

C0. Introduction

C0.1

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

With about 29,000 employees in some 90 countries, Syngenta Crop Protection (2020: USD 11.1 billion sales) and Syngenta Seeds (2020: USD 3.2 billion sales) play a vital role in enabling the food chain to feed the world safely and take care of our planet. Syngenta Crop Protection and Syngenta Seeds are part of the Syngenta Group launched in June 2020.

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, fibre 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.

PLEASE NOTE: This submission is for Syngenta AG group and not for Syngenta Group. Launched in June 2020, Syngenta Group encompasses four business units. Under this new structure, the scope of this submission includes the Syngenta Crop Protection and Syngenta Seeds business units, as well as the Syngenta AG group operations that now form part of Syngenta Group China. More information about Syngenta Group can be found here: <https://www.syngentagroup.com/>

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 2019	September 30 2020	No	<Not Applicable>

C0.3

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

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
China, Hong Kong Special Administrative Region
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
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, Greater 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)

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
Director on board	RESPONSIBILITIES OF BOARD OF DIRECTORS: As stated in Syngenta's "Regulations Governing the Internal Organization," the entire Board of Directors provides strategic direction regarding all sustainability matters – this includes climate-related issues – and exercises oversight over the Group Leadership Team in this respect. In particular, the Board of Directors: * defines the Company's sustainability strategic priorities, policies and issues; * assesses the effectiveness of the implementation of sustainability-related internal policies; * reviews sustainability and HSE performance and improvement plans; and * assesses and advises on sustainability-related actions proposed by the Group Leadership Team. RESPONSIBILITIES OF BOARD DIRECTOR: In particular, the company's efforts on sustainable and climate-smart agriculture fall under the responsibility of one board director, who has extensive experience and expertise in sustainable and responsible agriculture and food production, and advises the Board of Directors on these matters. EXAMPLE: In 2020, Syngenta and its 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 company'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.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding 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	<Not Applicable>	The Board of Directors meets several times a year to discuss sustainability issues, including those related to climate change. The Board of Directors provides strategic direction regarding these matters and exercises oversight over the Group Leadership Team. At least once a year, the board reviews the business sustainability-related strategy and actions, including those related to climate change. Further discussions take place in additional meetings as needed. For example, in 2019 the board reviewed and approved our commitment to invest USD 2 billion over five years to 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 new Good Growth Plan. This new plan 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 include sustainability targets, including targets related to climate change. The Chief Sustainability Officer (CSO) briefs the Board of Directors at least quarterly 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 reduce the carbon intensity of our operations by at least 50% by 2030.

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 Business 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 on the progress made regarding the company's sustainability commitments and advises them on required actions.

The BUSINESS SUSTAINABILITY FUNCTION has global, regional and country representatives to ensure alignment of initiatives, performance management and policy engagement across the organization. The role of CSO and the Business Sustainability function were created in 2018 to bring a sharper focus to our sustainability work and support 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 business 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	

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. They include targets and measures to manage our impact on climate change and our contribution to address the climate change challenge.
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.
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 Sustainable and Responsible Business 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 Business 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., 2020) or the following one as part of the budgeting process.
Medium-term	2	5	Five-year horizon (i.e., 2020-2024) 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 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 levels (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 published in our ESG Report 2020 and shared within the company. 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) in order 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) levels. 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 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 will focus 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 will also 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's too late. It uses high-resolution satellite imagery to look for bare ground as flood water recedes, identifying replant zones and providing tools for spotting nitrogen deficiencies.
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 selected 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 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.
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 CRISPR Cas9 and CRISPR Cpf1 genome-editing).
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 levels 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 the supply chain and all our production sites is ongoing and should yield detailed results in 2021. 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 levels. 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	Increased severity and frequency of extreme weather events such as cyclones and floods
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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. 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

490000000

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 AgriClima™, 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. AgriClima™ scaled successfully in 2020 and now covers 16 countries. COST CALCULATION: In 2020, as part of our Good Growth Plan's commitment to accelerate innovation, we invested USD 490 million in sustainable agriculture breakthroughs. This figure includes investments in development and delivery of products, services and programs in 2020 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**Identifier**

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Increased severity and frequency of extreme weather events such as cyclones and floods
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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 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 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 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 this into our business continuity plans. COST CALCULATION: The cost of 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 to 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	Increased severity and frequency of extreme weather events such as cyclones and floods
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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 to 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 in excess of USD 30 per ha per year. Consequently, 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 for conservation agriculture, especially in Brazil and the USA, and now increasingly in Asia. Seed treatment technology also 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™, also improve the incorporation of organic matter into the soil and hence improve carbon sequestration. We also advise growers on climate-smart soil practices such as minimum tillage, crop rotation and effective nutrient management. In 2020, our Good Growth Plan benefited 3.9 million ha of farmland thanks to soil conservation and biodiversity enhancement measures. We are currently expanding our Reverte Conservation Program in Brazil with a carbon farming layer and are 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 expect to enroll more than 50,000 ha in Russia and Ukraine in the 2021/22 season. To support the implementation of the EU's Green Deal, we have also joined a WEF initiative aiming to decarbonize the food value chain and engage with the European Commission on the EU's 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 to 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 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 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 for adopting carbon 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**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 new 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. 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

490000000

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 2019, 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 2020, as part of our five-year USD 2 billion commitment, we invested USD 490 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**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 thanks to the use of less resources. 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 will continue to focus on improving the efficiency of our manufacturing processes, design and implement site-based energy saving programs, increase the share of renewable energy sources, and partner 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 their 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 the project 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

C3. Business Strategy

C3.1

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

Yes

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-carbon transition plan	Intention to include the transition plan as a scheduled resolution item at Annual General Meetings (AGMs)	Comment
Row 1	No, we do not intend to publish a low-carbon transition plan in the next two years	<Not Applicable>	We will reevaluate whether to publish a low-carbon transition plan as we align our sustainability agenda and activities across Syngenta Group's Business Units. In our Good Growth Plan, we have a commitment to reduce the carbon intensity of the company's operations by at least 50% by 2030 – a target validated by the SBTi. This is an important milestone toward a business model compatible with a net-zero carbon economy.

C3.2

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

Yes, qualitative and quantitative

C3.2a

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

Climate-related scenarios and models applied	Details
RCP 2.6 RCP 8.5 IEA Sustainable development scenario Other, please specify (IEA Stated Policies Scenario)	<p>IDENTIFICATION: 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.</p> <p>TIME HORIZON: The time horizon was 2030 because 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. AREAS CONSIDERED FOR SCENARIO ANALYSIS: We conducted a scenario materiality assessment 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 analyses in the following areas: 1) Impact of extreme weather on own and supplier chemical production; 2) Impact of transition risks on own 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 of drought-resistant portfolio; and 5) Impact of changes in consumer diets and protein shifts. 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 SBTi) mitigate risks and might even give 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; and 5) The impact of changes in consumer diets increases seed sales opportunities in both scenarios, although less in a <2°C scenario. RESULTS USE: Summary results were published in our ESG Report 2020 and shared within the company. Although further evaluation is required, the results are in line with the climate-related aspects already considered in our business objectives and strategy development processes. ACTIONS TAKEN (case study): 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 new 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.</p>

(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 new Good Growth Plan launched in June 2020, Syngenta reaffirmed its 2019 commitment 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. These investments will take place within the next five years, but we believe they will shape the future of agriculture long-term. As part of this commitment, in 2020, we invested USD 490 million in sustainable agriculture breakthroughs. This investment was mainly driven by the strategic acquisition of Valagro, a leading biologicals and biostimulants company, and R&D in crop protection. 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. In 2019, we concluded a major piece of work aimed at assessing and measuring our environmental footprint in our own operations and supply chain. This analysis identified that most of our environmental impact comes from our suppliers. For example, 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 new 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 2020, we engaged with 48 companies representing around 30% of our Scope 3 emissions to request information on carbon targets and measures, and to obtain data on 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. To date, 31 companies have responded, representing close to 25% of our Scope 3 emissions. 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 new Good Growth Plan launched in June 2020, Syngenta reaffirmed its 2019 commitment 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. In the first five years of implementation, the initiative has the potential to reach one million hectares. 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 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 influenced by our drive to address farmers' needs and return on investment in support of our long-term strategy and commitment to sustainable agriculture. In 2019, 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. We reaffirmed this commitment in 2020 with the launch of our new Good Growth Plan. 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 will be distinct from those we make as part of good practice and will – 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 in collaboration with The Nature Conservancy – will be used for assessing the investment. As result of this commitment, in 2020, we invested USD 490 million in sustainable agriculture breakthroughs. This investment was mainly driven by the strategic acquisition of Valagro, a leading biologicals and biostimulants company, and R&D in crop protection. Another example of investment we are making under this commitment includes the Reverte program in Brazil, where we are promoting integrated cattle/crop farming in degraded areas of the Cerrado biome. 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. Such programs also generate new sustainable market segments for Syngenta. Finally, our innovative ENOGEN® Feed corn delivers feed efficiency gains of some 5% over regular rolled corn by offering improved starch and organic matter digestibility. ENOGEN® Feed corn improves profitability and has the potential to help animal production systems become more sustainable. An analysis has shown that a 5% increase in feed efficiency could reduce: CO2 emissions by more than 162k kg (equivalent to removing 35 passenger cars from the road for one year); land use by 66 acres (equivalent of 50 football fields for one year); water use by more than 6m gallons (enough to fill nine Olympic-size swimming pools); and energy use by more than 269k kWh (enough to power 22 average homes for one year). TIME HORIZON: Medium-term

