data and the details behind it. Materials listed individually in the section above are identified by CAS number and product name and excluded from this total. The carbon emissions related to remaining feedstocks were hence identified and divided by the total Scope 3 Category 1 footprint to calculate the percentage of the category represented by the group.

C-CH7.8a

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

	Sales, metric tons	Comment
Carbon dioxide (CO2)	0	Syngenta does not sell this product.
Methane (CH4)	0	Syngenta does not sell this product.
Nitrous oxide (N2O)	0	Syngenta does not sell this product.
Hydrofluorocarbons (HFC)	0	Syngenta does not sell this product.
Perfluorocarbons (PFC)	0	Syngenta does not sell this product.
Sulphur hexafluoride (SF6)	0	Syngenta does not sell this product.
Nitrogen trifluoride (NF3)	0	Syngenta does not sell this product.

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	23000	Decreased	3.2	Scope 2 emissions were: 2021: 301,000 tonnes 2020: 324,000 tonnes In spite of the increased use of purchased energy (responsible for Scope 2 emissions), we assume that the decrease in Scope 2 emissions was due to the increased procurement of renewable energy and decarbonization of procured electricity. - Difference between 2020 and 2021: 324,000 (rounded) - 301,000 = 23,000 tCO2e - 2021 total Scope 1+2 footprint = 728,000 tCO2e - Percentage: 23,000/728,000 = 3.2%
Other emissions reduction activities	4800	Decreased	0.7	We implemented a wide variety of emission reduction activities throughout our operations, which impacted our emission reporting. These activities included a reduction of fugitive emissions and process technology improvements. - 2021 total Scope 1 footprint = 728,000 tCO2e - Percentage: 4,800/728,000 = 0.7%
Divestment	0	No change	0	There were no divestments impacting our emissions.
Acquisitions	1800	Increased	0.2	This was the first year of reporting for the site we acquired in Muttenz, Switzerland. - 2021 total Scope 1+2 footprint = 728,000 tCO2e - Percentage: 1,800/728,000 = 0.2%
Mergers	0	No change	0	There were no mergers impacting our emissions.
Change in output	15000	Decreased	2.1	2021 was the first full year of reporting without our facility at GBB (Greens Bayou Biosciences), Houston, Texas (USA) due to its closure. In 2020, the facility emitted 27,000 tonnes of CO2 and in 2021 it was 0. Increased energy use in Scope 1 resulted in an increase of 12,000 tonnes. The net overall change is a decrease of 15,000 tonnes. - 2021 total Scope 1+2 footprint = 728,000 tCO2e - Percentage: 15,000/728,000 = 2.1%
Change in methodology	0	No change	0	There was no change in Scope 1 and 2 methodology.
Change in boundary	0	No change	0	There was no change in boundary.
Change in physical operating conditions	0	No change	0	There was no change in physical operating conditions.
Unidentified	0	No change	0	We did not have any unidentified changes.
Other	5000	Increased	0.7	In 2021, as staff returned to work from the COVID-19 pandemic we saw a small increase in emissions from company vehicles (5,000 tonnes). - 2021 total Scope 1+2 footprint = 728,000 tCO2e - Percentage: 5,000/728,000 = 0.7%

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	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	68072	1242058	1310130
Consumption of purchased or acquired electricity	<Not Applicable>	237150	180037	417187
Consumption of purchased or acquired heat	<Not Applicable>	0	5375	5375
Consumption of purchased or acquired steam	<Not Applicable>	0	167996	167996
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	305222	1595466	1900688

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

LHV (lower heating value)

MWh consumed from renewable sources inside chemical sector boundary

0

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

923448

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

177898

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

1101346

Consumption of purchased or acquired electricity

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

176318

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

152609

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

0

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

328927

Consumption of purchased or acquired heat

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

0

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

5375

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

0

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

5375

Consumption of purchased or acquired steam

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

0

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

167996

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

0

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

167996

Consumption of self-generated non-fuel renewable energy

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

0

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

0

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

0

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

0

Total energy consumption

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

176318

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

1249428

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

177898

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

1603644

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
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

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Not applicable.

Other biomass

Heating value

LHV

Total fuel MWh consumed by the organization

68072

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

68072

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

This is a combination of waste wood and corn cobs used by seed sites in Brazil to generate heat to dry seeds.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Not applicable.

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Not applicable.

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

131995

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

65997

MWh fuel consumed for self-generation of steam

65998

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

This includes light and heavy fuel oils as well as diesel. The breakdown provided is an estimate as accurate values are not available at this time.

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

932165

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

11944

MWh fuel consumed for self-generation of steam

654149

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

266072

Comment

It is understood that this would include natural gas as well as LPG. Self-cogeneration only occurs at our Huddersfield site in the UK. The self-generation of heat only occurs at our Basel site in Switzerland.

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

Heating value

LHV

Total fuel MWh consumed by the organization

177898

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

177898

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

This includes waste gas which is used to fire a boiler.

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
1310130

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
323911

MWh fuel consumed for self-generation of steam
720147

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
266072

Comment

As outlined in the previous breakdowns, some of these values are estimated based on the level of detail currently collected from the sites.

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	220045	220045	0	0
Heat	6569	6569	0	0
Steam	205329	205329	0	0
Cooling	0	0	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)

186523

Generation that is consumed inside chemicals sector boundary (MWh)

186523

Generation from renewable sources inside chemical sector boundary (MWh)

0

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

0

Heat

Total gross generation inside chemicals sector boundary (MWh)

6569

Generation that is consumed inside chemicals sector boundary (MWh)

6569

Generation from renewable sources inside chemical sector boundary (MWh)

0

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

0

Steam

Total gross generation inside chemicals sector boundary (MWh)

205329

Generation that is consumed inside chemicals sector boundary (MWh)

205329

Generation from renewable sources inside chemical sector boundary (MWh)

0

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

0

Cooling

Total gross generation inside chemicals sector boundary (MWh)

0

Generation that is consumed inside chemicals sector boundary (MWh)

0

Generation from renewable sources inside chemical sector boundary (MWh)

0

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

0

C8.2e

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

Sourcing method

Unbundled energy attribute certificates (EACs) purchase

Energy carrier

Electricity

Low-carbon technology type

Wind

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)

10176

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)

2015

Comment

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

United Kingdom of Great Britain and Northern Ireland

Tracking instrument used

REGO

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

63399

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

United Kingdom of Great Britain and Northern Ireland

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

2015

Comment

The facilities sourced include a wide variety of wind turbines; therefore, we cannot provide an exact start date.

