

## C0. Introduction

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### C0.1

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

Corbion is a leading food ingredients and biobased chemicals company. We market our products through a worldwide network of sales offices and distributors, and have a global supply chain with manufacturing facilities in the US, Thailand, Brazil, Mexico, the Netherlands, and Spain. Our innovation centers are located across the globe and our headquarter is based in the Netherlands

In 2022, Corbion generated annual sales of € 1,457.9 million and had a workforce of 2,601 FTEs. Corbion is listed on Euronext Amsterdam.

Our business and reporting structure now comprises four lines of business each with a different set of characteristics: Sustainable Food Solutions, Lactic Acid & Specialties, Algae Ingredients and Incubator.

Sustainable Food Solutions comprises three segments: Preservation Solutions, Functional Systems, and Single Ingredients.

In Preservation Solutions, we brought to the bakery industry our third-party certified authentic natural mold inhibition technology, delivering customer value by extending product freshness, reducing food waste, and enhancing the consumer's sensory eating experience.

In Functional Systems, we leveraged our ability to rapidly adapt, combining applied science and technical

support to provide customers with novel blends that help them mitigate cost volatility, functionality challenges, and raw material scarcity.

The second Business Unit, Lactic Acid & Specialties, encompasses Biochemicals (lactic acid, salts, esters, and other specialties),

Biomaterials (polymers for medical and pharmaceutical applications), and TotalEnergies Corbion (our joint venture with TotalEnergies for the production and marketing of Luminy® PLA).

The third is Algae Ingredients business unit. It produces algae-based ingredients that deliver high levels of essential nutrients in human and animal diets, such as long-chain omega-3 fatty acids (omega-3).

An the last is our Incubator, where we develop early-stage initiatives, we work on five selected programs: Algae portfolio extension, Biopolymers, Natural preservation, Circular raw materials, and Net zero. These long-term platforms are all linked to one of the three business units and embedded in their innovation programs.

These business units are supported company-wide by globally managed R&D, operations, and business support functions.,

Our Advance 2025 strategy builds on Corbion's fundamentals and strengths by bringing further focus to the business portfolio in alignment with global market trends. This will be achieved by increased investments in key growth areas such as natural food preservation, algae-based ingredients, lactic acid derivatives, and natural polymers. Given our purpose, "preserving what matters: food and food production, health, and the planet," sustainability is at the heart of what we do, and hence we are very well positioned to benefit from the worldwide drive for more sustainable products and solutions. We has aligned our Advance 2025 strategy with the United Nations Sustainable Development Goals (UN SDGs), specifically with SDG 2 Zero hunger, SDG 3 Good health and well-being, and SDG 12 Responsible consumption and production. These are the goals where we believe we can create the most significant impact, given our footprint, the nature of our business, and the environment in which we operate.

More information can be found at [www.corbion.com](http://www.corbion.com) and in our Annual Report.

### C0.2

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

**Reporting year**

**Start date**

January 1 2022

**End date**

December 31 2022

**Indicate if you are providing emissions data for past reporting years**

No

**Select the number of past reporting years you will be providing Scope 1 emissions data for**

<Not Applicable>

**Select the number of past reporting years you will be providing Scope 2 emissions data for**

<Not Applicable>

**Select the number of past reporting years you will be providing Scope 3 emissions data for**

<Not Applicable>

C0.3

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

Brazil  
Mexico  
Netherlands  
Spain  
Thailand  
United States of America

C0.4

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

EUR

C0.5

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

Operational control

C-AC0.6/C-FB0.6/C-PF0.6

(C-AC0.6/C-FB0.6/C-PF0.6) Are emissions from agricultural/forestry, processing/manufacturing, distribution activities or emissions from the consumption of your products – whether in your direct operations or in other parts of your value chain – relevant to your current CDP climate change disclosure?

	Relevance
Agriculture/Forestry	Elsewhere in the value chain only [Agriculture/Forestry/processing/manufacturing/Distribution only]
Processing/Manufacturing	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Distribution	Elsewhere in the value chain only [Agriculture/Forestry/processing/manufacturing/Distribution only]
Consumption	No

C-AC0.6b/C-FB0.6b/C-PF0.6b

(C-AC0.6b/C-FB0.6b/C-PF0.6b) Why are emissions from agricultural/forestry activities undertaken on your own land not relevant to your current CDP climate change disclosure?

**Row 1**

**Primary reason**

Do not own/manage land

**Please explain**

Corbion does not perform agricultural/forestry activities and does not own or manage agricultural land, therefore these emissions are not relevant to our direct operations.

C-AC0.6f/C-FB0.6f/C-PF0.6f

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**(C-AC0.6f/C-FB0.6f/C-PF0.6f) Why are emissions from distribution activities within your direct operations not relevant to your current CDP climate change disclosure?**

**Row 1**

**Primary reason**

Evaluated but judged to be unimportant

**Please explain**

This is not in Corbion's control, as Corbion does not own any vehicles. There are no emissions in direct operations from distribution.

C-AC0.6g/C-FB0.6g/C-PF0.6g

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**(C-AC0.6g/C-FB0.6g/C-PF0.6g) Why are emissions from the consumption of your products not relevant to your current CDP climate change disclosure?**

**Row 1**

**Primary reason**

Other, please specify (Outside the scope of our organization)

**Please explain**

Corbion's products are intermediates used in many downstream applications, primarily in food but also in pharma, home and personal care, electronics, agrochemicals, feed, etc. They represent a non-material element in the final product (usage level around 1%). Corbion's products do not directly consume energy at customer level.

C-AC0.7/C-FB0.7/C-PF0.7

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(C-AC0.7/C-FB0.7/C-PF0.7) Which agricultural commodity(ies) that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

**Agricultural commodity**

Sugar

**% of revenue dependent on this agricultural commodity**

40-60%

**Produced or sourced**

Sourced

**Please explain**

The largest percentage of our revenue is related to sugar. Sugar is the main agricultural raw material for lactic acid production in Thailand, Brazil, the Netherlands and Spain. To calculate this figure, we looked at the % of revenues from all products that are derived from sugar from sugar cane or sugar beet (dextrose from maize is reported separately). A product can be derived from more than one key agricultural commodity, meaning that the cumulative percentages of revenue dependent on any of the four commodities can be higher than 100%.

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**Agricultural commodity**

Soy

**% of revenue dependent on this agricultural commodity**

10-20%

**Produced or sourced**

Sourced

**Please explain**

Soy oil is the main raw agricultural material for the production of emulsifiers in the US. It is also used in the production of our functional blends. To calculate this figure, we looked at the % of revenues from all products that are derived from, contain, or could contain soy. A product can contain more than one key agricultural commodity, meaning that the cumulative percentages of revenue dependent on any of the four commodities can be higher than 100%.

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**Agricultural commodity**

Palm Oil

**% of revenue dependent on this agricultural commodity**

Less than 10%

**Produced or sourced**

Sourced

**Please explain**

We have categorized our products into palm and non-palm derived. Palm oil and palm derivatives are used in the production of our emulsifiers and functional blends. To calculate this figure, we looked at the % of revenues from all products that are derived from, contain, or could contain palm oil or palm oil derivatives. A product can be derived from more than one key agricultural commodity, meaning that the cumulative percentages of revenue dependent on any of the four commodities can be higher than 100%.

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**Agricultural commodity**

Other, please specify (Maize)

**% of revenue dependent on this agricultural commodity**

10-20%

**Produced or sourced**

Sourced

**Please explain**

Dextrose obtained from corn (maize) is a raw material for the production of lactic acid in USA. Corn and products containing corn are also used in the production of our emulsifiers and functional blends. To calculate this figure, we looked at the % of revenues from all products that are derived from, contain, or could contain corn or corn derivatives. A product can contain more than one key agricultural commodity, meaning that the cumulative percentages of revenue dependent on any of the four commodities can be higher than 100%.