C3.4a

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

More details about how we are implementing the TCFD's recommendations, including process and results of our climate scenario analysis, can be found in our ESG Report 2020, page 71: <https://www.syngenta.com/sites/syngenta/files/sustainability/reporting-sustainability/Syngenta-ESG-Report-2020.pdf>

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) (or Scope 3 category)

Scope 1+2 (location-based) + 3 (upstream and downstream)

Intensity metric

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

Base year

2016

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

0.00126

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

99.8

Target year

2030

Targeted reduction from base year (%)

67.6

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

0.00040824

% change anticipated in absolute Scope 1+2 emissions

54.2

% change anticipated in absolute Scope 3 emissions

54.2

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

0.00158

% of target achieved [auto-calculated]

-37.5692683384991

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 (including target coverage)

The Syngenta target covers our Scope 1, 2 and 3 emissions. Scope 3 emissions include 12 of the 15 Scope 3 categories except the categories "use of sold products", "franchises" and "investments". The latter two are not applicable. Regarding the use of sold products, we believe that the end use of our products results in carbon savings through the more efficient use of resources and land in the agricultural value chain. The Science Based Targets initiative (SBTi) does not currently account for carbon benefits in calculations, so this category has not been included. To achieve our 2030 carbon intensity reduction target, we will focus on improving the efficiency of our manufacturing processes, design and implement site-based energy-saving programs, increase the share of renewable sources of energy, and partner with our crop protection and seed suppliers to reduce their carbon footprint. Our supply chain accounts for about 90% of our carbon footprint. In addition, we will further optimize our business travel and logistics network. The target (with baseline 2016) was announced in October 2019. In 2020, we report for the first time on our progress. This year, intensity-based CO2 emissions from Scope 1, 2 and 3 sources increased by 26% 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. The increase in Scope 3 emissions was mainly due to an increase in emissions from purchased goods and services, which was mainly driven by the purchase of high-volume materials with below-portfolio average gross margin. Increased emissions from transportation and distribution, from waste generated in supply chain operations and from investments as well as improvements in the calculation methodology, also contributed to the increase.

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

2020

Figure or percentage in base year

0

Target year

2020

Figure or percentage in target year

3000000

Figure or percentage in reporting year

3900000

% of target achieved [auto-calculated]

130

Target status in reporting year

Underway

Is this target part of an emissions target?

This target is part of Syngenta's new five-year Good Growth Plan launched in June 2020, in which we have 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 2020, over 60 soil conservation and biodiversity enhancement projects benefited 3.9 million hectares of farmland. In 2020, we also 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 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 2020, the carbon benefit potential on farmland associated with our soil conservation and biodiversity enhancement projects was 1,955k tonnes CO₂e.

Is this target part of an overarching initiative?

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

Please explain (including target coverage)

Since 2013, we have measured our impact on sustainable agriculture through our first and now our new 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. This is why our biodiversity and soil health targets are particularly relevant here.

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	14	10360
To be implemented*	7	13149
Implementation commenced*	15	60793
Implemented*	18	11823
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

1700

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

33000

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

207000

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

This initiative concerns the installation of photovoltaic solar panels on a site leading to a reduction in consumption of electricity generated from fossil fuels (i.e., the national grid) (Scope 2).

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

167

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

52000

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

35000

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

This initiative concerns the installation of an energy management and regulation system on a large research site leading to a reduction in the use of purchased electricity (Scope 2).

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

383

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

80000

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

0

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

This initiative concerns the installation of a control algorithm to optimize the use of supplemental lighting in greenhouses, resulting in a reduction in the use of purchased electricity (Scope 2).

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

100

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

15000

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

3200000

Payback period

>25 years

Estimated lifetime of the initiative

16-20 years

Comment

The project was justified based on cost avoidance and production-related demands rather than payback.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

100

Scope(s)

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

<1 year

Estimated lifetime of the initiative

>30 years

Comment

This is a software-based change, which will not require any material assessment as it can be implemented by the existing staff.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

130

Scope(s)

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

>25 years

Estimated lifetime of the initiative

16-20 years

Comment

This production rate increase project at the unit's bottleneck will result in lower CO2e/lb of product.

Initiative category & Initiative type

Transportation	Other, please specify (logistics optimization)
----------------	--

Estimated annual CO2e savings (metric tonnes CO2e)

737

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

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

120000

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

0

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

8506

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

3212000

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

2032000

Payback period

<1 year

Estimated lifetime of the initiative

21-30 years

Comment

This initiative concerns the implementation of a variety of measures within our production processes to capture energy efficiency.

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 2019, we announced a USD 2 billion investment over the next five years to help farmers prepare for and tackle the increasing threats posed by climate change. In 2020, we invested USD 490 million in sustainable agriculture breakthroughs. This investment was mainly driven by the strategic acquisition of Valagro, a leading biologicals and biostimulants company, and R&D in crop protection.
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 degraded or disturbed, carbon is released back into the atmosphere, becoming a greenhouse gas. As part 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 2020, our soil conservation and biodiversity enhancement projects benefited 3.9 million hectares of farmland. The estimated carbon benefit on farmland from adopting these projects was 1,955k 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 soil.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Group of products

Description of product/Group of products

Through our products and services, we contribute to reducing GHG emissions and enhancing carbon sequestration in the agricultural sector. Although the sector is the world's second largest emitter of GHGs (after the energy sector), agriculture simultaneously sequesters 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, page 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, especially in countries like Brazil and the USA, and now increasingly in Asia. Syngenta continues to innovate and expects to launch additional products that support soil health in the near future. For example, seedcare products reduce pressure from nematodes and soil diseases, which pose major challenges to farmers to implement soil conservation practices such as no- or minimum tillage and cover cropping. Additionally, seedcare products lead to higher root mass and thereby support increased carbon retention in soils and long-term fertility of soils. Agricultural soils are among the planet's largest reservoirs of carbon and hold potential for expanded carbon sequestration, and thus provide a prospective way of mitigating the increasing atmospheric concentration of CO₂. It is estimated that soils can sequester around 20 Pg C in 25 years, more than 10 % of the anthropogenic emissions (source: FAO: <http://www.fao.org/soils-portal/soil-management/soil-carbon-sequestration/en/>).

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

Avoided emissions

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

Other, please specify (Literature review (see example in description above))

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

2.3

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

We expect to increase the development of climate-smart solutions and technologies that help farmers work sustainably. These include conservation agriculture practices that aim to reduce soil disturbance, enhance permanent soil cover and implement crop rotation. Our herbicide and seedcare product ranges play an important role. The calculation on % revenue is estimated based on sales of non-selective herbicides and corn and soybean seeds as outlined in Syngenta's Financial Report 2020, page 5 (i.e., USD 2,659 million/USD 14,287 million) and on adoption rate of conservation practices.

Level of aggregation

Product

Description of product/Group of products

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. The UN Food and Agriculture Organization recognizes that sustainable intensification strategies, which conserve and restore resources, are important in addressing climate change. More efficient resource use, including farmland 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 output. 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) Does intensification slow crop land expansion or encourage deforestation? <https://doi.org/10.1016/j.gfs.2014.04.001>; Robert Ewers, Jörn Scharlemann, Andrew Balmford and Rhys Green (2009), Do increases in agricultural yield spare land for nature? https://repository.si.edu/bitstream/handle/10088/11885/stri_Ewers_Scharlemann_Balmford_and_Green_2009.pdf). 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) Greenhouse gas mitigation by agricultural intensification PNAS: <http://www.pnas.org/content/107/26/12052.long>).

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

Avoided emissions

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

Other, please specify (Literature review (see example in description above))

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

1

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

We expect to increase the development of climate-smart solutions and supporting technologies for farmers. Climate Smart Agriculture, through sustainable soil management practices, optimized water use, and improved crop technologies is an effective way to become more resource-efficient so that more land can be used to restore forests and sequester even more carbon.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start

October 1 2009

Base year end

September 30 2010

Base year emissions (metric tons CO2e)

684000

Comment

Scope 2 (location-based)

Base year start

October 1 2009

Base year end

September 30 2010

Base year emissions (metric tons CO2e)

301000

Comment

Scope 2 (market-based)

Base year start

October 1 2009

Base year end

September 30 2010

Base year emissions (metric tons CO2e)

301000

Comment

As the value of market-based emissions was not defined in 2010, we estimate their value to be identical to location-based emissions. 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. Please note that this base year is not the same year used for our carbon reduction target as outlined in question 4.1b.