Sourcing method

Other, please specify (Total electricity from renewable origin in grid production)

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (This entry covers our procurement in all locations globally, so this is a diverse mix of renewables.)

Country/area of low-carbon energy consumption

Switzerland

Tracking instrument used

No instrument used

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

163575

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)

2010

Comment

2010 was selected as it is assumed to fairly represents the introduction of this source of energy. Switzerland was selected as it is the location of our headquarters.

C8.2g

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

Country/area

United States of America

Consumption of electricity (MWh)

239791

Consumption of heat, steam, and cooling (MWh)

0

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

239791

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)

83035

Consumption of heat, steam, and cooling (MWh)

85300

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

168335

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Brazil

Consumption of electricity (MWh)

58708

Consumption of heat, steam, and cooling (MWh)

68072

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

126780

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Switzerland

Consumption of electricity (MWh)

96873

Consumption of heat, steam, and cooling (MWh)

11944

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

108817

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

China

Consumption of electricity (MWh)

42069

Consumption of heat, steam, and cooling (MWh)

0

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

42069

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

France

Consumption of electricity (MWh)

25397

Consumption of heat, steam, and cooling (MWh)

0

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

25397

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Netherlands

Consumption of electricity (MWh)

22902

Consumption of heat, steam, and cooling (MWh)

0

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

22902

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Other, please specify (Other countries)

Consumption of electricity (MWh)

68457

Consumption of heat, steam, and cooling (MWh)

231897

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

300354

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?

Yes

C-CH8.3a

(C-CH8.3a) Disclose details on your organization's consumption of fuels as feedstocks for chemical production activities.

Fuels used as feedstocks

Natural gas

Total consumption

1172

Total consumption unit

million cubic feet

Inherent carbon dioxide emission factor of feedstock, metric tons CO2 per consumption unit

56.3

Heating value of feedstock, MWh per consumption unit

306

Heating value

HHV

Comment

The best estimate for the heating value is: 358,632 MWh.

C-CH8.3b

(C-CH8.3b) State the percentage, by mass, of primary resource from which your chemical feedstocks derive.

	Percentage of total chemical feedstock (%)
Oil	0
Natural Gas	100
Coal	0
Biomass	0
Waste (non-biomass)	0
Fossil fuel (where coal, gas, oil cannot be distinguished)	0
Unknown source or unable to disaggregate	0

C9.1

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

Land use

Metric value

7.5

Metric numerator

Million hectares of benefited farmland

Metric denominator (intensity metric only)**% change from previous year**

93

Direction of change

Increased

Please explain

Under our current Good Growth Plan launched in June 2020, Syngenta made ambitious commitments and set targets for 2025. We have committed to enhance biodiversity and soil health on 3 million hectares of rural farmland every year. This commitment builds on a similar commitment in our first Good Growth Plan (2013-2019). As well as providing products and services to tackle soil health challenges, we contribute to raising awareness about the challenges facing modern agriculture and to promoting the adoption of sustainable soil management practices with our customers, growers large and small, as well as other stakeholders in the food chain and policymakers. In 2021, 81 soil health projects in 17 countries benefited a total of 6.03 million hectares of farmland – an increase of about 180% compared to 2020. Latin America accounted for about 46% of the total hectares benefited by soil conservation measures. We also continued our efforts across other regions. Further, we provide solutions to farmers to enhance biodiversity. A key strategy involves managing less productive farmland alongside fields and waterways to provide corridors connecting wildlife habitats. These multi-functional field margins support sustainable intensification on more productive land and help reintroduce local species while providing buffers for soil and water. We also invest heavily in product stewardship and safety initiatives to train farmers on the safe and responsible use of crop protection products, and we work with seed banks to share and protect the genetic diversity of food crops. In 2021, 61 projects in 32 countries benefited 1.44 million hectares of farmland – a 16% decrease compared to 2020. Over 90% of the 1.44 million hectares of farmland benefited by biodiversity enhancement measures were linked to trainings, agronomic advice and farmers' support to implement multifunctional field margins through our Operation Pollinator, Sustainable Solutions projects and other programs. North America accounted for 87% of the total hectares benefited by biodiversity measures thanks to the continued growth of the region's Sustainable Solutions projects.

Description

Other, please specify (Carbon benefit potential on farmland)

Metric value

3038000

Metric numerator

Tonnes CO2e

Metric denominator (intensity metric only)**% change from previous year**

55

Direction of change

Increased

Please explain

In our current Good Growth Plan launched in June 2020, we also commit to strive for carbon-neutral agriculture. We invest in R&D of products, disseminate agricultural practices, and provide technologies that strengthen agriculture against both the causes and the effects of climate change. We encourage farmers to implement climate-smart practices such as minimum tillage, crop rotation and effective nutrient management. In combination with permanent crop cover strategies, these practices turn agricultural fields into carbon sinks, helping to remove carbon dioxide from the atmosphere. In line with this commitment, in 2020, we started reporting on the estimated carbon benefit on farmland adopting our soil conservation and biodiversity enhancement projects. The carbon benefit potential corresponds to the net change in soil carbon pools, reflecting the accumulated difference between carbon inputs to the soil after CO2 uptake by plants and CO2 release due to decomposition in the soil. The carbon benefit potential is calculated based on the number of hectares on which our soil- and biodiversity-related practices were applied, multiplied by the corresponding practice and climatic zone factors outlined in the IPCC fourth assessment report, Table 8.4, page 512 (https://www.ipcc.ch/site/assets/uploads/2018/03/ar4_wg3_full_report-1.pdf). In 2021, the carbon benefit potential on farmland was 3,038k tonnes CO2e. About half of this benefit potential comes from agronomic practices such as crop rotation and soil cover. These practices increase yield and generate higher inputs of carbon residue leading to increased soil carbon storage.