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## 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

Specialty organic chemicals

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## C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	CRBN
Yes, an ISIN code	ISIN NL 0010583399

**C1. Governance**

**C1.1**

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

Yes

**C1.1a**

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

Position of individual or committee	Responsibilities for climate-related issues
Chief Executive Officer (CEO)	<p>Under the chairmanship of the Chief Executive Officer, the members of the Executive Committee have the overall responsibility for sustainability and climate -related issues and decide on the strategy and targets. The Executive Committee shares responsibility for developing objectives and the strategy, determining the risk profile, and implementing strategic and operational policies. The Board of Management is entrusted with the management of the company. Since a couple of years, certain key officers have been appointed to manage the company together with the Board of Management. The members of the Board of Management and these key officers together constitute the Executive Committee.</p> <p>The CEO is also head of the Climate Change Steering Committee and decided in 2022 to increase the ambition level of Corbion's emission reduction targets which have been validated in 2022 by the Science Based Targets initiative (SBTi). Our new reduction goals align with the ambition to limit average global temperature rise to 1.5°C.</p> <p>The CEO is given these responsibilities because sustainability is key to Corbion's strategy and therefore responsibilities are integrated in the highest management level.</p>

**C1.1b**

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain

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 – all meetings	<ul style="list-style-type: none"> <li>Reviewing and guiding annual budgets</li> <li>Overseeing major capital expenditures</li> <li>Overseeing acquisitions, mergers, and divestitures</li> <li>Reviewing innovation/R&amp;D priorities</li> <li>Overseeing and guiding employee incentives</li> <li>Reviewing and guiding strategy</li> <li>Overseeing and guiding the development of a transition plan</li> <li>Monitoring the implementation of a transition plan</li> <li>Overseeing and guiding scenario analysis</li> <li>Overseeing the setting of corporate targets</li> <li>Monitoring progress towards corporate targets</li> <li>Overseeing and guiding public policy engagement</li> <li>Overseeing value chain engagement</li> <li>Reviewing and guiding the risk management process</li> </ul>	<Not Applicable>	<p>Annually, there are two formal meetings with the full Executive Committee (ExCo), where sustainability is discussed. All formal ExCo meetings cover climate-related topics. The Climate change steering committee (lead by the CEO) meets quarterly to review and guide Corbion's climate strategy, including our climate transition plan and the setting of corporate targets. This committee also monitors implementation of the plan and progress towards achieving our targets. In 2022, the CEO and ExCo decided to increase the ambition level of Corbion's emission reduction targets after extensive discussions in the Steering committee. Corbion's new emission reduction targets, which have been validated in 2022 by the Science Based Targets initiative (SBTi), are 1.5°C-aligned. During each meeting of the Steering committee, the committee is updated on the actual GHG emissions compared to our plan, and on the progress of the various GHG reduction initiatives in our Net zero innovation and Capex portfolio. In case of delays or issues that may impact the achievement of our targets, the Steering Committee decides on actions that need to be taken to mitigate these impacts.</p> <p>When deciding on major capital expenditures, divestments/aquisitions and innovation priorities, the impact on our GHG emissions are taken into account. Climate change adaptation and mitigation risks are included in the risk management process.</p>

### C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	<ul style="list-style-type: none"> <li>Sufficient knowledge of the processes driving climate change</li> <li>Sufficient knowledge of the technologies needed for decarbonization of the production process</li> <li>Sufficient knowledge of financial and operational risks and opportunities related to climate change</li> </ul>	<Not Applicable>	<Not Applicable>

### C1.2

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

**Position or committee**

Chief Executive Officer (CEO)

**Climate-related responsibilities of this position**

- Managing annual budgets for climate mitigation activities
- Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
- Managing climate-related acquisitions, mergers, and divestitures
- Providing climate-related employee incentives
- Developing a climate transition plan
- Implementing a climate transition plan
- Integrating climate-related issues into the strategy
- Conducting climate-related scenario analysis
- Setting climate-related corporate targets
- Monitoring progress against climate-related corporate targets
- Managing public policy engagement that may impact the climate
- Managing value chain engagement on climate-related issues
- Assessing climate-related risks and opportunities
- Managing climate-related risks and opportunities

**Coverage of responsibilities**

<Not Applicable>

**Reporting line**

Reports to the board directly

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

Quarterly

**Please explain**

Under the chairmanship of the Chief Executive Officer, the members of the Executive Committee have the overall responsibility for sustainability and climate -related issues and decide on the strategy and targets. The Executive Committee shares responsibility for developing objectives and the strategy, determining the risk profile, and implementing strategic and operational policies. The Board of Management is entrusted with the management of the company. Since a couple of years, certain key officers have been appointed to manage the company together with the Board of Management. The members of the Board of Management and these key officers together constitute the Executive Committee.

The CEO is also head of the Climate Change Steering Committee and decided in 2022 to increase the ambition level of Corbion's emission reduction targets which have been validated in 2022 by the Science Based Targets initiative (SBTi). Our new reduction goals align with the ambition to limit average global temperature rise to 1.5°C.

The CEO is given these responsibilities because sustainability is key to Corbion's strategy and therefore responsibilities are integrated in the highest management level.

**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	Since 2020, our company has integrated sustainability into our remuneration plans and incentive structures. Our Short-Term Incentive Plan (STIP) and Long-Term Incentive Plan (LTIP) now include sustainability targets, with a focus on progress towards our Science Based Target. These targets apply not only to the Board of Management but also to the Executive Committee and employees entitled to a bonus. We have a dedicated Remuneration Committee that reviews remuneration, assesses target achievements, sets new targets, and plans remuneration policy reviews. We actively seek input from the Board of Management on their own remuneration, and we review the remuneration levels of the Executive Committee. Our goal is to drive a culture of sustainability throughout the organization and continuously improve our remuneration framework to support a sustainable future

**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**

Board/Executive board

**Type of incentive**

Monetary reward

**Incentive(s)**

Bonus - % of salary

**Performance indicator(s)**

Achievement of climate transition plan KPI

Achievement of a climate-related target

**Incentive plan(s) this incentive is linked to**

Both Short-Term and Long-Term Incentive Plan

**Further details of incentive(s)**

All senior managers have a bonus linked to a Short and/or Long Term Incentive Plan. Since 2020, both the Short and Long Term Incentive Plan includes Sustainability targets. One of these targets is the progress towards achieving our SBT.

About Short Term incentive Plan: The performance measures are organic net sales growth, adjusted EBITDA (both as defined in the remuneration policy), and sustainability. Organic net sales growth and adjusted EBITDA each account for a weight of 40%. The remaining 20% is determined by sustainability targets which are in line with Corbion's focus areas. These focus areas are safety performance (Total Recordable Injury Rate) and sustainability performance (verified responsibly sourced cane sugar, reduction of Scope I and II emissions and Social Value Assessment for products contributing to preserving food and/or health)

About Long-Term Incentive Plan: Members of the Board of Management are eligible for a long-term incentive. The LTIP is aimed at longterm value creation in line with the interests of all stakeholders of Corbion, measured over a performance period of three calendar years. The long-term incentive is paid out in Corbion shares which are subject to a shareholding requirement. Each year, members of the Board of Management are entitled to a conditional grant of shares under the LTIP arrangement. The value of the conditional grant is 120% of base salary for the CEO, and 100% for the CFO. The performance measures are relative total shareholder return (TSR) (30%), organic net sales growth (25%), adjusted EBITDA (20%), sustainability (12.5%), and return on capital employed (ROCE) (12.5%).

**Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan**

Part of the pay out of the Short-Term Incentive Plan (STIP) and Long-Term Incentive Plan (LTIP) is based on the achievement of a climate-related reduction target. The Sustainability Committee of Corbion's supervisory board approves the targets for both the STIP and the LTIP, based on a proposal by the Sustainability Steering Committee (which is shared by the CEO). The targets are based on the most recent GHG emissions forecast and our climate transition plan, to drive progress towards the achievement of our target. Having these incentives ensures that the ExCo and all employees entitled to a bonus take the impact on Corbion's GHG emission into account in their decision making.