C5.2

(C5.2) 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 Cool Farm Tool

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)

476700

Start date

<Not Applicable>

End date

<Not Applicable>

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. Sites controlled by Syngenta comprise a large number of small field stations with limited staff and little emissions. As a result, not all sites are required to report into SERAM. These non-reporting sites are not expected to contribute materially to the total. The list of reporting sites is reviewed annually.

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. A project 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

325900

Scope 2, market-based (if applicable)

319900

Start date

<Not Applicable>

End date

<Not Applicable>

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.

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 (out of hundreds of Syngenta sites globally). These sources are considered negligible and the emissions are not relevant to the global reporting.

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

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

Emissions are not relevant

Explain why this source is excluded

The sites that are excluded are not material to the overall corporate footprint for Scope 1 and 2 emissions. Thresholds for reporting are set in Syngenta operating procedures, and country and regional HSE staff verify that the correct reporting units are included on an annual basis. Syngenta includes a number of sites, which are below the reporting thresholds even though they are not material. This is meant to drive cultural change.

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

7305400

Emissions calculation methodology

Data on the nature, origin, quantity and spend of all purchased materials is centralized in the Sievo purchasing management system, from which it is extracted to calculate the Scope 3 carbon footprint. The data is cleaned to identify which data is necessary for different parts of the Scope 3 calculation, and data on purchased goods and services is identified by material description and separated. Emission factors are assigned to materials. The primary emission factor databases used are ecoinvent and Agri-footprint, as well as custom emission factors previously calculated. Where the volume of the purchased material is unavailable (for example services) or obscure (for example number of pieces purchased rather than a metric unit), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The use of spend-based emission factors is minimized by converting obscure units to metric quantities when possible. For large spend items (such as chemicals purchased in large quantities) and where available, an emission factor describing the exact material is used. If an exact emission factor cannot be found, a proxy based on chemical similarity is used. Where available, region-specific emission factors are used. For smaller spend items, grouped emission factors (such as general solvents, packaging or herbicide production) are used. A project is ongoing to reduce the number of proxy emission factors used, and to improve the accuracy of proxies by basing proxy choices on manufacturing process similarity rather than chemical similarity. The carbon contribution of each material is calculated based on the emission factor assigned. Results are aggregated into an overall total.

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

0

Please explain

A project is ongoing to collect data from our key chemical suppliers, and to use this data in our carbon footprint calculation in place of standard emission factors from ecoinvent or Agri-footprint. In March 2020, we carried out an initial survey to assess the sustainability maturity of key suppliers. Based on the results, a second survey asking for actual data from the same key suppliers was conducted in September 2020. We may use some of the data in the 2021 carbon footprint calculation, and we plan to have further conversations and deep dives with specific suppliers to better understand their data and help them improve the quality of the data they provide. As purchased goods and services are by far the largest contributing category to Syngenta's Scope 3 emissions and Syngenta's carbon footprint overall, we are focusing on this area for data improvement.

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

190830

Emissions calculation methodology

Data on the nature, origin, quantity and spend of all purchased materials is centralized in the Sievo purchasing management system, from which it is extracted to calculate the carbon footprint. The data is cleaned to identify which data is necessary for different parts of the Scope 3 calculation, and data on capital goods is identified by material description and separated. Spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are assigned to capital goods based on the material description. The carbon contribution of each material is calculated based on the emission factor assigned. Results are aggregated into an overall total.

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

0

Please explain

A project is ongoing to collect sustainability data from key suppliers. However, capital goods suppliers are not currently in scope of this project, as capital goods contribute less than 5% of the total Scope 3 emissions of the annual carbon footprint.

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

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

268255

Emissions calculation methodology

Data on the nature, origin, quantity and spend of all purchased materials is centralized in the Sievo purchasing management system, from which it is extracted to calculate the carbon footprint. The data is cleaned to identify which data is necessary for different parts of the Scope 3 calculation, and data on fuel- and energy-related activities is identified by material description and separated. Spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are assigned to fuel- and energy-related activities based on the material description. Specifically, the material description shows whether an activity relates to electricity, gas, oil, steam, water or other. Scope 2 activities are not considered in this calculation. The carbon contribution of each activity is calculated based on the emission factor assigned, and results are aggregated into an overall total.

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

0

Please explain

A project is ongoing to collect sustainability data from key suppliers. However, suppliers relating to fuel- and energy-related activities are not currently in scope of this project, as fuel- and energy-related activities contribute less than 5% of the total Scope 3 emissions of the annual carbon footprint.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

590063

Emissions calculation methodology

While data on spend on upstream transportation and distribution is available in the Sievo purchasing management system, this data does not describe the quantity, origin and destination, distance or type of transportation item. We therefore use an alternative method. Historically, carbon emissions from up- and downstream transportation and distribution were estimated using a survey of the regions. In 2020, this process was replaced with a streamlined model based on financial data and using historical transportation data. The model uses data based on the financial value of materials transferred between Syngenta sites in different regions. 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. As the model was built in anticipation of having better data in the near future, it will enable to include this data when it becomes available without having to change the model. This will ensure year-on-year comparability.

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

0

Please explain

A project is ongoing to collect real data on the carbon emissions of our transportation and distribution activities from our main third-party transportation partner. Data for selected regions should be available next year, and will be substituted in the model.

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

162239

Emissions calculation methodology

Data on the nature, origin, quantity and spend of all purchased materials is centralized in the Sievo purchasing management system, from which it is extracted to calculate the carbon footprint. The data is cleaned to identify which data is necessary for different parts of the Scope 3 calculation, and data on waste generated in operations is identified by material description and separated. As accurate volumes of waste treated are not available, spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are assigned to waste based on the material description. The carbon contribution of each activity is calculated based on the emission factor assigned.

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

0

Please explain

A project is ongoing to collect sustainability data from key suppliers. However, suppliers relating to waste generated in our own operations are not currently in scope of this project, as this category contributes less than 5% of the total Scope 3 emissions of the annual carbon footprint.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

24925

Emissions calculation methodology

The figure represents flights for business travel booked through a travel agency, which provides an annual breakdown of carbon emissions from business travel. The calculation takes into account the distance of individual flights and uses a per-kilometer emission factor for domestic, short-haul international, and long-haul international flights for each cabin class. The total is provided (per country and per month) and includes the number of flights taken during the year. For consistency with the 2016 baseline calculation, carbon emissions from business travel transport other than flights are included in the Purchased goods and services section above. These emissions are calculated based on spend data from the Sievo purchasing management system, which centralizes data on the nature, origin, quantity and spend of all purchased materials. Emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are assigned based on the material description, which describes the transport mode.

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

100

Please explain

The data on carbon emissions from business travel by plane is provided by the travel agency, which manages our flight bookings, and is calculated based on the number and distance of flights. For consistency with the 2016 baseline calculation, carbon emissions from business travel by other transport modes are calculated based on Sievo data but are included in the Purchased goods and services section above.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

10848

Emissions calculation methodology

An annual emission factor based on the average commuting habits of the general public in the United Kingdom (UK) has been calculated. This emission factor is applied to the total number of Syngenta employees worldwide. We believe this figure overestimates emissions from Syngenta employee commuting. While Syngenta has a large employee base in the UK, many employees are located in countries with less resource-intensive commuting habits (where walking, cycling and public transport are more popular/available compared to the UK). We apply a conservative method to ensure we do not underestimate emissions from this category.

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

0

Please explain

Syngenta does not have suppliers or value chain partners relevant to employee commuting. Individual Syngenta sites often participate in Cycle to Work initiatives but the focus of these is more on employee health and wellbeing than corporate sustainability. Further, their impact on the overall emissions from employee commuting is not considered in the calculation.

Upstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

127209

Emissions calculation methodology

The external facilities management company provides data on the location, function and size of upstream leased assets. The 2012 CBECS (Commercial Building Energy Consumption Survey) report is used to estimate quantities of electricity, natural gas, fuel oil and energy supplied by district heating systems per m² (kWh/m²/year) for each building type. These values are then multiplied by GHG emission factors for each energy source/fuel from the 2018 DEFRA (UK Department for Environment, Food and Rural Affairs) carbon factors to provide a single GHG emission factor for each building type as kgCO₂-eq/m²/year. The real estate types identified in the Syngenta portfolio report are matched with the building types from the 2012 CBECS report. For land and farm buildings with an area above 1 hectare, a custom emission factor is established by calculating the kgCO₂-eq/m²/year for each seed crop included in the direct data based on data from the Agri-footprint LCI database (kgCO₂-eq/kg of crop divided by yield in kg crop/m²/year). The total weight of each seed crop included in the direct data is then used to calculate a weighted average for the entire seed production (in kgCO₂-eq/m²/year). The custom factor calculated for the 2016 baseline was 0.262 kgCO₂-eq/m²/year. Where field entries for sub-types are blank in the Syngenta portfolio report and had an area below 1 hectare, the "Other" building type from the 2012 CBECS report is assumed. The total GHG emissions for upstream leased assets are calculated as the sum of the total area of lessee and sublessee assets within each real estate type, multiplied by the relevant GHG emission factor.