Description

Waste

Metric value

346

Metric numerator

Grams of hazardous and non-hazardous waste

Metric denominator (intensity metric only)

\$sales

% change from previous year

34

Direction of change

Decreased

Please explain

As stated in our HSE Policy and Standards, we actively promote environmental protection, including waste management. We aim to reduce the waste intensity of our operations and supply chain by 20% by 2030 compared to our 2016 baseline. For our own operations, we have been reporting annually on hazardous and non-hazardous waste generation. In 2021, we continued working to reduce waste from our own operations. Absolute hazardous waste decreased by 2% (-5k tonnes) in 2021, thanks mainly to reduced waste generation at our Grangemouth (UK) and Huddersfield (UK) sites due to decreased production volumes of select products as well as the completion of a significant one-off project at Huddersfield in 2020. The removal of the Greens Bayou Biosciences (USA) site – closed in March 2020 – from the SERAM reporting system in 2021 also contributed to the lower waste generation figure reported this year. Absolute non-hazardous waste increased by 18% (+21k tonnes) in 2021, driven by the increased recycling of organic materials and construction materials at the Ituiutaba (Brazil) site. Our sales increased by 17% in 2021 compared to 2020.

Description

Energy usage

Metric value

8397

Metric numerator

TJ

Metric denominator (intensity metric only)

% change from previous year

5

Direction of change

Increased

Please explain

In 2021, absolute energy consumption increased by 5% due to increased production volumes driven by record sales this year. The percentage of both renewable electricity and renewable energy increased to 37% and 13%, respectively, thanks to significant decarbonization of insourced energy across the portfolio. For example, the use of photovoltaic panels at our sites in Uberlandia (Brazil), Cascavel (Brazil), Agadir (Morocco) and Antalya (Turkey) reduced their reliance on fossil fuels, saving almost 600 tonnes of CO2e annually. At our Grangemouth (UK) site, the decarbonization of the electricity grid supply by removing coal and adding renewables to the energy mix largely contributed to reducing the site’s carbon footprint. We also started testing geothermal energy at our flower production site in De Lier (Netherlands), with the expectation that about 40% of heat be extracted from the earth, reducing site emissions by 1,250 tonnes of CO2e per year.

C-CH9.3a

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

Output product

Specialty chemicals

Production (metric tons)

155855

Capacity (metric tons)

Direct emissions intensity (metric tons CO2e per metric ton of product)

1.24

Electricity intensity (MWh per metric ton of product)

2.1

Steam intensity (MWh per metric ton of product)

2.2

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

Syngenta produces a variable range of chemicals. The capacity is variable, depending on the product mix, hence cannot be reported.

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	Yes	We recognize the challenges climate change poses for agriculture – and the contribution Syngenta can make to tackle it. Agriculture presents a significant climate change mitigation potential derived from greenhouse gas (GHG) removals, as well as reduction of GHG emissions through adequate management of land and livestock. We have product and service innovations on the market – and in the pipeline – that improve the water productivity of plants, increase yield and feed efficiency, reduce food loss and waste, and help sequester and mitigate loss of carbon in the soil.

C-CH9.6a

(C-CH9.6a) Provide details of your organization’s investments in low-carbon R&D for chemical production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Product redesign	Large scale commercial deployment	≤20%		Our R&D investments are influenced by climate change and associated changes in weather patterns that impact growing seasons and pest patterns, and hinder the ability of farmers to produce food. For instance, our acquisition in 2020 of Valagro, a leading biologicals and biostimulants company, enables Syngenta to build a world-leading biologicals business. It reinforces our strategy to provide farmers with more complementary product and technology choices, and underpins our aspiration to make agriculture more resilient and sustainable. Biostimulants offer farmers products with active ingredients of purely natural origin, which stimulate the main physiological processes of plants while promoting their growth and productivity. Climate change also increases the demand for certain types of crop protection chemicals supporting climate-smart agriculture. For example, our herbicide product range supports modern farming practices like minimum or no-till and thus helps to reduce the amount of carbon dioxide released from the soil. Weed control using herbicides lowers the need for tillage, leaving the plants’ roots in the soil for better soil compaction and enhanced soil organic matter. Herbicides such as AXIAL® or CALLISTO® (selective herbicide) and GRAMOXONE® (non-selective herbicide) are widely used for conservation agriculture, especially in countries like Brazil and the USA, and now increasingly in Asia. Another example is TYMIRIUM™, a novel nematocide and fungicide technology, which provides long-lasting protection against a broad spectrum of nematode pests and diseases across all major crops and geographies. By protecting the root mass, the technology plays a critical part in supporting no-tillage and conservation-tillage practices – enabling farmers to maximize their yields without compromising on sustainability. Seed treatment technology has also an important role to play to sequester carbon in the soil. For example, our VAYANTIS® fungicide not only controls diseases in corn, soybean, canola, oilseed rape and cereal crops, but also protects the soil by enabling reduced- and no-till cropping systems.

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

Syngenta-AG-ESG-Report-2021.pdf

Page/ section reference

PwC’s Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including Scope 1, 2 and 3 GHG emissions reported on page 93.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Syngenta-AG-ESG-Report-2021.pdf

Page/ section reference

PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including Scope 1, 2 and 3 GHG emissions reported on page 93.

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Purchased goods and services

Scope 3: Capital goods

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

Scope 3: Upstream transportation and distribution

Scope 3: Waste generated in operations

Scope 3: Business travel

Scope 3: Employee commuting

Scope 3: Upstream leased assets

Scope 3: Investments

Scope 3: Downstream transportation and distribution

Scope 3: Processing of sold products

Scope 3: End-of-life treatment of sold products

Scope 3: Downstream leased assets

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

Syngenta-AG-ESG-Report-2021.pdf

Page/section reference

PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including Scope 1, 2 and 3 GHG emissions reported on page 93.