**C2. Risks and opportunities**

**C2.1**

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

Yes

**C2.1a**

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

	From (years)	To (years)	Comment
Short-term	0	1	Corbion's short term operational and financial budget focuses on 0-1 years period.
Medium-term	1	5	Corbion's medium term planning for assets/capital planning and for strategic innovation focuses on 1-5 years.
Long-term	5	20	Corbion's timeframe for long term planning is aligned with the transition to a low carbon economy. Corbion has joined the Science Based Targets initiative and has defined carbon footprint targets in line with the Paris agreement (1.5C, validated) for 2030 and has committed to achieve net zero by 2050 (still to be validated by SBTi)

**C2.1b**



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

*A definition of 'substantive financial or strategic impact' when identifying or assessing climate-related risks*

*Part of the control environment is the definition by the Executive Committee of the risk appetite of the company. Our risk appetite is the amount of risk we are willing to accept to achieve our strategic goals. This requires adequate understanding and awareness of potential risks and their magnitude within the company. The level of risk appetite is set by the Executive Committee. Corbion utilizes a 6 category impact scale for risks. Category 5&6 (major and catastrophic) are considered to be substantive.*

*A description of the quantifiable indicator(s) used to define substantive financial or strategic impact*

*As a financial metric, any EBITDA impact >15M euro is considered to be substantial, or (estimated) direct or indirect losses are larger than 50% of the risk appetite or a(n estimated) share price decline of >5%. Our risk appetite for strategic risks can be summarized as follows: innovations, innovation platform initiatives, mergers and acquisitions, joint ventures etc.: balancing risk and rewards to achieve our strategic growth targets. Climate-related risks are part of our risk assessment and assessed in our formal risk identification process.*

**C2.2**

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## (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

Annually

### Time horizon(s) covered

Short-term  
Medium-term  
Long-term

### Description of process

Corbion's multi-disciplinary company-wide risk identification process is based on annual risk workshops and a mid-year update for significant changes with the executive+ committee in order to identify critical risks for all our business activities looking at the short, medium and long term risks. The short term is focusing on 0-1 year and operational risks, medium term, 1-5 years, focusing on asset planning and strategic innovation) and the long term, 5-20 years, focusing on low carbon economy risks. As part of this process, interviews are held and a selection of (15) risks are voted on. To provide specific input regarding Climate related risks and opportunities to the company-wide risk identification process, climate workshops are held with the leadership teams (including VP Finance, VP Operations, VP Business Development, Sr Innovation Director, VP Sustainability and CSSO) to review and rate risks and opportunities for relevant future scenarios. In these annual workshops, the impact and likelihood of potentially relevant risks and opportunities are evaluated. Climate-related opportunities that are aligned with Corbion's ambition are prioritized based on the business case, financial reward, alignment with our capabilities and technical feasibility.

This year we have included climate risk assessment as part of the annual business continuity assessment performed by site management for the first time. Hereby bringing the assessment of climate risks also to the site level. We have used Climate AI, a climate risk analysis tool to assess the impact of different climate hazards at our sites. We have included climate 3 scenario's in the tool: high emissions (RCP8.5), middle of the road (RCP4.5) and low emissions (RCP2.6) and looked at the effect of the climate hazards in the short, medium and long term.

A case study of how the described process is applied to Physical risks and/or opportunities:

An example of a climate related risk, are extreme weather events which may result in a significant period of plant shutdown or disruption and hence in non-(timely)-delivery of our products to internal and/or external customers, ultimately leading to adverse financial and reputation consequences. Another example is the impact of climate change on the availability of agriculture-derived raw materials such as sugar and soy. This aspect is included in our Security of supply assessment which is done on an annual basis. For high risk raw materials, we investigate the policies of our suppliers and develop alternative suppliers to mitigate the risk.

Climate-related risks are managed in the same way as other risks. Corbion has defined a governance model that identifies clear reporting and accountability structures in line with the Dutch Corporate Governance Code. The Executive Committee is responsible for:

- identifying and analyzing the risks associated with Corbion's strategy and activities;
- establishing the risk appetite, as well as ensuring that mitigating measures are being put in place;
- the design, implementation, and operation of Corbion's internal risk management and control systems; and
- monitoring the operation of the internal risk management and control systems and assessing the design and effectiveness thereof on an annual basis.

The Board of Management discusses the effectiveness of the design and operation of the internal risk management and control systems with the Audit Committee and the Supervisory Board annually. For each significant risk, a risk owner is appointed, who will further determine the impacts of the risk and manage the root causes and mitigation actions. The progress in risk mitigation is discussed on an ongoing basis between business management and Board of Management.

Corbion applies the 3-lines-of-defence model for internal controls. The first line (line management) is responsible for the operational effectiveness of the internal control framework. The second line coordinates, advises, and monitors line management regarding their responsibilities for internal control. The third line is internal audit independently reviewing the control framework.

A case study of how the described process is applied to Transitional risks and/or opportunities:

An example of a climate-related transition risk is the implementation of CO2 taxes e.g. the EU ETS.. This risk is managed by including the forecasted ETS price in the business cases for Capital Expenditures and Innovation (R&D) projects. In countries without an active ETS or carbon tax system an internal CO2 price of 100 EUR/tCO2 is included in the sensitivity analysis business cases for Capital Expenditures and Innovation (R&D) projects. This financial impact is evaluated on an ongoing basis as projects are progressing. An example of a climate-related transitional opportunity is the application of our core technologies, the fermentation of bio-based acids and Algae oils, to develop new ingredients, biochemicals and bio-plastics to enable the transition to a bio-based economy.

Climate-related opportunities are managed using our Innovation stage gate process. If an opportunity is identified, a project is initiated and this project is steered via a stage-gate approach, where the project needs to deliver specific milestones per stage, which are reviewed by a council at the stage-gate, and a go no-go decision is taken to continue to the next stage, or to recycle or kill the project. Part of the input is an Life Cycle Assessment where the impact of new opportunities on amongst others CO2 emissions is calculated, so the impact is always taken into account into our decision making. This assessment is done throughout the year as projects are progressing. as projects are progressing.

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## C2.2a

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

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	For compliance related risks, our risk appetite is low, we aim for full compliance with legal and regulatory reporting. Current regulations related to climate-risks are monitored globally, but currently have the most impact in Europe with the EU ETS and Dutch CO2-tax. Although these regulations currently don't pose a significant risk to Corbion they are always included in the assessment.
Emerging regulation	Relevant, always included	Emerging climate-related regulation are always included. In Europe, the benchmarks and reduction targets for the Emission trading system are being reviewed (e.g. Fit for 55 package and CBAM) and in the US the new Biden administration is also putting a lot of effort into fighting the climate crisis. In our risk assessment we evaluate the financial impact of these emerging regulations by for example assuming a global CO2 tax of 100-150 euro/ton.
Technology	Relevant, always included	As a biochemical company we always aim to be one step ahead of the competition. Decarbonization and the shift to a circular and biobased economy are primarily opportunities to Corbion. However, if more effective and/or cheaper technologies are developed by competitors this can be a significant risk to our business.
Legal	Relevant, always included	We always aim to be compliant with all regulatory and legal requirements. The risk of non-compliance is therefore always relevant and always included in our risk assessments. This is no different for climate-related regulatory requirements.
Market	Relevant, always included	Transition events such as implementation of (local) carbon pricing, changing demand for e.g. meat and biobased plastics, and stakeholder pressure to reduce GHG emissions in line with the 1.5 pathway can cause climate-related shifts in supply and demand for Corbion's products. These events are evaluated in our risk and opportunity assessment.
Reputation	Relevant, always included	Many of Corbion's opportunities are related to sustainability one way or another. This means that our reputation is very important for our ability to effectively capitalize on these opportunities. Any damage to our reputation, especially in relation to sustainability and climate change, can therefore be considered a risk.
Acute physical	Relevant, always included	Extreme weather events may result in a significant period of plant shutdown or disruption and hence in non-(timely)-delivery of our products to internal and/or external customers, ultimately leading to adverse financial and reputation consequences. Corbion's multi-disciplinary company-wide risk identification process is based on annual workshops with the executive+ committee in order to identify critical risks for all our business activities. As part of this process, interviews are held and a selection of (15) risks are voted on. For these identified risks, a risk owner is appointed, who further determines the impacts of the risk and manage the root causes and mitigation actions. The progress in risk mitigation is discussed on an ongoing basis between business management and board of management. Using scenario analysis we also monitor the likelihoods of potential acute physical risk events at our sites and in our supply chain.
Chronic physical	Relevant, always included	Chronic shifts in climate patterns may impact the availability of agriculture-derived raw materials. This aspect is included in our Security of supply assessment. For high risk raw materials, we investigate the policies of our suppliers and develop alternative suppliers to mitigate the risk. In our scenario analyses we always include potential chronic physical risk to our supply chain and operations.