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

100

Please explain

The external facilities management company provides the data on the location, function and size of upstream leased assets. The carbon emissions for this category are calculated based on this data.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

51310

Emissions calculation methodology

While some data on spend on downstream transportation and distribution is available in the Sievo purchasing management system, this data does not describe the quantity, origin and destination, transportation distance or type of transportation item. We therefore use an alternative method. Historically, carbon emissions from up- and downstream transportation and distribution were estimated using a survey of the regions. In 2020, this process was replaced with a streamlined model based on financial data and using historical transportation data. The model uses data on the financial value of materials transferred between Syngenta sites in different regions. 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. As the model was built in anticipation of having better data in the near future, it will enable to include this data when it becomes available without having to change the model. This will ensure year-on-year comparability.

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

0

Please explain

A project is ongoing to collect real data on the carbon emissions of our transportation and distribution activities from our main third-party transportation partner. Data for selected regions should be available next year, and will be substituted in the model.

Processing of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

65789

Emissions calculation methodology

The finishing of Syngenta products by contract manufacturers is counted in this category. Data on the nature, origin, quantity and spend of all purchased materials and services is centralized in the Sievo purchasing management system, from which it is extracted to calculate the carbon footprint. The data is cleaned to identify which data is necessary for different parts of the Scope 3 calculation, and data on contract finishing is identified by material description and separated. We estimate emissions from the formulation of sold products represent 25% of those generated by the production of generic organic chemicals (representing 25% of chemical, organic {GLO} | market for | Alloc Def, S from the ecoinvent v3 database).

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

0

Please explain

A project is ongoing to collect sustainability data from key chemical suppliers. Data from formulation contractors is currently not available to calculate the carbon footprint, but we hope data for this category will become available in the future.

Use of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

This category is outside our assessment scope, as Syngenta products are not greenhouse gases and do not directly consume energy or fuel. It has been discussed and agreed with the SBTi that this category will be evaluated once a methodology for calculating product benefits is accepted.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

208

Emissions calculation methodology

Products, which are used correctly, do not require end of life treatment. Therefore, GHG emissions only need to be calculated for packaging and unused products, which are considered as waste. We report the quantity of unused seeds in the main seed producing regions internally as a part of our annual environmental reporting. Most of these seeds are treated and are therefore hazardous waste. It is thus safe to assume that all unused seeds are incinerated as hazardous waste. The emission factor for hazardous waste for incineration {RoW} | treatment of hazardous waste, hazardous waste incineration | APOS, U, taken from the ecoinvent v3 database, is used to calculate the total GHG emissions for the category.

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

0

Please explain

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 very small and geographically diverse category. Therefore, supplier data for this category is not currently being collected.

Downstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

618

Emissions calculation methodology

The external facilities management company provides data on the location, function and size of downstream leased assets. The 2012 CBECS (Commercial Building Energy Consumption Survey) report is used to estimate quantities of electricity, natural gas, fuel oil and energy supplied by district heating systems per m² (kWh/m²/year) for each building type. These values are then multiplied by GHG emission factors for each energy source/fuel from the 2018 DEFRA (UK Department for Environment, Food and Rural Affairs) carbon factors to provide a single GHG emission factor for each building type as kgCO₂-eq/m²/year. The real estate types identified in the Syngenta portfolio report are matched with the building types from the 2012 CBECS report. For land and farm buildings with an area above 1 hectare, a custom emission factor is established by calculating the kgCO₂-eq/m²/year for each seed crop included in the direct data based on data from the Agri-footprint LCI database (kgCO₂-eq/kg of crop divided by yield in kg crop/m²/year). The total weight of each seed crop included in the direct data is then used to calculate a weighted average for the entire seed production (in kgCO₂-eq/m²/year). The custom factor calculated for the 2016 baseline was 0.262 kgCO₂-eq/m²/year. Where field entries for sub-types are blank in the Syngenta portfolio report and had an area below 1 hectare, the "Other" building type from the 2012 CBECS report is assumed. The total GHG emissions for downstream leased assets are calculated as the sum of the total area of lessee and sublessee assets within each real estate type, multiplied by the relevant GHG emission factor.

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

100

Please explain

The external facilities management company provides data on the location, function and size of downstream leased assets. The carbon emissions for this category are calculated based on this data.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Syngenta AG does not currently have any franchises.

Investments

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

162000

Emissions calculation methodology

Syngenta acquired two small companies in 2020. Emissions were calculated based on the activities, number of employees and revenues of the two companies. Additionally, Syngenta invests in coffee growing in South America. An emission factor describing coffee growing was applied to the spend (details can be found in the Sievo purchasing management system), and the result was divided by two as Syngenta controls half of the coffee venture.

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

0

Please explain

A project is ongoing to collect sustainability data from key suppliers. However, suppliers relating to investments are not currently in scope of this project, as this category contributes less than 5% of the total Scope 3 emissions of the annual carbon footprint. Additional considerations pertaining to data confidentiality (even within Syngenta) apply to this category when the acquisition process is ongoing, making it difficult to collect data from companies being invested in.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Syngenta's other upstream activities are covered by the standard Scope 3 categories.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Syngenta's other downstream activities are covered by the standard Scope 3 categories.

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	28240	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 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

0.0000558

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

796000

Metric denominator

unit total revenue

Metric denominator: Unit total

14287000000

Scope 2 figure used

Market-based

% change from previous year

21.9

Direction of change

Decreased

Reason for change

The decrease in Scope 1 and 2 emissions in 2020 compared to 2019 was due to a decline in production at the Nantong (China) and Kaisten (Switzerland) sites, an extended outage at our St. Gabriel (USA) plant and the closure of our Greens Bayou Biosciences (USA) facility. Additionally, this year, a new emission factor was used to calculate CO2 emissions from R113a releases in our operations. Previously, no published factor for R113a was available and the R113 factor was used as a surrogate. The newly published R113a factor is approximately 50% lower than R113. This, combined with better operational controls at the Huddersfield (UK) site, resulted in a significant decrease in emissions at the site. Further, the COVID-19 pandemic caused reductions in operations overall. There was also a 5.2% increase in sales in 2020.

Intensity figure

27.22

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

796000

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

29262

Scope 2 figure used

Market-based

% change from previous year

20.7

Direction of change

Decreased

Reason for change

The decrease in Scope 1 and 2 emissions in 2020 compared to 2019 was due to a decline in production at the Nantong (China) and Kaisten (Switzerland) sites, an extended outage at our St. Gabriel (USA) plant and the closure of our Greens Bayou Biosciences (USA) facility. Additionally, this year, a new emission factor was used to calculate CO2 emissions from R113a releases in our operations. Previously, no published factor for R113a was available and the R113 factor was used as a surrogate. The newly published R113a factor is approximately 50% lower than R113. This, combined with better operational controls at the Huddersfield (UK) site, resulted in a significant decrease in emissions at the site. Further, the COVID-19 pandemic caused reductions in operations overall. There was also a 3.5% increase in FTE in 2020.

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	388200	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify (Various chlorinated or fluorinated refrigerant gases)	88500	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	154400
Asia Pacific (or JAPA)	35500
Latin America (LATAM)	47600
United Kingdom of Great Britain and Northern Ireland	157300
France	8600
Benelux	8400
Switzerland	6900
Other, please specify (Rest of the world)	6000
Other, please specify (Non-stationary sources)	52000

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	351000
Seeds	73700
Corporate	52000

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
Huddersfield	153100	53.66	-1.75
St Gabriel, LA	121900	30.25	-91.1
Greens Bayou, TX	15800	29.76	-95.17
Nantong	34600	31.9	120.92
Ituiutaba	29800	-18.97	-49.46
Saint Pierre	5900	49.16	1.39
Enkhuizen	3500	52.7	5.27
Jealotts Hill	2400	51.45	-0.74
Monthey	3300	46.25	6.96
Waterloo NE	2900	41.29	-96.28
De Lier	2500	51.98	4.27
Venado Tuerto 1	3400	-33.75	-61.97
Kaisten	3200	47.55	8.03
Greensboro, NC	1600	36.07	-79.91
Formosa	6800	-15.56	-47.22
Paulinia	2800	-22.75	-47.15
Seneffe	2400	50.52	4.23
Omaha, NE	2000	41.21	-95.92
Lone Tree, IA	2500	41.48	-91.43
Thika	2200	-1.05	37.08
Grangemouth	1800	56.02	-3.72
Venado Tuerto 2 (ex Nidera)	1800	-33.75	-61.97
Mezotur	1500	47	20.61
Pasco, WA	1300	46.24	-119.11
Phillips, NE	1200	40.9	-98.21
Matao	1100	-21.6	-48.37
Slater P&S, IA	1000	41.88	-93.68
Sarrians	1000	44.08	4.97
Slater R&D, IA	800	41.88	-93.68
Clinton, IL	700	38.59	-89.42