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 emissions intensity figure	ISAE3000	We report "emission intensity" based on revenues (see answer to question C6.10) in our ESG Report 2021. As such, this metric is included in the limited assurance engagement conducted by PwC. The assurance is conducted on an annual basis and covers 100% of reported emissions. PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including Scope 1, 2 and 3 GHG emissions and the related intensity values reported on page 93. Syngenta-AG-ESG-Report-2021.pdf
C4. Targets and performance	Year on year emissions intensity figure	ISAE3000	We report "emission intensity" based on value added in alignment with our SBTi-validated carbon intensity reduction target (see answer to question C4.1b) in our ESG Report 2021. As such, this metric is included in the limited assurance engagement conducted by PwC. The assurance is conducted on an annual basis and covers 100% of reported emissions. PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including Scope 1, 2 and 3 GHG emissions and the related intensity values reported on page 93. Syngenta-AG-ESG-Report-2021.pdf
C9. Additional metrics	Energy consumption	ISAE3000	We report "energy consumption" (see answer to question C9.1) in our ESG Report 2021. As such, this metric is included in the limited assurance engagement conducted by PwC. The assurance is conducted on an annual basis. PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including "energy consumption" reported on page 94. Syngenta-AG-ESG-Report-2021.pdf
C9. Additional metrics	Other, please specify (Land use)	ISAE3000	We report "hectares of farmland benefited by soil conservation and biodiversity enhancement measures" (see answer to question C9.1) in our ESG Report 2021. As such, this metric is included in the limited assurance engagement conducted by PwC. The assurance is conducted on an annual basis. PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including "hectares of farmland benefited by soil conservation and biodiversity enhancement measures" reported on page 93. Syngenta-AG-ESG-Report-2021.pdf
C9. Additional metrics	Other, please specify (Carbon benefit potential)	ISAE3000	We report "carbon benefit potential on farmland" (see answer to question C9.1) in our ESG Report 2021. As such, this metric is included in the limited assurance engagement conducted by PwC. The assurance is conducted on an annual basis. PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including "carbon benefit potential on farmland" reported on page 93. Syngenta-AG-ESG-Report-2021.pdf
C9. Additional metrics	Other, please specify (Waste)	ISAE3000	We report "total waste intensity" (see answer to question C9.1) in our ESG Report 2021. As such, this metric is included in the limited assurance engagement conducted by PwC. The assurance is conducted on an annual basis. PwC's Independent Assurance Report is on pages 97-98 of our ESG Report 2021 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 92-96, including "total waste intensity" reported on page 94. Syngenta-AG-ESG-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.

- Switzerland carbon tax
- Switzerland ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Switzerland ETS

% of Scope 1 emissions covered by the ETS

1.6

% of Scope 2 emissions covered by the ETS

11.7

Period start date

January 1 2021

Period end date

December 31 2021

Allowances allocated

17500

Allowances purchased

2441

Verified Scope 1 emissions in metric tons CO2e

3853

Verified Scope 2 emissions in metric tons CO2e

28077

Details of ownership

Facilities we own and operate

Comment

The percentage of Scope 1 emissions relates to total Scope 1 emissions. The percentage of Scope 2 emissions relates to total Scope 2 emissions.

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Switzerland carbon tax

Period start date

January 1 2021

Period end date

December 31 2021

% of total Scope 1 emissions covered by tax

2.5

Total cost of tax paid

583923

Comment

The amount of carbon tax paid and disclosed above has been reimbursed as the sites are part of the regulatory CO2 instruments (ETS and target agreements).

C11.1d

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

Our Kaisten site in Switzerland participates in the Swiss ETS. In Kaisten, our strategy is to implement initiatives that increase energy efficiency, consequently reducing GHG emissions. Thanks to this strategy, the site stayed within the allocated allowances for the period 2013-2020. The Swiss Confederation is setting a new strategy for the period of 2021-2030. The allowances for Kaisten have not yet been finalized for 2021 (likely not until Q3 2022). In 2021 the site purchased 2,441 emission rights. The remainder of the Swiss sites comply through target agreements.

Two of our major sites in the UK (Huddersfield and Grangemouth) formerly participated in the EU ETS, however, due to BREXIT, they are now outside this system. The UK has not yet agreed to an ETS system; however, once agreed, Syngenta will participate and comply.

C11.2

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

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

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

1

% total procurement spend (direct and indirect)

27.32

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

45

Rationale for the coverage of your engagement

RATIONALE: Syngenta spends more than USD 8 billion per year with more than 50,000 suppliers; therefore, we cannot directly engage with and influence every supplier. Our strategy is therefore to identify the areas in our supply chain with the biggest impact and engage directly with suppliers in those categories to understand actual impacts and their carbon reduction strategies. In 2019, we set science-based carbon emission reduction targets. To do so, we established a Scope 3 inventory and identified where our biggest impacts are. From this, we were able to identify that our chemical supplier base has the most significant impact on our total emissions and that a small portion of companies within our chemical supply chain represents a considerable amount of our CO2 emissions. ENGAGEMENT ACTIVITIES: Subsequently, since 2021 we have engaged with and received data and information from 72 chemical suppliers accounting for about 40% of our Scope 3 footprint. The information provided relates to their carbon targets, actions taken, product-level carbon footprint data or site-level energy data. We have run several webinars with our suppliers in English and Chinese to explain our challenge, what we expect from them, and the information we need. Another category, which we heavily engage with and request carbon data from, is our logistics providers. After chemical and seeds suppliers, this is the next largest contributing category to our Scope 3 emissions. We focus our engagement on our 9 fourth-party logistics (4PL) providers because they have the largest impact within the category as they are responsible for the overall management of sub-contractors who move goods on our behalf. We thus have a strategic relationship and leverage to influence their approach. We require these 4PL partners to measure and report to us monthly the carbon footprint associated with our business following the Global Logistics Emission Council (GLEC) methodology. Currently, all 9 providers representing about 5% of our Scope 3 footprint report to us following GLEC guidelines. In total we have engaged with and received data from suppliers representing approximately 45% of our Scope 3 footprint.