**C2.3**

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

Yes

**C2.3a**

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

**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

Current regulation	Carbon pricing mechanisms
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**Primary potential financial impact**

Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

As part of the implementation of the Paris agreement, carbon pricing mechanisms have been implemented or are under development. Especially our lactic acid sites use energy (all use steam, produced from natural gas, in down stream processing and also for the production of derivatives) and are thus affected by (potential) carbon pricing. Corbion operates 2 lactic acid sites in Europe, and also operates lactic acid sites in Brazil (Campos), Thailand (Rayong) and the US (Blair). In Europe our sites fall under the EU ETS system, Brazil and Thailand, have carbon pricing systems under consideration and also in the US a carbon pricing system could emerge in the medium term. Corbion is committed to SBTi 1,5C and has developed a roadmap to reduce our scope I and II emissions by 38% by 2030 and net zero by 2050. However we still have emissions by 2030 and so the implementation of carbon pricing systems outside of the EU would affect our cost price and thereby our EBITDA.

In the EU the EU ETS system is already implemented and thereby a reality rather than a risk, although the ETS price is uncertain as it is market and regulation driven. We have already seen the ETS price more than double over the past two years. In addition the amount of free allowances and implementation of CBAM are also uncertain factors which could affect cost price. We use EU ETS price scenarios and business growth scenarios to estimate the financial impact of carbon pricing. We also use an internal carbon price of 100 eur /ton CO2 as a shadow price in our investment business cases and carbon reduction CAPEX measures

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

2500000

**Potential financial impact figure – maximum (currency)**

8500000

**Explanation of financial impact figure**

The potential financial impact is calculated based on the risk of the implementation of a carbon pricing mechanism in countries outside of the EU; Brazil, Thailand and the US where carbon pricing systems are under consideration, as well as price and free allowance assumptions under the EU ETS system, where we operate two of our large sites (Gorinchem in the Netherlands and Montmelo in Spain).

For the minimum scenario we have taken into account our forecasted 2030 emissions calculated based on our estimated growth scenario and planned CO2 reduction measures in line with our CO2 reduction roadmap leading to 83ktCO2 emissions by 2030. At our European sites we forecast to have 15 ktCO2 emissions by 2030 (Gorinchem and Montmelo) and 68 ktCO2 emissions for our other sites; Brazil, Thailand and the US together. In the EU we have calculated with an expected EU ETS price of 125 EUR /tCO2 and 50% free allowances. In the other jurisdictions we have assumed the implementation of a carbon pricing system with a price of 50 EUR/tCO2 and 50% free allowances. Total impact of the carbon pricing in 2030 is 2,5mEUR. In the calculation we have included the scope II emissions related to the purchase of Steam.

For the maximum scenario we have assumed a price of 100 EUR / ton CO2 based on our internal shadow price for all our scope I and scope II steam emissions. As explained above, our forecasted 2030 emissions are 83kton. Therefore, the maximum potential financial impact is 8,3mEUR

**Cost of response to risk**

50000000

**Description of response and explanation of cost calculation**

Corbion is committed to reduce its GHG emissions in line with the Paris agreement, and this also mitigates the risk of increased costs due to carbon pricing. In October 2019, Corbion publicly committed to climate change action, making science based targets part of our standard business practice and tying our incentives program to those goals. We were the second Dutch chemical company with a SBTi-approved target, providing a benchmark and inspiration for our peers and partners to transition to a low-carbon economy. Since 2016, we have reduced our absolute Scope I & II emissions by 2.5% per year and, in 2021, we achieved a 27% reduction of our Scope I, II and III emissions per ton of product compared to 2016. This reduction is primarily driven by our increased use of renewable electricity, the implementation of energy savings projects, and product mix effects.

In 2022 we have updated our targets, which are now 1.5 degrees aligned (validated by SBTi). We committed to reduce our scope I and II carbon emissions by 38% in 2030.

To deliver on our targets, we have defined a roadmap including various GHG reduction initiatives. For our direct operations, this roadmap includes investment in energy efficiency projects, such as heat integration, optimization of processes towards lowest energy requirements and investing in more efficient equipment in case of end of life replacements. This year the internal Energy Platform has kicked off with the aim to facilitate the sharing of knowhow on energy reduction between the production sites and implement the best proven practices at all locations. Examples of specific operational projects from now until 2027 include: replacement of boilers by more efficient ones, installation of economizers, insulation improvements, improved fast detection of steam trap failure and installation of pre-heaters. . The long term roadmap (2028 and beyond) also includes new low carbon technologies (hydrogen/ e-boilers and electrification including heat pumps). Our R&D initiatives are mainly focused on technology development in relation to the energy transition. We have joined several consortia, including VoltaChem and the Dutch hydrogen consortium to develop burner technology for production processes

**Comment**

Based on the roadmap an investment plan for 2023-2030 has been developed. This capital plan includes 40 - 60 million of CAPEX in the coming 8 years, of which 10% is related to replacing "end of life" equipment with more efficient equipment, 20% to renewable heat 20% and 70% to heat integration and electrification. The plan defines over 50 specific projects for our Corbion manufacturing sites, for each of these projects a CAPEX estimation has been made as input to the plan . Projects are prioritized based on payback time and planned in alignment with other CAPEX projects, to make use of synergies and to ensure focus. With these projects we have built a roadmap to achieve our SBTi 1,5 degrees roadmap by 2030.

Next to the CAPEX we also have a project team in place working on developing these measures. The team consists of 15 FTE, representing annual costs of 2mEUR a year until 2030.

**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

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

Corbion has 13 sites across the world (the Netherlands, Spain, Thailand, Mexico, Brazil (3) and USA (6)). This year we have included a climate risk assessment as part of the business continuity planning performed at each site for the first time. We have used climate risk analysis tooling to predict the impact of climate change in the different climate scenario's per hazards such as storms, floods, intense precipitation and droughts. The sites have used these hazard forecasts to determine the impact and required actions. At this moment these action plans are being developed so a total mitigation value cannot be reported at this stage. Of course increased frequency of extreme weather could cause a disruption to our manufacturing & distribution network, either because of a direct impact on our own manufacturing sites, or through disruption of the supply of raw materials. As we have our operations spread across the world we can mitigate the impact by temporarily switching production. Still, we have already experienced some incidents over the last years. An example is the flooding of the Missouri river near to our facility in Blair, Nebraska, USA. With progressing climate change it is projected that the Missouri river will flood more often and to higher levels. The site itself is currently well protected by dikes, but the surrounding infrastructure can still flood and disrupt supply to and from the facility. Another example is our Tucker site were intense precipitation and storm has led to power outages in the past

where we are now conducting a study investigating a power conditioning system as a mitigation.

**Time horizon**

Long-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

9000000

**Potential financial impact figure – maximum (currency)**

11000000

**Explanation of financial impact figure**

Due to Corbion's global footprint, with manufacturing locations spread over the globe (Asia, Europe, North America and South America), using locally available renewable raw materials, with multiple suppliers for critical raw materials, Corbion has the possibility to mitigate supply chain disruption by increasing production at one of its other sites. The potential financial impact is estimated based on a worst case scenario with an assumed disruption of 1 month at our large lactic acid site in Thailand, assuming we would no longer be able to produce and not be able to mitigate this by increasing production at other sites and thus have lower revenues. With these assumptions, the financial impact on our net sales would be 9 – 11 mln euro calculated based on the monthly revenue range.

**Cost of response to risk**

0

**Description of response and explanation of cost calculation**

Corbion has a global footprint, with manufacturing locations spread over the globe (Asia, Europe, North America and South America). Supply chain disruptions at a single site can generally be managed by increasing production at one of our other manufacturing sites. We do not incur additional costs to manage this risk, these costs are part of our general operational costs (Supply and Operational planning, business continuity planning, insurance costs etc.). Costs for the protection of our manufacturing facility have already been incurred.

**Comment**

The financial impact figure is in case of a one-off event.

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**C2.4**

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**(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**

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

**Identifier**

Opp1

**Where in the value chain does the opportunity occur?**

Downstream

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

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

**Primary potential financial impact**

Increased revenues through access to new and emerging markets

**Company-specific description**

Increased revenues through access to new and emerging markets

Company-specific description

Current fish oil supply to the aquaculture sector is 700 kt pa which is highly unlikely to grow given natural limits on wild catch availability and potential negative impact of climate change on sea water temperature. The aquaculture sector is expected to grow by 4% annually in the foreseeable future, creating a fish oil deficit of some 400kt pa in 2030.