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Aigues-Vives	700	43.23	2.53
Stanton, MN	600	44.47	-93.02
Gilroy West L&G, CA	600	37.01	-121.56
Beijing SBC	500	39.91	116.39
Casalmorano	400	45.29	9.9
Pollen	400	68.66	14.6
Nerac	400	44.14	0.4
Bad Salzuflen	400	52.09	8.75
Munchwilen	400	47.54	7.96
Salinas, PR	400	17.98	-66.3
Uberlandia	300	-18.92	-48.28
Woodland, CA	300	38.68	-121.77
Agadir	300	30.42	-9.58
Koka	300	34.96	136.17
Arica	300	-18.48	-70.32
Santa Isabel	300	-23.32	-46.23
Lombez	300	43.48	0.91
Saint-Sauveur	200	47.36	5.41
Enofyta	200	38.32	23.63
Seward, NE	200	40.87	-97.17
Graneros	200	-34.06	-70.73
Research Triangle Park, NC	200	35.9	-78.86
Lucas do Rio Verde	200	-13.07	-55.92
Cascavel	100	-24.96	-53.46
Naples, FL	100	26.15	-81.8
Itapolis	100	-21.6	-48.81
Brits	100	-25.63	27.78
Jardines Mil Flores	100	18.58	-91.03
Carmona	100	37.47	-5.64
Iksan	100	35.95	126.96
Lopburi	100	15.03	100.81
Alva, FL	100	26.72	-81.62
Goa R&D	100	15.3	74.09
Jalapa	100	14.65	-89.94
Kapok	100	5.02	115.05
Vero Beach, FL	100	27.64	-80.4
Holambra	100	-22.63	-47.05
Porrino	100	42.16	-8.62
Aurangabad	100	19.88	75.34
Las Vertientes	100	-41.14	-71.34
Stein	0	47.54	7.95
Bay, AR	0	35.74	-90.56
San Luis Potosi	0	22.5	-100.49
Kunshan	0	31.39	120.98
Cartagena	0	10.42	-75.52
Aracati	0	-4.56	-37.77
Tak Fah	0	15.35	100.49
Basel	0	47.59	7.59
Other sites	100		
Non-stationary sources	52000		

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	351000	<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)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
United States of America	126200	126200	245800	38500
Asia Pacific (or JAPA)	57300	57300	113000	10800
Latin America (LATAM)	10300	9700	67700	47400
United Kingdom of Great Britain and Northern Ireland	26100	21100	98300	35400
Benelux	7400	7400	20400	7600
Switzerland	90700	90700	349500	49900
Other, please specify (Rest of world)	7900	7500	18300	7400

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	262200	256900
Seeds	63700	63000

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)
St Gabriel, LA	66800	66800
Monthey	62000	62000
Nantong	38800	38800
Kaisten	21500	21500
Grangemouth	21100	21100
Greens Bayou, TX	10800	10800
Research Triangle Park, NC	10100	10100
Jealotts Hill	4200	0
Greensboro, NC	6300	6300

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Stein	3600	3600
Omaha, NE	7200	7200
Phillips, NE	4200	4200
Waterloo, NE	4000	4000
Slater R&D, IA	2200	2200
Iksan	4400	4400
Goa R&D	7500	7500
Clinton, IL	3300	3300
Munchwilen	3300	3300
Beijing SBC	3400	3400
Enkhuizen	3500	3500
De Lier	2900	2900
Venado Tuerto 1	1400	1400
Vero Beach, FL	1700	1700
Pasco, WA	1600	1600
Lone Tree, IA	2700	2700
Alva, FL	1300	1300
Brits	1400	1400
Huddersfield	800	0
Kunshan	1600	1600
Paulinia	1400	1400
Formosa	1400	1400
Mezotur	1000	1000
Seneffe	1000	1000
Slater P&S, IA	500	500
Venado Tuerto 2 (ex Nidera)	2400	2400
Stanton, MN	1200	1200
Bad Salzuflen	800	500
Woodland, CA	800	800
Porrino	800	800
Thika	700	700
Arica	700	700
Aurangabad	700	700
Saint Pierre	600	600
Casalmorano	500	500
Jalapa	500	500
Gilroy West L&G, CA	500	500
Lopburi	500	500
Salinas, PR	500	500
Agadir	400	400
San Luis Potosi	400	400
Aigues-Vives	300	300
Jardines Mil Flores	300	300
Enofyta	300	300
Cartagena	300	0
Carmona	300	300
Ituiutaba	300	300
Tak Fah	300	300
Santa Isabel	300	0
Pollen	300	300
Basel	300	300
Naples, FL	200	200
Uberlandia	200	200
Matao	200	200
Seward, NE	100	100
Saint-Sauveur	100	100
Bay, AR	100	100
Lucas do Rio Verde	100	100
Nerac	100	100
Itapolis	100	100
Lombez	100	100
Graneros	100	100
Kapok	100	100
Sarrians	100	100
Las Vertientes	100	100
Cascavel	0	0
Koka	0	0
Aracati	0	0
Holambra	0	0
Other sites	300	200

(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	262200	256900	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
Methanol	0.07	Scope 3, Category 1 emissions are calculated by allocating emission factors to purchased chemical feedstock (this data is centralized in the Sievo purchasing management system). Where the volume of a material is coherent (metric or imperial), volume-based emission factors from ecoinvent or Agri-footprint are used; otherwise (for example for services, or where the volume is a number of pieces), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The selection of emission factors is prioritized based on the proportion of spend represented by a material; where an exact emission factor match is not available and for items with low spend, proxy emission factors are chosen based on chemical similarity. Where region-specific emission factors are available and the country of origin of the material is known, regional emission factors are used. The carbon footprint of each material is then calculated by multiplying the emission factor by the volume of or spend on the material or service, as appropriate. Methanol is searched by its CAS name in the database containing the carbon footprint of purchased goods and services to identify its carbon footprint contribution.
Propylene (FCC)	0.23	Scope 3, Category 1 emissions are calculated by allocating emission factors to purchased chemical feedstock (this data is centralized in the Sievo purchasing management system). Where the volume of a material is coherent (metric or imperial), volume-based emission factors from ecoinvent or Agri-footprint are used; otherwise (for example for services, or where the volume is a number of pieces), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The selection of emission factors is prioritized based on the proportion of spend represented by a material; where an exact emission factor match is not available and for items with low spend, proxy emission factors are chosen based on chemical similarity. Where region-specific emission factors are available and the country of origin of the material is known, regional emission factors are used. The carbon footprint of each material is then calculated by multiplying the emission factor by the volume of or spend on the material or service, as appropriate. Propylene is searched by its CAS name in the database containing the carbon footprint of purchased goods and services to identify its carbon footprint contribution.
Ethanol	0.01	Scope 3, Category 1 emissions are calculated by allocating emission factors to purchased chemical feedstock (this data is centralized in the Sievo purchasing management system). Where the volume of a material is coherent (metric or imperial), volume-based emission factors from ecoinvent or Agri-footprint are used; otherwise (for example for services, or where the volume is a number of pieces), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The selection of emission factors is prioritized based on the proportion of spend represented by a material; where an exact emission factor match is not available and for items with low spend, proxy emission factors are chosen based on chemical similarity. Where region-specific emission factors are available and the country of origin of the material is known, regional emission factors are used. The carbon footprint of each material is then calculated by multiplying the emission factor by the volume of or spend on the material or service, as appropriate. Ethanol is searched by its CAS name in the database containing the carbon footprint of purchased goods and services to identify its carbon footprint contribution.
Polymers	0.32	Scope 3, Category 1 emissions are calculated by allocating emission factors to purchased chemical feedstock (this data is centralized in the Sievo purchasing management system). Where the volume of a material is coherent (metric or imperial), volume-based emission factors from ecoinvent or Agri-footprint are used; otherwise (for example for services, or where the volume is a number of pieces), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The selection of emission factors is prioritized based on the proportion of spend represented by a material; where an exact emission factor match is not available and for items with low spend, proxy emission factors are chosen based on chemical similarity. Where region-specific emission factors are available and the country of origin of the material is known, regional emission factors are used. The carbon footprint of each material is then calculated by multiplying the emission factor by the volume of or spend on the material or service, as appropriate. Polymers are searched by their CAS name in the database containing the carbon footprint of purchased goods and services to identify their carbon footprint contribution.
Lubricants	0.07	Scope 3, Category 1 emissions are calculated by allocating emission factors to purchased chemical feedstock (this data is centralized in the Sievo purchasing management system). Where the volume of a material is coherent (metric or imperial), volume-based emission factors from ecoinvent or Agri-footprint are used; otherwise (for example for services, or where the volume is a number of pieces), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The selection of emission factors is prioritized based on the proportion of spend represented by a material; where an exact emission factor match is not available and for items with low spend, proxy emission factors are chosen based on chemical similarity. Where region-specific emission factors are available and the country of origin of the material is known, regional emission factors are used. The carbon footprint of each material is then calculated by multiplying the emission factor by the volume of or spend on the material or service, as appropriate. Lubricants are searched by their CAS name in the database containing the carbon footprint of purchased goods and services to identify their carbon footprint contribution.
Naphtha	0.2	Scope 3, Category 1 emissions are calculated by allocating emission factors to purchased chemical feedstock (this data is centralized in the Sievo purchasing management system). Where the volume of a material is coherent (metric or imperial), volume-based emission factors from ecoinvent or Agri-footprint are used; otherwise (for example for services, or where the volume is a number of pieces), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The selection of emission factors is prioritized based on the proportion of spend represented by a material; where an exact emission factor match is not available and for items with low spend, proxy emission factors are chosen based on chemical similarity. Where region-specific emission factors are available and the country of origin of the material is known, regional emission factors are used. The carbon footprint of each material is then calculated by multiplying the emission factor by the volume of or spend on the material or service, as appropriate. Naphtha is searched by its CAS name in the database containing the carbon footprint of purchased goods and services to identify its carbon footprint contribution.
Other (please specify) (Remaining chemical feedstock purchases not listed above, including both fine chemicals and base chemicals)	32	Scope 3, Category 1 emissions are calculated by allocating emission factors to purchased chemical feedstock (this data is centralized in the Sievo purchasing management system). Where the volume of a material is coherent (metric or imperial), volume-based emission factors from ecoinvent or Agri-footprint are used; otherwise (for example for services, or where the volume is a number of pieces), spend-based emission factors from the US EEIO (Environmentally Extended Input Output) 2002 database (adjusted for inflation) are used. The selection of emission factors is prioritized based on the proportion of spend represented by a material; where an exact emission factor match is not available and for items with low spend, proxy emission factors are chosen based on chemical similarity. Where region-specific emission factors are available and the country of origin of the material is known, regional emission factors are used. The carbon footprint of each material is then calculated by multiplying the emission factor by the volume of or spend on the material or service, as appropriate. The category "Other" contains the remaining chemical feedstock not listed individually.