Impact of engagement, including measures of success

MEASURES OF SUCCESS: We use the information and data provided by our chemical suppliers to help map their relative carbon maturity. This helps us to determine which suppliers to prioritize for further one-to-one engagements as described in the example below on "engagement and incentivization". The information and data are then used in the one-to-one engagements as a basis for further discussion with suppliers on topics such as energy sourcing and data transparency. Where product carbon footprint (PCF) data has been provided by suppliers and validated against recognized standards by Syngenta, it is used to replace existing calculated emission factors and improve the accuracy of our Scope 3 carbon footprint. By the end of 2023, our objective is to align and use the Together for Sustainability initiative's chemical industry standard for validating PCF data from suppliers and to adopt the platform to exchange product carbon footprint data. By 2026, our objective is that 70% of our chemical supply chain (by carbon footprint) provides and regularly updates its Scope 1, 2 and 3 data for the products we purchase from them. With our logistics providers, our objective is to reduce emissions by 5% each year and base 90% of our footprint on GLEC data. We also intend to replace the interim financial model currently used to calculate up- and downstream transportation and logistics figures with a more accurate one. IMPACT: In our 2021 reported Scope 3 footprint, we used primary data from our chemical suppliers for 6 of the chemical products we purchase, representing about 90 thousand tonnes CO2 emissions. We establish roadmaps with each of our logistic providers and use the data we receive to identify reduction opportunities with them. For instance, for a specific product shipped between LATAM and APAC, we optimized the container size, reducing the number of containers being shipped by 40% and saving about 1,200 tonnes of CO2 emissions per year. Further, for one of our key shipping routes, we worked with our logistics provider to switch from conventional bunker fuel to sustainably procured biofuel, saving about 750 tonnes of CO2 emissions.

Comment

We are a member of Together for Sustainability (TfS), an initiative of the chemical industry to improve the sustainability performance of chemical industry supply chains. We actively contribute to the work of TfS to develop a consistent approach to engaging with suppliers on carbon emissions across the chemical industry.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Provide training, support, and best practices on how to make credible renewable energy usage claims

Directly work with suppliers on exploring corporate renewable energy sourcing mechanisms

Climate change performance is featured in supplier awards scheme

Other, please specify (Engaging with suppliers to develop roadmaps on carbon reduction and improved transparency of data)

% of suppliers by number

1

% total procurement spend (direct and indirect)

14.6

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

11

Rationale for the coverage of your engagement

RATIONALE: Syngenta spends more than USD 8 billion per year with more than 50,000 suppliers; yet, we cannot directly engage with and influence every supplier. Our strategy is therefore to identify the areas in our supply chain with the biggest impact and engage directly with suppliers in those categories to understand actual impacts and their carbon reduction strategies. In 2019, we set science-based carbon emission reduction targets. To do so, we established a Scope 3 inventory and identified where our biggest impacts are. From this, we were able to identify that our chemical supplier base has the most significant impact on our total emissions and that a small portion of companies within our chemical supply chain represents a considerable amount of our CO2 emissions. ENGAGEMENT ACTIVITIES: Based on business relationships, estimated carbon footprint and relative maturity, we invited our 15 key chemical suppliers (representing about 11% of our Scope 3 footprint) to participate in workshops during 2020/2021 – to mutually share our carbon reduction targets, approach and expectations. These workshops also enabled us to share learnings and identify carbon reduction opportunities and initiatives to further improve data transparency and quality. Every year, we present sustainability awards at our Syngenta Supplier Awards event. We ask our suppliers to nominate themselves by submitting stories related to sustainability improvements. For the most recent award, we received 36 nominations for sustainability-related improvements, of which 19 were related to carbon improvements.

Impact of engagement, including measures of success

MEASURES OF SUCCESS: For our chemical supply chain, our short-term objective is to complete our planned supplier engagement pilots in 2022 and embed this in our ways of working. By 2023, we plan to have roadmaps in place with the suppliers that cover 50% of our chemical supply chain carbon footprint. By 2026, for suppliers that cover 70% of our chemical supply chain carbon footprint, our target is to have: a) Carbon reduction targets; b) Transition plans to meet targets; and c) Product carbon footprint data for the key products they supply to us. IMPACT: We used our supplier workshops to develop a three-prong sustainability engagement process, which we will pilot in 2022 with 16 key chemical suppliers, who collectively represent about 15% of our total Scope 3 footprint. The engagement structure is tailored to the supplier’s maturity level, with the output being an agreed and jointly owned roadmap with key milestones covering emission reductions (carbon reduction targets, transition plans, joint opportunities) and data transparency (provision of product carbon footprint data to the required standard for key products). Our engagements with suppliers have enabled us to already identify and deliver carbon reduction initiatives. For example, we worked with a key supplier to change the pack size of deliveries and optimize loading during transportation (saving approximately 4 tonnes of carbon). In another instance, we supported the supplier of an energy-intensive process to move to renewable energy (saving approximately 1,500 tonnes of carbon). We also worked with a key supplier of a high-volume product on process efficiency improvements (expected to save approximately 17,500 tonnes of carbon). In total, we have identified 117 potential improvement opportunities, including: switching to a bio-based feedstock rather than oil derivatives, moving upstream supply chains to RSPO (Round Table on Sustainable Palm Oil) certified palm oil, recycling materials within our packaging components, optimizing delivery routes between us and our suppliers, and supporting our suppliers to move to renewable energy sources. Our sustainability awards are an opportunity to recognize and acknowledge efforts by suppliers in reducing carbon, water and waste. They also highlight our ambition and incentivize other suppliers to work on improvements.