Corbion has a solution for this deficit by supplying an alternative algae-based solution (AlgaPrime DHA), made by fermenting cane sugar to replace and/or supplement fish oil. AlgaPrime DHA (Omega3) is produced in our large scale algae fermentation facility in Orindiuva, Brazil. Our main partner on the commercialization of the aquaculture feed is Biomar one of the four largest aquaculture feed producers in the world. In parallel, we are engaging with large food retailers and FMCG companies to create demand for this sustainable alternative for fish oil in the human nutrition segment.

Life cycle assessment shows that AlgaPrime DHA has a significantly lower carbon footprint compared to traditional fish oil. On this basis our AlgaePrime is EU taxonomy eligible for climate change mitigation.

Corbion became active in this business after acquisition of the Terravia assets in 2017, which included a large scale algae fermentation plant in Brazil. Since then we have steadily build up the AlgaPrime DHA business. Algae sales has grown from 13m in 2020 to 70m in 2022 and is expected to grow by a 25% annually up to 2025. In 2022 Corbion has realised EBITDA break-even with AlgaPrime and as of 2023 Algae Ingredients is a separate reporting business unit.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

High

**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)**

450000000

**Explanation of financial impact figure**

Looking at the growing aquaculture sector and the supply of natural omega 3 by fish oil being stagnant due to limited wild catch availability, the Algae omega 3 market is expected to grow from 0,5bn EUR in 2022 to 1,5 bn EUR in 2030. Major customer adoption already shows algae omega-3 becoming mainstream in aquaculture. As a market leader Corbion is well positioned to deliver the market, combining our unique R&D expertise and commercial skills to deliver affordable solutions at scale. We see an opportunity of a 20% to 30% market share leading to a revenue of 0,3bn to 0,45bn EUR in 2030, coming from 0,1 bn EUR in 2022

**Cost to realize opportunity**

50000000

**Strategy to realize opportunity and explanation of cost calculation**

Case study – description of Corbion activities, projects, products and/or services to realize the opportunity:

Corbion became active in the Algae omega 3 business after acquisition of the Terravia assets in 2017, which included a large scale algae fermentation plant in Brazil. Due to the growing demand, we have invested 15mEUR in extra fermentation capacity in the past years and the plant now operates at full capacity.

Corbion supplies to the largest aquaculture feed producers in the world. In parallel, we are engaging with large food retailers and FMCG companies to create demand for this sustainable alternative for fish oil. In order to be able to meet the projected growing demand for Algaprime DHA, largely driven by the growing aquaculture sector, Corbion will invest 50 mEUR in debottleneck investments at our existing site, which will be invested over the 2023-2025 period. Next to these investments we will also continue to invest in R&D to optimise current strains and to further develop algae omega 3 by developing other segments as petfood and human nutrition. In order to fully realise the market opportunity by 2030, additional production capacity would be required. The CAPEX requirements for this are currently being investigated.

**Comment**

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### C3. Business Strategy

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#### C3.1

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

**Row 1**

**Climate transition plan**

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

**Publicly available climate transition plan**

Yes

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

We have a different feedback mechanism in place

**Description of feedback mechanism**

In 1:1 shareholder meetings updates are given regarding our transition plan. Shareholders can ask questions and provide feedback. There is no vote regarding our transition plan.

**Frequency of feedback collection**

More frequently than annually

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

UPLOAD CLIMATE ACTION ROADMAP  
Climate Action Roadmap Brochure.pdf

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

<Not Applicable>

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

<Not Applicable>

**C3.2**

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

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

**C3.2a**

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

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios IEA NZE 2050	Company-wide	<Not Applicable>	This scenario was customized using the En-ROADS climate action simulator. Population parameters are based on UN DESA scenarios. Economic growth is set at 1.5% (long-term). Carbon prices were set to increase towards €150/ton over the course of 10 years. Energy and commodity prices are derived by the model based on different input parameters. Other scenarios that have been used as input to the customized scenario include SSP1 and IEA NZE 2050.
Physical climate scenarios RCP 2.6	Company-wide	<Not Applicable>	Assuming late but stringent climate action RCP2.6 physical risks have been included in the transition scenario to create a combined risk scenario. Population parameters are based on UN DESA scenarios. Economic growth is set at 1.5% (long-term). Carbon prices were set to increase towards €150/ton over the course of 15 years, starting in 2025. Energy and commodity prices are derived by the model based on different input parameters. The En-ROADS climate action simulator has also been used in this scenario.
Physical climate scenarios RCP 8.5	Company-wide	<Not Applicable>	This scenario is based purely on physical risks using the RCP 8.5 scenario and input from the 2020 McKinsey Global Institute report: Climate risk and response: Physical hazards and socioeconomic impacts. In this scenario there are no mitigation actions. Continued use of fossil fuels will keep energy and commodity prices stable in the short-term, but these will be affected by climate disasters and other disruptions in the mid- and long-term.

**C3.2b**

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

**Row 1**

**Focal questions**

- What transition risks is Corbion exposed to in a Paris-aligned scenario (1.5-degrees)?
- What opportunities can Corbion capitalize on in a Paris-aligned scenario (1.5-degrees)?
- What physical and transition risks is Corbion exposed to in a late-action scenario (well below 2-degrees after overshooting)?
- What physical risks is Corbion exposed to in a business-as-usual scenario (>3-degrees)?

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

The results from the conducted scenario analysis have directly influenced Corbions' business objectives and strategy and have led to several initiatives across the company.

In our Paris-aligned climate scenario, we identified a risk of increased carbon pricing,. In the EU, carbon pricing is already in place and the price is expected to increase; in other regions across the globe, we expect carbon pricing needs to be introduced to achieve the goals of the Paris-agreement. Corbion's lactic acid manufacturing sites all use steam, produced from natural gas, in down stream processing and also for the production of derivatives. Without GHG reduction measures, this would result in increased costs. To mitigate this risk, Corbion has developed a climate transition plan to reduce our GHG emissions aligned with 1.5 (including an SBTi validated target for 2030 and a net zero target for 2050). With this climate transition roadmap, Corbion is well prepared for an effective transition to a low-emission society, due to the reduction initiatives implemented in the past years, initiatives that will be implemented in the next years and R&D to identify further mitigation actions in our pipeline towards 2030/2050. We have also adjusted our financial planning approach. We have introduced carbon pricing to manage and understand the financial impact of GHG emissions on our business. A global internal carbon price of € 100 per metric ton for Scope I and II emissions is included in all investment decisions.

In our physical climate scenario, we identified a risk of decreased revenues due to reduced production capacity, due to a disruption of our manufacturing & distribution network, either because of a direct impact on our own manufacturing sites, or through disruption of the supply of raw materials as a result of flooding, extreme weather events and rises in temperature. As we have our operations spread across the world we can mitigate the impact by temporarily switching production. Our strategy to mitigate this risk includes supply-demand planning and safety stock management.

Furthermore, Corbion has developed a climate transition plan to reduce our GHG emissions aligned with 1.5 (including an SBTi validated target for 2030 and a net zero target for 2050). Achieving these reduction targets will help limit global warming, hence avoiding the most devastating impacts of temperature rises and extreme weather as identified in the scenario analysis.

Next to these risks, we also identified several opportunities. In both scenarios, the development and commercialization of products that enable our customers to reduce their GHG emissions is a significant growth opportunity for Corbion.