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 CO ₂ e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	1047	Decreased	0.1	In 2020, we observed an immaterial change in emissions due to changes in renewable energy consumption. EXPLANATION OF CALCULATION: - CO ₂ e from Scope 2 energy consumption 2020 = 320,000 t - Scope 2 energy consumption 2020 = 3,376,000 GJ - Average carbon impact of Scope 2 energy 2020 = 320,000,000 kgCO ₂ e/3,376,000 GJ = 94.78 kgCO ₂ e/GJ - CO ₂ e from Scope 2 energy consumption 2019 = 355,000 t - Scope 2 energy consumption 2019 = 3,753,000 GJ - Average carbon impact of Scope 2 energy 2019 = 355,000,000 kgCO ₂ e/3,753,000 GJ = 94.47 kgCO ₂ e/GJ - 2020 Scope 2 carbon impact using 2019 average: 3,376,000 GJ*94.47 kgCO ₂ e/GJ = 318,953 tCO ₂ e - Difference between 2019 and 2020: 320,000 - 318,953 = 1047 tCO ₂ e - 2019 total Scope 1+2 footprint = 970,000 tCO ₂ e - Percentage: 1047/970,000 = 0.11%
Other emissions reduction activities	15300	Decreased	1.6	There was a decrease in emissions from company vehicles due to changes in vehicle types to more efficient and/or alternative fuel vehicles; reductions in travel due to the COVID-19 pandemic; and an overall reduction in vehicle distance traveled. The calculation is completed on a country-by-country basis with some countries measuring vehicle types, fuel and distance, others reporting distance traveled and fuel mix, and finally some reporting total fuel spend and number of vehicles. EXPLANATION OF CALCULATION: - CO ₂ e from company vehicles in 2019 = 67,000 t - CO ₂ e from company vehicles in 2020 = 51,700 t - CO ₂ e reduction = 51,700 - 67,000 = 15,300 t - 2019 total Scope 1+2 footprint = 970,000 tCO ₂ e - Percentage: 15,300/970,000 = 1.6%
Divestment	0	No change	0	There was no divestment impacting our data collection.
Acquisitions	0	No change	0	There was no acquisition impacting our data collection.
Mergers	0	No change	0	There was no merger impacting our data collection.
Change in output	24700	Decreased	2.5	The effects of the closure of one of our active ingredient sites resulted in a slight overall reduction in output, corresponding to a Scope 1 and 2 carbon emissions reduction of 24,700 t. EXPLANATION OF CALCULATION - Green Business Bureau (GBB) Scope 1+2 footprint 2019 = 51,300 tCO ₂ e - GBB Scope 1+2 footprint 2020 = 26,600 tCO ₂ e - Difference between 2019 and 2020: 51,300 - 26,600 = 24,700 tCO ₂ e - 2019 total Scope 1+2 footprint = 970,000 tCO ₂ e - Percentage: 24,700/970,000 = 2.5%
Change in methodology	75400	Decreased	7.7	In 2020, an emission factor specific to R113A, a refrigerant, was published and therefore available for use by Syngenta. The specific emission factor is lower than the emission factor for R113, which was previously used to calculate climate effects from fugitive refrigerant gases. The impact of using the new specific emission factor is a reduction of 75,400 tCO ₂ e. No other significant changes have been made to the Scope 1 or 2 reporting processes. EXPLANATION OF CALCULATION The climate effect of fugitive R113A in 2020 was calculated using both the new and the old global warming potential (GWP). The difference between the two figures constitutes the impact of the method change. The change in the volume of fugitive R113A between 2020 and 2019 is not included in this calculation. - R113 GWP = 6130 kgCO ₂ e/kg - R113A GWP = 3310 kgCO ₂ e/kg - Fugitive R113A in 2020 = 26.7t - 2020 carbon impact of fugitive R113A using old R113 GWP = 26.7*6130 = 163,900 tCO ₂ e - 2020 carbon impact of fugitive R113A using new R113A GWP = 26.7*3310 = 88,500 tCO ₂ e - Difference between 2019 and 2020: 163,900 - 88,500 = 75,400 tCO ₂ e - 2019 total Scope 1+2 footprint = 970,000 tCO ₂ e - Percentage: 75,400/970,000 = 7.7%
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	This is not applicable as all changes have been identified.
Other	56953	Decreased	5.9	Several reasons accounted for a further reduction of 56,953 tCO ₂ e. These include a reduction in the consumption of heavy fuel oil and an overall reduction in energy consumption and in the total quantity of fugitive greenhouse gases.

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)	244965	1034697	1279662
Consumption of purchased or acquired electricity	<Not Applicable>	200341	385352	585693
Consumption of purchased or acquired heat	<Not Applicable>	0	12028	12028
Consumption of purchased or acquired steam	<Not Applicable>	0	340839	340839
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>	445306	1961228	2406534

C-CH8.2a

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

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	861634
Consumption of purchased or acquired electricity	<Not Applicable>	454691
Consumption of purchased or acquired heat	<Not Applicable>	12028
Consumption of purchased or acquired steam	<Not Applicable>	340839
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0
Total energy consumption	<Not Applicable>	1669192

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.

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

927970

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

300000

MWh fuel consumed for self-generation of steam

279970

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

348000

Emission factor

184

Unit

metric tons CO2e per MWh

Emissions factor source

Average value from several providers (e.g., DEFRA, ADEME, Bilan carbone, etc.)

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

23668

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

23668

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

Emission factor

3

Unit

metric tons CO2e per metric ton

Emissions factor source

Average value from several providers (e.g., DEFRA, ADEME, Bilan carbone, etc.)

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

28158

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

Emission factor

3.2

Unit

metric tons CO2e per metric ton

Emissions factor source

Average value from several providers (e.g., DEFRA, ADEME, Bilan carbone, etc.)

Comment

Diesel fuel is used mainly for vehicles and heating of buildings. A detailed consumption breakdown of these uses is not available.

Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

54901

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

54901

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

Emission factor

3.3

Unit

metric tons CO2e per metric ton

Emissions factor source

Average value from several providers (e.g., DEFRA, ADEME, Bilan carbone, etc.)

Comment**Fuels (excluding feedstocks)**

Wood

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

62814

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

62814

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

Emission factor

1.8

Unit

metric tons CO2e per metric ton

Emissions factor source

Average value from several providers (e.g., DEFRA, ADEME, Bilan carbone, etc.)

Comment

For Syngenta, the category wood also includes corn cobs.