Comment

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

20

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

0

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

RATIONALE: We engage with smallholder farmers around the world to train and advise them on good agriculture practices, including on how to increase land productivity. Sustainable intensification strategies are important in addressing climate change. More efficient resource use supports both adaptation to and mitigation of the effects of climate change by improving farm productivity and income while reducing emissions per unit of product. Smallholder farmers are highly vulnerable to climate change. These farmers face challenges in increasing production, preserving natural resources, and addressing the impact of climate change in food production systems. Meeting these challenges is vital to sustained livelihoods and poverty reduction (source: FAO: <http://www.fao.org/family-farming/detail/en/c/293342/>). The lack of information and access to technical support often hinders their ability to implement better agricultural practices. ENGAGEMENT ACTIVITIES: Over half of our sales are made in growing economies where smallholder farmers predominate. In 2021, we trained 6.6 million smallholder farmers, which we estimate represent about 20% of all the farmers we reach. The level of engagement and type of training and advice we provide to smallholders vary across geographies and needs. We work with partners to provide smallholders with tools and training that make agriculture more productive, efficient and profitable. Training on new technology and farming practices helps smallholders improve their yield.

Impact of engagement, including measures of success

MEASURES OF SUCCESS: In this case, we measure success by the number of smallholder farmers we have trained on good agriculture practices. In our Good Growth Plan, we committed to train 8 million farmers every year on the safe use of our products. On average, more than half are smallholder farmers. IMPACT: In 2021, we trained 6.6 million smallholder farmers, which accounts for 60% of all the people we trained. Asia Pacific and China accounted for 99% of smallholders trained. Compared to 2020, we observed a 41% increase in the number of smallholders trained. Asia Pacific, China and the Europe, Africa and Middle East region contributed to this substantial increase in training (54%, 22% and 90% increase respectively), mostly triggered by innovative and effective online training sessions during COVID-19 restrictions. Very often, smallholders’ yields are impaired by limited access to technology, or lack of knowledge about how to apply it effectively. For example, in the Philippines, we found particularly poor yields among rice growers using low-quality crop protection. After being trained on the efficient use of high-performance products, some of these growers have doubled their yields per hectare. Improving farm productivity supports climate change mitigation by reducing emissions per unit of product. In 2021, we further expanded our collaboration with Solidaridad, an NGO that brings together supply chain players to make production models more sustainable. We are developing and implementing sustainable solutions that empower smallholders to achieve food security, improve rural livelihoods and promote responsible agricultural practices to address climatic challenges. For the past five years, we have worked together to advance sustainability initiatives in Asia, Latin America and Africa.

C12.1d

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

OTHER VALUE CHAIN PARTNERS: Partners include food companies and civil society organizations with whom Syngenta works to promote sustainable agricultural practices aimed at reducing farmers' environmental footprint, including their greenhouse gas emissions, and at supporting the farming community to adopt a climate-smart approach.

STRATEGY: Syngenta focuses on delivering sustainable sourcing solutions for our partners in the food industry. This effort is coordinated by a dedicated team tasked with identifying and converting partnership interests into a range of outcomes – from thought leadership to influence policy to driving results in countries where there is mutual interest to deliver outcomes. These collaborative projects are tailored to address the specific needs of each partner in a country, and solutions and services range from delivering crop growing programs and farmer trainings to certification of farming practices. We prioritize our climate-related engagement based on partner needs, which fall into four areas:

1. Food quality and safety
2. Biodiversity
3. Soil health/GHG emission reduction (carbon sequestration)
4. Safe use/Capacity building (training events)

In each area, we use digital tools and offer tailored services and solutions. Where possible, we endeavor to include credible and neutral third-party players, for instance Wageningen University, The Nature Conservancy and Solidaridad. For initiatives related to soil health/GHG emission reduction (carbon sequestration), we are working with eight partners on coffee, potatoes, wheat, rice, corn, malting barley, fruits and garlic in Vietnam, Thailand, India, China, Brazil, Mexico, Chile and the USA.

METHODS OF ENGAGEMENT: There are different stages of engagement ranging from early exploratory discussions to concept design and collaborative initiatives in countries. For example, in 2021 Syngenta and Solidaridad co-designed and signed off two programs to work together during the coming three years. The Sustainable Program in China aims to reduce the environmental footprint of cotton and vegetable production for 20,000 smallholders. Further, the Horticulture Program in Kenya is intended to improve climate resilience and farm economics of 30,000 horticulture smallholder farming households.

Another element of the Syngenta's climate-related engagement strategy is our active participation in key platforms that involve different members of the value chain, from farmers, NGOs, to multinational food suppliers and retailers.

MEASURING OUTCOMES: Key metrics for these collaborative projects include the number of farmers and hectares involved, farmer return on investment and resource efficiency improvements.

EXAMPLE 1: Syngenta is a member of the Cool Farm Alliance (CFA) and Field to Market (FtM). These organizations provide science-based sustainable agriculture assessment tools to track GHG emissions on farms and identify improvement opportunities through climate-smart agricultural practices. The results of the integration of the Cool Farm Tool (CFT) and FtM's sustainability metrics into Syngenta's farm management software Land.db in the USA are used to engage with farmers. These results are also used to engage with food value chain partners and other commercial stakeholders to raise awareness, benchmark performance and inform decision making.

EXAMPLE 2: In 2021, Syngenta became member of the SAI Platform, a global food industry initiative with over 130 members across the agricultural supply chain. We have been active in the Regenerative Agriculture working group, helping define metrics to assess regenerative agriculture. Syngenta is a member of the Program's Steering Committee and Technical Working Group.

EXAMPLE 3: Syngenta has joined the Living Soils of the Americas program, driven by the Inter-American Institute for Cooperation on Agriculture (in Spanish IICA) alongside the Carbon Management and Sequestration Center of The Ohio State University. This initiative is designed to work with governments and other strategic public and private partners, opening a pathway to scale up best management methods. It is envisioned to serve as a bridge between science, policy and development work on soil health restoration in the Americas.