**C3.3**

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Corbion offers products and services that can help our customers reduce their carbon footprint. In our Advance 2025 strategy, we focus on sustainable food solutions to reduce food waste (and related GHG emissions), on PLA bioplastics with a reduced carbon footprint compared to e.g. polystyrene and on alternative (non-meat) protein. In the strategy development phase we have re-assessed all of our products for their contribution towards the SDGs and made this one of the key criteria for in- or exclusion of a product. This strategy has a 5 year time horizon. An example of a major strategic decision related to these opportunities is the decision to invest approximately US\$ 230 million in a new 125,000 metric tons lactic acid plant in Thailand to be able to meet the demand for PLA bioplastics. This factory is currently being constructed and is expected to be operational in 2023.
Supply chain and/or value chain	Yes	Corbion is a bio-based company, offering products that require less fossil input. Our conventional lactic acid production relied, next to sugar, on lime as an input. Climate change has influenced our strategy in that we aim to rely less on fossil inputs where possible.  An example of a major strategic decision related to climate change in this areas is the decision to implement a breakthrough technology for lactic acid production that doesn't require lime and has a significantly lower carbon footprint in a new factory in Thailand (start-up in 2023).  The new plant will be based on our innovative and proprietary gypsum-free technology. This new technology will further enhance our position as lowest cost producer of lactic acid at the highest sustainability standards. We are also engaging with suppliers to reduce the carbon footprint of our raw materials and mitigate climate risks in agriculture. This strategic supplier engagement initiative has a 10-15 year time horizon, with initial focus on our 2030 science-based target.
Investment in R&D	Yes	Corbion invests in R&D for sustainable food solutions to reduce food waste (and related GHG emissions), alternative (non-meat) protein based on algae and we have an R&D program to develop the lowest carbon footprint technology for lactic acid production, to achieve our science-based target (10-15 year time horizon). On top of this, in line with our Advance 2025 strategy, all new R&D projects are required to positively contribute to our focus SDGs or Climate Change mitigation/adaptation.  An example of a major strategic decision related to climate change in this areas is the formation of the Incubator Business Unit. In our Incubator, where we develop early-stage initiatives, we work on five selected programs: Algae portfolio extension, Biopolymers, Natural preservation, Circular raw materials, and Net zero. These long-term platforms are all linked to Corbion's existing business and are critical for future growth of our company. 4 out of these 5 programs are directly linked to climate change mitigation and all 5 programs contribute to our focus SDGs, namely SDG 2: zero hunger, SDG 3 good health and well-being and SDG 12: responsible production and consumption
Operations	Yes	Our GHG reduction roadmap includes a Capital Expenditure plan for the next 5 years to invest in energy efficiency in our existing manufacturing plants. We are continuously putting efforts towards developing new technologies aimed at reduced raw-material input such as our new circular production process (gypsum-free) and increased reuse/recycling potential of final products and inputs.  An example of a major strategic decision related to climate change in this areas is the decision to implement a breakthrough technology for lactic acid production with a significantly lower carbon footprint in a new factory in Thailand (start-up in 2023). The new plant will be based on our innovative and proprietary new circular production process (gypsum-free technology). This new technology reduces overall CO2-emissions and by-products of lactic acid. It will further enhance our position as lowest cost producer of lactic acid at the highest sustainability standards.

**C3.4**



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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Capital expenditures Capital allocation Acquisitions and divestments Assets	<p>Revenues: Our financial planning process includes an assessment of the potential revenues related to climate-opportunities. In our business unit Sustainable Food Solutions we intend to benefit from the increased emphasis on the reduction of food waste, an issue we can address with our natural preservation solutions. In our Lactic Acid Specialties BU, we expect to benefit from the increased usage of bioplastics due to their reduced carbon footprint. This should increase revenues due to lactic acid sales to our JV Total Corbion PLA. In our Algae ingredients BU, we plan to benefit from the shift from fish oil to algae based omega-3 in aquaculture. These impacts are included in our Advance 2025 strategy and were recently updated and aligned with recent developments in these areas (Capital Markets Day 2022).</p> <p>Capital expenditures/allocation: Our financial planning process includes an assessment of the required capital expenditures. Recurring (excluding expansion) capital expenditure of € 50-60 million annually are included in our financial planning. We have developed a roadmap to reduce our energy consumption and our carbon footprint. For our direct operations, this roadmap includes investment in energy efficiency projects, such as heat integration, which will reduce operating cost. A capital plan for the next 5-6 years has been developed.</p> <p>Acquisitions and divestments: The impacts of potential acquisitions, such the past acquisition of Terra Via and Granotec, are included in our financial planning.</p> <p>Assets: To execute our Advance 2025 strategy we will have to make adjustments to our manufacturing footprint, including our assets. We have started construction of a new lactic acid manufacturing facility in Thailand using a next generation technology with significantly reduced carbon footprint. Our financial planning includes a total CAPEX of USD 230 mln for this specific project, which is expected to become operations by end 2023.</p>

**C3.5**

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

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

**C3.5a**

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

**Financial Metric**

Revenue/Turnover

**Type of alignment being reported for this financial metric**

Alignment with a sustainable finance taxonomy

**Taxonomy under which information is being reported**

EU Taxonomy for Sustainable Activities

**Objective under which alignment is being reported**

Climate change mitigation

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

63700000

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

4.4

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

13

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

20

**Describe the methodology used to identify spending/revenue that is aligned**

The alignment of Corbion's business activities with the EU Taxonomy was determined in two steps. In step one, the economic activities defined in the Climate Delegated Act were screened for applicability to Corbion, to determine which of Corbion's business activities are eligible. Corbion produces several ingredients that enable its customers to reduce their Scope III GHG emissions.

These business activities are considered to be eligible for climate change mitigation because they can be classified as Activity number 3.6, Manufacture of other low carbon technologies. This activity includes technologies that are aimed at and demonstrate substantial life-cycle GHG emission savings compared to the best performing alternative solution available on the market.

The following activities are considered eligible for climate change mitigation: (1) Manufacture of AlgaPrime™ DHA, which is applied in feed for aquaculture, pet food, terrestrials, etc. as alternative for fish oil. (2) Manufacture of lactic acid for the production of PLA bioplastics, as alternative for fossil-based plastics such as polystyrene. In step two, compliance with the substantial contribution criteria, the Do No Significant Harm (DNSH) criteria and the Minimum Safeguards was assessed to determine alignment. The manufacture of lactic acid for the production of PLA bioplastics meets all these requirements and therefore the associated revenues are reported as aligned.

The increase in the reported aligned revenues by 2025 and 2030 is because we expect our eligible Algaprime™ DHA to become aligned: The manufacturing of AlgaPrime™ DHA does not currently meet the DNSH criteria due to the use of certain processing aids it contains low concentrations of a substance that meets some of the criteria set out in Article 57 of REACH and of a substance that may meet some of the criteria (under assessment authorities). Research to eliminate these substances by the use of alternative processing aids is in progress. Furthermore, we expect growth in both product groups and therefore further increase in our EU taxonomy aligned revenues.

There was no risk in double counting the aligned revenue, as it currently consists of revenue from only one product group. In the aligned revenue forecast, the revenues will consist of two different product groups (lactic acid for PLA and Algaprime™ DHA) which come from two different reporting business units, between which there is no overlap and so also no risk of double counting.

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**C3.5b**

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

**Economic activity**

Manufacture of other low carbon technologies

**Taxonomy under which information is being reported**

EU Taxonomy for Sustainable Activities

**Taxonomy Alignment**

Taxonomy-aligned

**Financial metric(s)**

Turnover

CAPEX

OPEX

**Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)**

63700000

**Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year**

4.4

**Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year**

4.4

**Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year**

0

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

<Not Applicable>

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

<Not Applicable>

**Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)**

106400000

**Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year**

43.9

**Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year**

43.9

**Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year**

0

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)**

1720000

**Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year**

1.8

**Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year**

1.8

**Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year**

0

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Type(s) of substantial contribution**

Activity enabling mitigation

**Calculation methodology and supporting information**

The alignment of Corbion's business activities with the EU Taxonomy was determined in two steps. In step one, the economic activities defined in the Climate Delegated Act were screened for applicability to Corbion, to determine which of Corbion's business activities are eligible. Corbion produces several ingredients that enable its customers to reduce their Scope III GHG emissions.

These business activities are considered to be eligible for climate change mitigation because they can be classified as Activity number 3.6, Manufacture of other low carbon technologies. This activity includes technologies that are aimed at and demonstrate substantial life-cycle GHG emission savings compared to the best performing alternative solution available on the market.

The following activities are considered eligible for climate change mitigation: (1) Manufacture of AlgaPrime™ DHA, which is applied in feed for aquaculture, pet food, terrestrials, etc. as alternative for fish oil. (2) Manufacture of lactic acid for the production of PLA bioplastics, as alternative for fossil-based plastics such as polystyrene.

In step two, compliance with the substantial contribution criteria, the Do No Significant Harm (DNSH) criteria and the Minimum Safeguards was assessed to determine alignment. The manufacture of lactic acid for the production of PLA bioplastics meets all these requirements and therefore the associated Revenues, CAPEX and OPEX are reported as aligned.