Fuels (excluding feedstocks)

Other, please specify (carbon-free process by-product gas)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

182151

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

182151

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

Emission factor

0

Unit

metric tons CO2 per metric ton

Emissions factor source

Not applicable because we use a carbon-free process by-product gas

Comment

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	53000	34000	0	0
Heat	0	0	0	0
Steam	176000	143000	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.

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity	53000	34000
Heat	0	0
Steam	176000	143000
Cooling	0	0

C8.2e

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

Sourcing method

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

Low-carbon technology type

Wind

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

United Kingdom of Great Britain and Northern Ireland

MWh consumed accounted for at a zero emission factor

21440

Comment**Sourcing method**

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

Low-carbon technology type

Low-carbon energy mix

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

Switzerland

MWh consumed accounted for at a zero emission factor

178901

Comment

The area is rest of the world combined, i.e., those countries and areas not specifically identified in the drop-down menu above. Switzerland was selected as it is the location of our headquarters.

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

1346

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: 411,876 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. Additional metrics

C9.1

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

Description

Land use

Metric value

3.9

Metric numerator

Million hectares of benefited farmland

Metric denominator (intensity metric only)

% change from previous year

34

Direction of change

Decreased

Please explain

Under the new 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 (2013-2020). 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 2020, 36 soil health projects in 18 countries benefited a total of 2.2 million hectares of farmland – a 34% decrease compared to 2019. As in previous years, Latin America accounted for about 80% 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 2020, 57 projects in 25 countries benefited 1.7 million hectares of farmland – a 7% decrease compared to 2019. North America accounted for 83% of the total hectares benefited by biodiversity measures thanks to the continued growth of the region's Sustainable Solutions projects. Other regions, however, have seen decreases driven by a refocus of efforts toward soil health or due to COVID-19 restrictions.

Description

Other, please specify (Carbon benefit potential on farmland)

Metric value

1955000

Metric numerator

Tonnes CO2e

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

<Not Applicable>

Please explain

This is a new indicator – comparison to previous year is thus not possible. In our new 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 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 2020, the carbon benefit potential on farmland was 1,955k tonnes CO2e. About 60% of the carbon benefit potential comes from agronomic practices such as crop rotation and soil cover. These practices increase yields and generate higher inputs of carbon residue leading to increased soil carbon storage.

Description

Waste

Metric value

524

Metric numerator

Grams of hazardous and non-hazardous waste

Metric denominator (intensity metric only)

\$sales

% change from previous year**Direction of change**

<Not Applicable>

Please explain

This is a new indicator – comparison to previous year is thus not possible. 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 2020, we introduced new performance indicators to measure waste generation in our supply chain in alignment with our waste intensity reduction target, which covers both our own operations and the supply chain.

Description

Energy usage

Metric value

7979

Metric numerator

TJ

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

10

Direction of change

Decreased

Please explain

In 2020, our performance across many environmental areas was mainly driven by changes in our active ingredient operations and reduced operations due to COVID-related issues. Absolute energy consumption decreased by 10% mainly due to a decrease in production at the Nantong (China) and Kaisten (Switzerland) sites, an extended outage at our St. Gabriel (USA) plant and the closure of the Greens Bayou Biosciences (USA) facility.

C-CH9.3a

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

Output product

Specialty chemicals

Production (metric tons)

153391

Capacity (metric tons)

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

3.6

Electricity intensity (MWh per metric ton of product)

2

Steam intensity (MWh per metric ton of product)

2.1

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	

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 determination 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 nematicide 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 ESG Report 2020.pdf

Page/ section reference

PwC's Independent Assurance Report is on pages 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including Scope 1, 2 and 3 GHG emissions reported on page 77.

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 ESG Report 2020.pdf

Page/ section reference

PwC's Independent Assurance Report is on pages 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including Scope 1, 2 and 3 GHG emissions reported on page 77.

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 (upstream & downstream)

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Syngenta ESG Report 2020.pdf

Page/section reference

PwC's Independent Assurance Report is on pages 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including Scope 1, 2 and 3 GHG emissions reported on page 77.

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 2020. 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 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including Scope 1, 2 and 3 GHG emissions, and the related intensity value reported on page 77. Syngenta ESG Report 2020.pdf
C4. Targets and performance	Year on year emissions intensity figure	ISAE 3000	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 2020. 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 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including Scope 1, 2 and 3 GHG emissions, and the related intensity value reported on page 77. Syngenta ESG Report 2020.pdf
C9. Additional metrics	Energy consumption	ISAE 3000	We report "energy consumption" (see answer to question C9.1) in our ESG Report 2020. 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 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including "energy consumption" on page 77. Syngenta ESG Report 2020.pdf
C9. Additional metrics	Other, please specify (Land use)	ISAE 3000	We report "hectares of farmland benefited by soil conservation and biodiversity enhancement measures" (see answer to question C9.1) in our ESG Report 2020. 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 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including "hectares of farmland benefited by soil conservation and biodiversity enhancement measures" on page 77. Syngenta ESG Report 2020.pdf
C9. Additional metrics	Other, please specify (Carbon benefit potential)	ISAE 3000	We report "carbon benefit potential on farmland" (see answer to question C9.1) in our ESG Report 2020. 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 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including "carbon benefit potential on farmland" on page 77. Syngenta ESG Report 2020.pdf
C9. Additional metrics	Other, please specify (Waste)	ISAE 3000	We report "total waste intensity" (see answer to question C9.1) in our ESG Report 2020. 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 81-82 of our ESG Report 2020 attached. As outlined in the assurance report, assurance was conducted on the information presented in the "Non-financial performance summary" on pages 77-80, including "total waste intensity" on page 78. Syngenta ESG Report 2020.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

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

2

% of Scope 2 emissions covered by the ETS

6

Period start date

January 1 2020

Period end date

December 31 2020

Allowances allocated

15751

Allowances purchased

2000

Verified Scope 1 emissions in metric tons CO2e

3163

Verified Scope 2 emissions in metric tons CO2e

21524

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 2020

Period end date

December 31 2020

% of total Scope 1 emissions covered by tax

2

Total cost of tax paid

539264

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. In 2020 the site purchased 2,000 emission rights.

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
- Yes, other partners in the value chain

C12.1a

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

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

0.01

% total procurement spend (direct and indirect)

17.95

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

29.14

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: Subsequently, in 2020, we engaged with 48 companies representing around 2,320,925kt of CO2 emissions (29.14% of our Scope 3 footprint) to request information on carbon targets and measures, and to obtain data on 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. To date, 31 companies have responded representing 1,704,348kt of CO2 emissions (23.45% of our Scope 3 footprint). Another category, which we heavily engage with and request carbon data from, is our logistics providers. They represent 590,063kt of CO2 emissions (8.12% of our Scope 3 footprint). After chemical and seeds suppliers, this is the next largest contributing category to our Scope 3 emissions. We focus our engagement on our 13 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 13 providers representing 413,044kt of CO2 emissions (5.68% of our Scope 3 footprint) report to us following GLEC guidelines.

Impact of engagement, including measures of success

MEASURES OF SUCCESS: For our chemical supply chain, our procurement teams have a short-term target to obtain primary data from suppliers representing 50% of our chemical carbon footprint by the end of 2021. The data enables us to understand the maturity of our suppliers and assess appropriate actions to accelerate their journey. We have in-depth discussions with more mature suppliers to: a) Validate data quality and enable comparable data to inform sourcing decisions; b) Encourage and incentivize them to set more ambitious reduction targets; c) Identify potential carbon reduction opportunities, for example by switching to a bio-based feedstock rather than oil derivatives or moving upstream supply chains to RSPO (Round Table on Sustainable Palm Oil) certified palm (we are currently evaluating 37 opportunities to switch to more sustainable feedstock which would reduce the carbon footprint of selected products we purchase by as much as 85%), and by changing the packaging size of received goods to minimize container shipments. With our less mature suppliers, we have identified the following focus areas: a) Ensure they understand the reasons/drivers for change; b) Improve the accuracy of the carbon data they provide us with by supporting them on how to calculate product-level life cycle analysis; c) Identify areas of improvement and solutions that could enable a step change in their carbon footprint (e.g., initiatives to drive improvement in energy efficiency, solutions that could help accelerate transition to low-carbon electricity/heat generation); d) Ask for data they can more easily provide (such as energy data) to get insights into priority improvement areas and solution fit. IMPACT: Our objective with our logistics providers is to reduce emissions by 5% each year and have 90% of our footprint based on GLEC data. We establish roadmaps with each of our providers and use the data we receive to identify reduction opportunities together 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 1,225 tons of CO2 emissions per year. Further, for a key product in the USA, we were able to reduce emissions by 90 metric tons of CO2 per year by replacing road transportation with rail.

Comment

We also require our suppliers to undergo regular sustainability assessments and audits to gauge the measures they are taking to address their CO2 footprints, 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 those gaps. In 2020, 95% of our chemical suppliers had a valid sustainability assessment or audit in place. 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.