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

Measuring product-level emissions

Description of this climate related requirement

We require 4PL logistics partners to measure and report to us monthly the carbon footprint associated with our business following the Global Logistics Emission Council (GLEC) methodology. This is embedded in our contracts with our 9 4PL logistics providers. All 9 4PL logistics providers, representing about 5% of our Scope 3 footprint, report to us following GLEC guidelines. We intend to replace the interim financial model currently used to calculate up- and downstream transportation and logistics figures with a more accurate one in the near future.

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

3.13

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

3.13

Mechanisms for monitoring compliance with this climate-related requirement

Certification
Supplier self-assessment
First-party verification

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

Retain and engage

Climate-related requirement

Climate-related disclosure through a non-public platform

Description of this climate related requirement

Chemical suppliers with a spend above USD 100k/annum are required to undergo regular online sustainability assessments, which evaluate the measures they are taking to address GHG emissions, for example whether they have policies and procedures to measure and improve the energy efficiency of their operations. Where gaps are identified, we follow up with our suppliers to close them. Suppliers deemed to pose a potential risk are required to undergo additional on-site audits conducted by third parties or our own auditors. All audits and assessments cover relevant energy and GHG emissions requirements. The requirement to undergo assessments and on-site audits is part of our standard chemical contracts. In 2021, 95% of chemical suppliers had completed an assessment or audit in the last 3 years.

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

26.13

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

24.82

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment
On-site third-party verification
Supplier scorecard or rating

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

Retain and engage

C12.3

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

Row 1

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

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)

<https://www.syngenta.com/sites/syngenta/files/presentation-and-publication/updated/public%20policy%20positions/climate-change-policy-position.pdf>
climate-change-policy-position.pdf

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

We coordinate and channel all our global policy engagements on climate change, directly and indirectly, through our global Sustainability function to ensure consistency of our engagements with our climate change strategy across geographies and company functions. The Sustainability function is led by the Chief Sustainability Officer (CSO), who reports to the CEO. Our regional- and country-level policy engagements on climate change are carried out through our respective regional and country Sustainability teams in close collaboration with the global team. Regular communications (e.g., weekly Business Plan Review calls with leadership teams across regions and across both Seeds and Crop Protection business units; townhalls with all members of the function) and the development of policy positions ensure all our policy engagements around the world are consistent with our company position on climate. The CSO and Sustainability function bring focus to our sustainability work and support our commitment to work more closely and transparently with policy makers, governments, NGOs and society.

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

Adaptation and/or resilience to climate change

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

The Koronivia Joint Work on Agriculture (KJWA) is a landmark decision under the United Nations Framework Convention on Climate Change (UNFCCC) that recognizes the unique potential of agriculture in tackling climate change.

Policy, law, or regulation geographic coverage

Global

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

<Not Applicable>

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

Support with no exceptions

Description of engagement with policy makers

We are currently supporting CropLife International in its engagement with the UN Framework Convention on Climate Change (UNFCCC) Koronivia road map under the Koronivia joint work on agriculture. At their fifty-seventh sessions (November 2022), the Subsidiary Body for Scientific and Technological Advice (SBSTA) and Subsidiary Body for Implementation (SBI) will continue consideration of issues related to agriculture with a view to recommending a draft decision for consideration and adoption by the COP27. Syngenta supports policies that recognize the importance of agriculture and food security to the climate change agenda, as well as their contribution to mitigating climate change.

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

UN Convention to Combat Desertification (UNCCD)

Policy, law, or regulation geographic coverage

Global

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

<Not Applicable>

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

Support with no exceptions

Description of engagement with policy makers

The UNCCD is the only legally binding framework set up to address desertification and the effects of drought. Syngenta supports policies that advocate for natural climate solutions that can deliver large-scale emission reductions cost-effectively. We support the UN Convention to Combat Desertification (UNCCD) in helping its member nations adopt SDG 15.3 (land degradation neutrality target). Syngenta has been the private-sector partner of the UNCCD for the past eight years. We support the UNCCD in running the Soil Leadership Academy, which is designed to strengthen (inter)national policy processes and frameworks toward "a land-degradation neutral world." Together with the UNCCD and the WBCSD, we have organized over 30 SLA workshops to raise awareness about soil conservation among UNCCD member nations, civil society organizations and academia. Through these workshops, we have trained 170 delegates from 114 countries in sustainable land management. Further, 60 countries have set land degradation neutrality targets and 45 more have agreed to them. The COP has been meeting biennially since 2001. UNCCD COP15 was held from 9-20 May 2022 in Abidjan, Cote d'Ivoire. UNCCD COP16 will take place in Saudi Arabia in 2024.

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

Other, please specify (CropLife International)

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

Consistent

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

We publicly promote their current 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)

CropLife International (CLI) and its global network "champion the role of agricultural innovations in crop protection and plant biotechnology to support and advance sustainable agriculture". (source: CLI) Farmers in many parts of the world have to cope with rising temperatures, changing weather patterns, frequent and more severe droughts and floods, and the emergence of new pests and diseases. All or part of this could be attributable to climate change. CLI sees agricultural policies as key to combating climate change and making farm systems more resilient to its effects. By empowering farmers with access to technology and education, with the help of policy makers, politicians, and the plant science industry, CLI believes that a lasting and sustainable difference can be made across the food and agriculture value chains. To adapt to climate change, farmers need better tools and practices that will help them meet the food security challenge, ensure resilient agriculture systems and strong rural economies. Increased investment in research, development and scientific capacity is key to finding new sustainable solutions to help farmers maintain, enhance and evolve their production systems. CropLife International carried these messages forward at the United Nations Framework Convention on Climate Change (UNFCCC) during the sessions on the Koronivia joint work on agriculture where the agricultural business sector, including the plant science industry, was represented. This led to greater visibility of agricultural issues in the context of climate change, and helped define the role of the plant science industry as a solution provider. Syngenta engages with CropLife International to promote climate-smart agriculture and provides case studies on how technologies along with the right agronomic practices are contributing to climate change mitigation and adaptation. Since October 2021, Syngenta's CEO is the chair of CLI's Board of Directors.