**Technical screening criteria met**

Yes

**Details of technical screening criteria analysis**

For aligned activities, substantial cradle-to-gate life-cycle GHG emission savings compared to the best performing alternative solution available on the market can be demonstrated based on peer-reviewed LCA studies for Corbion's manufacturing sites and on publicly available data for alternative solutions on the market. Corbion has performed third party verified LCA for the production of PLA bioplastics from lactic acid, which was published in a scientific peer reviewed journal in 2019. Compared to the carbon footprint of fossil-based plastics, which are the best performing alternatives available on the market, the carbon footprint of PLA based on Corbion's lactic acid is substantially lower (69-78%), which enables plastics users to substantially reduce their Scope 3 GHG emissions by replacing fossil-based plastics with PLA.

**Do no significant harm requirements met**

Yes

**Details of do no significant harm analysis**

Climate change adaptation :

Alignment with the DNSH criteria for climate change adaptation is determined based on a screening for physical risks, a climate risk and vulnerability assessment for the identified risks and an assessment of adaptation solutions for the manufacturing sites of lactic acid for PLA in Rayong, Thailand. Based on the outcome of this analysis, we conclude that the manufacture of lactic acid and derivatives meet the DNSH criteria for climate change adaptation.

Water, Circular economy, and Biodiversity:

Alignment with the DNSH criteria for Water, Circular economy, and Biodiversity is determined based on compliance with local laws, the environmental management systems, and ISO certification. Our lactic acid manufacturing site in Rayong, Thailand is ISO 14001 certified and complies with Corbion's waste policy, which aims for the elimination of landfill by 2030 through waste reduction and prioritization of recycling and reuse. PLA is 100% biobased and produced from annually renewable agricultural raw materials. Its manufacturing site is not located near biodiversity-sensitive areas. Based on this, we consider the manufacture of lactic acid for the production of PLA aligned with the DNSH criteria for Water, Circular economy, and Biodiversity.

Pollution:

Alignment with the DNHS criteria for Pollution is determined by assessing the (potential) presence of the hazardous products listed in Appendix C of the Climate Delegated Act. Lactic acid is produced by fermentation of sugar using microbes, followed by downstream processing and product formulation steps to produce many different derivatives. None of the hazardous products listed in Appendix C of the Climate Delegated Act categories a-b-c-d-e-f-g is used as raw material or processing aids. Based on the manufacturing process and the fact that none of the listed substances is used, it is extremely unlikely that any of the substances will appear as impurity in lactic acid and its derivatives. Based on this, we consider the manufacture of lactic acid for the production of PLA aligned with the DNSH criteria for Pollution.

**Minimum safeguards compliance requirements met**

Yes

### Details of minimum safeguards compliance analysis

Corbion's global business conduct program, human rights, anti-corruption, taxation, and fair competition policies meet the Minimum Safeguards.

#### Economic activity

Manufacture of other low carbon technologies

#### Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

#### Taxonomy Alignment

Taxonomy-eligible but not aligned

#### Financial metric(s)

Turnover  
CAPEX  
OPEX

#### Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

<Not Applicable>

#### Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year

<Not Applicable>

#### Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year

<Not Applicable>

#### Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year

<Not Applicable>

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

70800000

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

4.9

#### Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)

<Not Applicable>

#### Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year

<Not Applicable>

#### Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year

<Not Applicable>

#### Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year

<Not Applicable>

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

19700000

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

8.1

#### Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)

<Not Applicable>

#### Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year

<Not Applicable>

#### Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year

<Not Applicable>

#### Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year

<Not Applicable>

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

11200000

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

11.6

#### Type(s) of substantial contribution

<Not Applicable>

#### Calculation methodology and supporting information

The alignment of Corbion's business activities with the EU Taxonomy was determined in two steps. In step one, the economic activities defined in the Climate Delegated Act were screened for applicability to Corbion, to determine which of Corbion's business activities are eligible. Corbion produces several ingredients that enable its customers to reduce their Scope III GHG emissions.

These business activities are considered to be eligible for climate change mitigation because they can be classified as Activity number 3.6, Manufacture of other low carbon technologies. This activity includes technologies that are aimed at and demonstrate substantial life-cycle GHG emission savings compared to the best performing alternative solution available on the market.

The following activities are considered eligible for climate change mitigation: (1) Manufacture of AlgaPrime™ DHA, which is applied in feed for aquaculture, pet food, terrestrials, etc. as

alternative for fish oil. (2) Manufacture of lactic acid for the production of PLA bioplastics, as alternative for fossil-based plastics such as polystyrene. In step two, compliance with the substantial contribution criteria, the Do No Significant Harm (DNSH) criteria and the Minimum Safeguards was assessed to determine alignment. The manufacture of lactic acid for the production of PLA bioplastics meets all these requirements and therefore the associated Revenues, CAPEX and OPEX are reported as aligned. Manufacture of AlgaPrime™ DHA, which is applied in feed for aquaculture, pet food, terrestrials, etc. as alternative for fish oil meets the substantial contribution and the minimum safeguards requirements, but does not meet all of the DNSH criteria and therefore the associated Revenues, CAPEX and OPEX are reported as eligible but

not aligned.

**Technical screening criteria met**

Yes

**Details of technical screening criteria analysis**

For aligned activities, substantial cradle-to-gate life-cycle GHG emission savings compared to the best performing alternative solution available on the market can be demonstrated based on peer-reviewed LCA studies for Corbion's manufacturing sites and on publicly available data for alternative solutions on the market. Corbion has performed third party verified LCA for AlgaPrime™ DHA and we have published an article in a scientific peer reviewed journal comparing the GHG emissions for omega-3 DHA to fish oil. This study shows that omega-3 from AlgaPrime DHA have 30-40% lower GHG emissions than omega-3 produced from fish oil. Fish oil is the commercial source of omega-3 available for these applications, therefore considered the best performing alternative. Corbion sells AlgaPrime DHA to customers in the aquaculture feed, pet food, and terrestrial feed sectors as alternative for fish oils, therefore enabling these customers to substantially reduce the GHG emissions in their respective sectors.

**Do no significant harm requirements met**

No

**Details of do no significant harm analysis**

The manufacture of Algaprime DHA does not meet the Do No Significant Harm (DNSH) criteria, because it does not meet the DNSH criteria for Pollution. It does meet the DNSH criteria for Climate change adaptation, Water, Circular economy, and Biodiversity.

Climate change adaptation:

Alignment with the DNSH criteria for climate change adaptation is determined based on a screening for physical risks, a climate risk and vulnerability assessment for the identified risks and an assessment of adaptation solutions for the manufacturing sites of AlgaPrime DHA in Orindiúva, Brazil. Based on the outcome of this analysis, we conclude that the manufacture of AlgaPrime DHA meets the DNSH criteria for climate change adaptation.

Water, Circular economy, and Biodiversity:

Alignment with the DNSH criteria for Water, Circular economy, and Biodiversity is determined based on compliance with local laws, the environmental management systems, and ISO certification. Our AlgaPrime DHA manufacturing site in Orindiúva, Brazil is preparing for ISO 14001 certification and complies with Corbion's waste policy, which aims for the elimination of landfill by 2030 through waste reduction and prioritization of recycling and reuse. AlgaPrime DHA is 100% biobased and produced from annually renewable agricultural raw materials. Its manufacturing site is not located near biodiversity-sensitive areas. Based on this, we consider the manufacture of AlgaPrime DHA aligned with the DNSH criteria for Water, Circular economy, and Biodiversity.

Pollution:

Alignment with the DNHS criteria for Pollution is determined by assessing the (potential) presence of the hazardous products listed in Appendix C of the Climate Delegated Act. AlgaPrime DHA is produced by fermentation of sugar using algae, followed by minimal downstream processing and formulation steps. Due to the use of certain processing aids, AlgaPrime DHA contains low concentrations of a substance that meets some of the criteria set out in Article 57 of REACH and of a substance that may meet some of the criteria (under assessment authorities). The manufacture of AlgaPrime DHA therefore currently does not meet the DNSH criteria for Pollution. Research to eliminate these substances by the use of alternative processing aids is in progress.

**Minimum safeguards compliance requirements met**

Yes

**Details of minimum safeguards compliance analysis**

Corbion's global business conduct program, human rights, anti-corruption, taxation, and fair competition policies meet the Minimum Safeguards.

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C3.5c

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

Our EU taxonomy alignment was also included in our annual report (page 177 - 182) and extensively reviewed by our auditor as part of the financial assurance .