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

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

% of customers by number

20

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

0

Portfolio coverage (total or outstanding)

<Not Applicable>

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 2020, we trained 4.7 million smallholder farmers, which we estimate represent about 20% of all 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 2020, we trained 4.7 million smallholders. Asia Pacific and China accounted for 90% of smallholders trained. Compared to 2019, we observed a 24% decrease in the number of smallholders trained. All regions except China contributed to this decrease, mostly triggered by COVID-19 restrictions. This decrease was greatly offset by innovative training approaches such as online training conducted in China, which reached more than 2 million people. IMPACT: 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 such as VIRTAKO® insecticide, 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 2020, we expanded our collaboration with the Solidaridad Network, an NGO that brings together supply chain players to make production models more sustainable. Together, we are working to develop and implement sustainable technologies and business models for smallholders. Our partnership will help project participants access markets, financial solutions, and high-quality inputs, including seeds, crop protection solutions and advanced digital tools.

C12.1d

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

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 initiatives 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.

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.

PRIORITIZATION: 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); and 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 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, we are designing projects with Solidaridad in Africa and China to promote good agricultural practices, reduce the environmental footprint of smallholders, and improve growers' livelihood.

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

EXAMPLE 1: In Vietnam, we are working to promote climate change resilience for coffee plantations with three value chain partners: Louis Dreyfus Company, Jacobs Douwe Egberts and IDH The Sustainable Trade Initiative. Using 24 demonstration plots as well as direct action on farms, the project aims to develop and promote sustainable landscapes that reduce soil degradation, combat deforestation, conserve irrigation water and improve climate change resilience. We have trained up to 2,500 farmers and agronomists on sustainability issues, eliminating overuse and unsafe use of pesticides. We are working with local authorities to develop a model that can be scaled up further. The second phase of the partnership was launched at the end of 2019, and it extends the model into three more highlands provinces, which should benefit a total of 3,000 farmers by 2021 (~4,800 hectares).

EXAMPLE 2: Syngenta is a member of the Cool Farm Alliance (CFA) and Field to Market. 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 Field to Market's sustainability metrics into our farm management software Land.db in the USA are used to engage with farmers. These results are also used to engage with input retailers and distributors, food value chain partners and other commercial stakeholders to raise awareness, benchmark performance and inform decision making. Data confidentiality, auditability and transparency are leading principles in our farmer-focused, data-driven GHG initiatives and fundamental to building trust with our partners and stakeholders.

Since 2018, Syngenta has chaired the CFA Technical Development and Operations Committee and has been a member of the Executive Committee, helping to streamline the CFT product development in line with CFA member needs. We also participate in the Technology Partners Working Group to help connect the CFT to other systems and are helping to review and develop the way CFA member data will support improvements of CFT calculations.

C12.3

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

Direct engagement with policy makers
Trade associations
Funding research organizations
Other

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Adaptation or resilience	Support	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.	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.
Adaptation or resilience	Support	Syngenta participates in the World Economic Forum's CEO Climate Leaders Alliance. The alliance is a global network of CEOs that aims to catalyze action and initiatives from companies toward delivering concrete climate solutions in their practices, operations and policies. In particular, it aims to: - Raise climate ambition ahead of the UNFCCC COP 26 in Glasgow in 2021 - Advance the leadership commitment and readiness of the alliance on the net-zero challenge - Set the policy agenda and define policy asks to catalyze the potential of agriculture to mitigate climate change impacts Within the alliance, we are co-leading the Food & Agri CEO Action Group, which aims to catalyze actions for COP 26 and build topic-specific advocacy and dialogue with relevant policymakers on food and agriculture.	We advocate for bold action to move the world toward a low-carbon and climate-resilient economy. Syngenta's CEO is a member of the World Economic Forum's CEO Climate Leaders Alliance.
Adaptation or resilience	Support	Syngenta co-leads the World Business Council for Sustainable Development's (WBCSD) Nature Action Agenda. The project aims to develop guidance, contribute to global targets and frameworks, and drive collective business action toward Net Zero Nature Loss.	We are co-leading this group to build collective business advocacy, especially on nature-based solutions, for the UNFCCC COP26, the UN Convention on Biological Diversity COP15 and the Food Systems Summit in 2021.
Adaptation or resilience	Support	Syngenta has been the private-sector partner of the UN Convention to Combat Desertification (UNCCD) for the past seven 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; 60 countries have set land degradation neutrality targets and 45 more have agreed to.	Syngenta supports policies that advocate for natural climate solutions that can deliver large-scale emission reductions cost-effectively. Also, we support the UNCCD in helping its member nations adopt SDG 15.3 (land degradation neutrality target).
Adaptation or resilience	Support	Syngenta is a member of the WEF CEO Action Group for the European Green Deal. Launched in 2020, the group seeks to mobilize business to step up its commitments toward achieving the Green Deal and the EU GHG reduction targets for 2030 in order to drive a clean and inclusive economic recovery on the path toward climate neutrality in 2050.	We advocate for policies that promote the contribution of agribusiness to implementing the European Green Deal.

C12.3b

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

Yes

C12.3c

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

Trade association

CropLife International

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

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.

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

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. Syngenta's CEO is a member of CLI's Board of Directors.

Trade association

International Seed Federation

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

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).

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

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.

C12.3d

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

Yes

C12.3e

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

We work with leading global organizations to bring our voice to relevant arenas on sustainable agriculture and climate change. Among our partners are the World Business Council for Sustainable Development (WBCSD), the Global Alliance for Climate Smart Agriculture (GACSA), The Nature Conservancy (TNC) and the World Economic Forum (WEF).

Syngenta is a member of GACSA's Strategic Committee and Knowledge Action Group, working with other industry bodies and NGOs to promote research and development into technologies, practices, and policy approaches for climate-smart agriculture.

Our "Innovation for Nature" collaboration with TNC directly carries out projects to improve resilience and adaptation to climate change, and advocates for science-based approaches to agriculture and climate change policy. As an example, Syngenta and TNC are working in the peri-urban environments of Nairobi in Kenya to improve community water resources for off-season irrigation, thereby helping to prevent soil erosion and improve local resilience to drought and rainfall variability.

In 2020, we expanded our collaboration with the Solidaridad Network, an NGO that brings together supply chain players to make production models more sustainable. Together, we are working to develop and implement sustainable technologies and business models for smallholders. Our partnership will help project participants access markets, financial solutions, and high-quality inputs, including seeds, crop protection solutions and advanced digital tools.

In addition, Syngenta engages with the Committee on World Food Security (CFS) through the Private Sector Mechanism, led by the Inter-Agri Food Network (IAFN). We aim to connect and align with experts, policy makers, value chain partners and other stakeholders on key issues concerning food and nutritional security. We are also engaging with relevant stakeholders at CFS during events including UNFCCC COPs and the Food Systems Summit in 2021.

Concerning CFS specifically, we advocate for agri-businesses to tackle food and nutritional security in line with the SDGs, especially SDG 2 (Zero Hunger). We also help bring agri-businesses' voice to the CFS, particularly on policy topics such as Codex Alimentarius, Agroecology, climate change, youth agri-entrepreneurship, etc.

We have also expressed our support to the recommendations of the industry-led Task Force on Climate-related Financial Disclosure (TCFD), convened by the Financial Stability Board. The TCFD established recommendations for voluntary climate-related financial disclosures to help financial markets better understand the material climate-related risks and opportunities to which companies are exposed, and how companies oversee and manage them. Syngenta supports the recommendations of the TCFD. In 2020, we conducted scenario analysis to better understand climate risks and opportunities – and financial impacts – that could affect our business in 2030.

C12.3f

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

We coordinate and channel all our global policy engagements on climate change, directly and indirectly, through our global Business Sustainability function to ensure consistency of our engagements with our climate change strategy across geographies and company functions. The Business 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 Business 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 role of CSO and the Business Sustainability function bring a sharper focus to our sustainability work and support our commitment to work more closely and transparently with policy makers, governments, NGOs and society.

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 ESG Report 2020.pdf

Page/Section reference

ESG Report 2020, pages as follows: * Page 10: The Good Growth Plan outlining our commitment to strive for carbon-neutral agriculture * Page 26-30: Disclosures on "Carbon capture and mitigation in agriculture" and related "Soil health" and "Biodiversity" * Page 38: Disclosures on "Greenhouse gas emissions" * Page 77: TCFD's recommended disclosures, including climate scenario analysis

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

This report is also available on our website: <https://www.syngenta.com/en/sustainability/reporting-sustainability>

Publication

In mainstream reports

Status

Complete

Attach the document

Syngenta-AG-2020-Financial-Report.pdf

Page/Section reference

Financial Report 2020, page: 2 (PDF, page 5)

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

Syngenta 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. 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 further comments

C15.1

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

	Job title	Corresponding job category
Row 1	CEO	Chief Executive Officer (CEO)

SC. Supply chain module

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