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

Describe the aim of your organization's funding

<Not Applicable>

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 (International Seed Federation)

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

Consistent

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

We publicly promote their current 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)

The International Seed Federation (ISF) advocates that through innovation, we can produce improved seed varieties that will help farmers adapt to climate change, and support sustainable agriculture and food security. The ISF acknowledges its role in contributing to a more sustainable future and has embraced the SDGs, including SDG 13 on climate change. Extreme weather conditions, such as floods and drought, regularly undermine production of crops, impoverishing farmers and increasing food and nutrition poverty locally, regionally and globally. Yet, in the next 30 years, the world will have to produce 60% more food to feed the global population – this will only be possible if the world's farmers have access to varieties of their choice. Plant breeding innovations can provide farmers with solutions to respond to climate challenges. Plant breeders have developed climate-resilient varieties, such as drought-tolerant maize and rust-resistant wheat, that yield well despite drought conditions. Innovations in plant breeding have also led to the development of varieties that have higher resistance to pests and diseases, which is critical to farmers as disease pressure increases with the rise in temperature. Further, new breeding techniques and precision breeding techniques can help develop new varieties more precisely and rapidly. Innovations in plant breeding do not replace traditional practices, they simply increase the range of tools available to plant breeders. "Achieving the right environment for innovation and movement of seed requires constant engagement among industry, farmers, and government to ensure alignment of global policies. This continues to be the focus of ISF". (source: ISF) As a member of the ISF Task Force for the UN Food Systems Summit, Syngenta contributes to the ISF's positioning on climate change and advocacy at UNFCCC COPs.

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

Describe the aim of your organization's funding

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In voluntary sustainability report

Status

Complete

Attach the document

Syngenta-AG-ESG-Report-2021.pdf

Page/Section reference

ESG Report 2021, pages as follows: * Page 10: The Good Growth Plan outlining our commitment to strive for carbon-neutral agriculture * Page 11: How we help farmers mitigate climate change * Page 31-36: Disclosures on "Carbon capture and mitigation in agriculture" and related "Soil health" and "Biodiversity" * Page 46: Disclosure on "Greenhouse gas emissions" * Page 89: TCFD's recommended disclosures

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

This report is also available on our website: www.esg-reporting.syngenta.com

Publication

In mainstream reports

Status

Complete

Attach the document

Syngenta-AG-2021-Financial-Report.pdf

Page/Section reference

Financial Report 2021 page: 2 (PDF, page 6)

Content elements

Strategy

Comment

This report is also available on our website: <https://www.syngenta.com/en/company/bond-investor-information/financial-results>

Publication

In voluntary communications

Status

Complete

Attach the document

climate-change-policy-position.pdf

Page/Section reference

Our policy position: Syngenta and climate change, entire document

Content elements

Other, please specify (Policy position)

Comment

This policy position is also available on our website: <https://www.syngenta.com/company/policy-positions>

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	RESPONSIBILITIES OF BOARD OF DIRECTORS: The sustainability governance is led by the Board of Directors of the parent company Syngenta Group Co. Ltd., which provides strategic direction regarding all sustainability matters – this includes biodiversity-related issues – and exercises oversight over the Syngenta Group Co. Ltd. Group Leadership Team in this respect. The Syngenta Group Co. Ltd. Board of Directors delegates some of its powers and duties to the board level Syngenta Group Sustainability Committee. The committee is mainly responsible for sustainability matters in innovation and operations, and for the review of the company’s sustainable practices – these matters and practices include the associated biodiversity-related aspects. It also oversees the company’s sustainability framework and standards, including public ESG reporting, the company’s sustainability plan, strategic sustainability partnerships, and innovation dialogues. RESPONSIBILITIES OF BOARD-LEVEL COMMITTEE: In particular, the company’s efforts on sustainable and climate-smart agriculture fall under the responsibility of the Sustainability Committee. This committee is chaired by an individual with extensive experience and expertise in sustainable and responsible agriculture and food production. The CHIEF SUSTAINABILITY OFFICER (CSO), who reports to the CEO, leads the Sustainability function. This function coordinates and channels sustainability initiatives, performance management and policy engagements – including those related to agricultural biodiversity. It assesses and monitors the company’s performance in relation to agricultural biodiversity and the wider sustainability agenda. The CSO provides regular updates to the Group Leadership Team and the Board of Directors and its Sustainability Committee on the progress made regarding the company’s biodiversity commitment and advises them on required actions. EXAMPLE: Agricultural biodiversity allows farmers to grow the food needed to sustain the growing global population. In June 2020, Syngenta and Syngenta AG’s Board of Directors took the decision to launch the new Good Growth Plan (www.goodgrowthplan.com). By doing so, they reaffirmed our commitment to enhance biodiversity and soil health on 3 million hectares of rural farmland every year.	<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 (1) Support the development of agricultural practices and provide products and services helping farmers to enhance biodiversity 2) Enhance biodiversity and soil health on 3 million hectares of rural farmland every year)	CBD – Global Biodiversity Framework 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 both our upstream and downstream value chain	<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 protection Land/water management Education & awareness Law & policy

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	Yes, we use indicators	State and benefit indicators

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 Impacts on biodiversity Details on biodiversity indicators Biodiversity strategy Other, please specify (Biodiversity-related projects)	ESG Report 2021: * Page 10: The Good Growth Plan outlining our commitment to enhance biodiversity and soil health * Page 34-36: Disclosure on "Biodiversity" outlines our biodiversity commitments, reports on indicators and gives examples of projects Syngenta-AG-ESG-Report-2021.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.

No additional comments.

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	CEO	Chief Executive Officer (CEO)

SC. Supply chain module

The supplier module has been deleted as it contains confidential information of our clients.

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