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C4. Targets and performance

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C4.1

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

Absolute target

Intensity target

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C4.1a

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

**Target reference number**

Abs 1

**Is this a science-based target?**

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

**Target ambition**

1.5°C aligned

**Year target was set**

2022

**Target coverage**

Company-wide

**Scope(s)**

Scope 1

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

&lt;Not Applicable&gt;

**Base year**

2021

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

106322

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

48743

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

&lt;Not Applicable&gt;

**Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

**Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

**Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)**

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

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

155065

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

100

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

100

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1:****Purchased goods and services (metric tons CO2e)**

&lt;Not Applicable&gt;

**Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

**Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

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

100

**Target year**

2030

**Targeted reduction from base year (%)**

38

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

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

107266

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

35072

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

<Not Applicable>

**Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

**Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

**Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

**Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

**Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

**Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

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

142338

**Does this target cover any land-related emissions?**

Yes, it covers land-related and non-land related emissions (e.g. SBT approved before the release of FLAG target-setting guidance)

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

**Target status in reporting year**

Replaced

**Please explain target coverage and identify any exclusions**

This target replaces the previously reported intensity target with an absolute target that is more ambitious and 1.5C aligned. This target is company-wide and covers scope 1 emissions from direct production (from natural gas) and scope 2 emissions from purchased energy (electricity and purchased steam) with a market based approach. This target covers direct land use change-, land management emissions and biogenic emissions and associated removals from bioenergy feedstocks - CO2, CH4 and N2O emissions from the combustion of bioenergy and the land use emissions and removals associated with bioenergy feedstocks. The target has received approval by the Science Based Targets initiative (SBTi) following a thorough validation process.

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

<Not Applicable>

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

<Not Applicable>

---

**Target reference number**

Abs 2

**Is this a science-based target?**

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

**Target ambition**

1.5°C aligned

**Year target was set**

2022

**Target coverage**

Company-wide

**Scope(s)**

Scope 1

Scope 2

Scope 3

**Scope 2 accounting method**

Market-based



**Scope 3 category(ies)**

Category 1: Purchased goods and services  
Category 2: Capital goods  
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)  
Category 4: Upstream transportation and distribution  
Category 5: Waste generated in operations  
Category 6: Business travel  
Category 7: Employee commuting  
Category 8: Upstream leased assets  
Category 9: Downstream transportation and distribution  
Category 15: Investments

**Base year**

2021

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

106322

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

48743

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

611977

**Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)**

76418

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

26047

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

88739

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)**

50215

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

1502

**Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)**

3818

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)**

4699

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

90844

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

<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)**

<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)**

16683

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

<Not Applicable>

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

<Not Applicable>

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

970943

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

1126008

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

100

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

100

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1:****Purchased goods and services (metric tons CO2e)**

90

**Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)**

90

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

90

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

90

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)

90

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

90

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)

90

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)

90

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

90

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

<Not Applicable>

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)

<Not Applicable>

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

<Not Applicable>

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)

90

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)

<Not Applicable>

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)

<Not Applicable>

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

90

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

91

Target year

2050

Targeted reduction from base year (%)

90

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

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

107266

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

35072

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

587949

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)

107916

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

26630

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

97918

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)

31016

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

3221

**Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)**

7969

**Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)**

4251

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

97993

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

<Not Applicable>

**Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

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

<Not Applicable>

**Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

**Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)**

<Not Applicable>

**Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)**

13436

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

<Not Applicable>

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

<Not Applicable>

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

978299

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

1120637

**Does this target cover any land-related emissions?**

Yes, it covers land-related and non-land related emissions (e.g. SBT approved before the release of FLAG target-setting guidance)

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

**Target status in reporting year**

New

**Please explain target coverage and identify any exclusions**

The target covers Scope 1 and 2 and 90% of scope 3 emissions, aligned with the SBTi boundary requirements

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

The plan for achieving this long term target is currently under investigation

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

<Not Applicable>

---

**C4.1b**

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

**Target reference number**

Int 1

**Is this a science-based target?**

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

**Target ambition**

Well-below 2°C aligned

**Year target was set**

2022

**Target coverage**

Company-wide

**Scope(s)**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services

Category 4: Upstream transportation and distribution  
Category 5: Waste generated in operations  
Category 9: Downstream transportation and distribution

**Intensity metric**

Metric tons CO2e per metric ton of product

**Base year**

2021

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

<Not Applicable>

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

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)**

0.78

**Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)**

0.29

**Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)**

0.09

**Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)**

0.02

**Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

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

1.18

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

1.18

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

<Not Applicable>

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

<Not Applicable>

**% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure**

71

**% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure**

**% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure**

100

**% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure**

100

**% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure**

<Not Applicable>

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

68

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

68

**Target year**

2030

**Targeted reduction from base year (%)**

24

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

**% change anticipated in absolute Scope 1+2 emissions**

0

**% change anticipated in absolute Scope 3 emissions**

-0.8

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

<Not Applicable>

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

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)**

0.639

**Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)**

0.272

**Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)**

0.047

**Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)**

0.022

**Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

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

0.918

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

0.918

**Does this target cover any land-related emissions?**

Yes, it covers land-related and non-land related emissions (e.g. SBT approved before the release of FLAG target-setting guidance)

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

**Target status in reporting year**

Replaced

**Please explain target coverage and identify any exclusions**

This target replaces the previously reported intensity target with a more ambitious intensity target. This target is company-wide and covers scope 3 emissions related to our key raw materials (responsible for 71% of our total Purchased goods and services emissions), both upstream- and downstream transportation & distribution and waste generated. The total coverage of the combined scope 3 target is 68%. This target covers direct land use change emissions and biogenic emissions and associated removals from bioenergy feedstocks - CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from the combustion of bioenergy and the land use emissions and removals associated with bioenergy feedstocks. The target has received approval by the Science Based Targets initiative (SBTi) following a thorough validation process.

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

<Not Applicable>

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

<Not Applicable>

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## C4.2

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

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

Net-zero target(s)

---

## C4.2a

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

**Target reference number**

Low 1

**Year target was set**

2016

**Target coverage**

Company-wide

**Target type: energy carrier**

Electricity

**Target type: activity**

Consumption

**Target type: energy source**

Renewable energy source(s) only

**Base year**

2016

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

203398

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

33.5

**Target year**

2025

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

100

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

93.4

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

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

Yes, this is part of the absolute target (ABS 1)

**Is this target part of an overarching initiative?**

RE100

Science Based Targets initiative

**Please explain target coverage and identify any exclusions**

Our target includes Scope II emissions from purchased electricity for all twelve Corbion sites.

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

In 2017, Corbion started implementation of our renewable electricity roadmap by purchasing renewable electricity in Gorinchem (50%), Totowa (75%) and Tucker (75%). In addition, solar panels were installed at our site in Gorinchem, the Netherlands. In 2018 we increased the use of renewable electricity to 100% for Totowa and Tucker (U.S.) and to 50% for Blair (U.S. ). In 2019 renewable electricity share in Blair (US) increased to 100% and our site in Dolton (US) also used 100 % renewable electricity. In 2020 we started purchasing 100% renewable electricity in Grandview, in 2021 we started purchasing 100% renewable electricity in Araucaria and Campos (Brazil) and in 2022 we increased our renewable electricity coverage in Rayong (Thailand) to 100% bringing our total share of renewable electricity in 2022 to 94%

**List the actions which contributed most to achieving this target**

<Not Applicable>

---

**C4.2c**

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

**Target reference number**

NZ1

**Target coverage**

Company-wide

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

Abs1

Abs2

**Target year for achieving net zero**

2050

**Is this a science-based target?**

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

**Please explain target coverage and identify any exclusions**

The target covers Scope 1 and 2 and 90% of scope 3 emissions, aligned with the SBTi boundary requirements

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

Yes

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

We are currently investigating options to neutralize unabated emissions with potential partners. We assume that 10% of our base year (2021) emissions need to be abated. Our next milestones include: (1) selection of partner; (2) selection of project(s) (3) initiate implementation/preparation to ensure that permanent carbon removals are implemented by 2050 at the latest.

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

Not yet, under investigation

**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	50	181619
To be implemented*	20	13793
Implementation commenced*	2	8615
Implemented*	0	6100
Not to be implemented	0	0

**C4.3b**



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

**Initiative category & Initiative type**

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

**Estimated annual CO2e savings (metric tonnes CO2e)**

328

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

Scope 1

**Voluntary/Mandatory**

Voluntary

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

460000

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

2000000

**Payback period**

<1 year

**Estimated lifetime of the initiative**

16-20 years

**Comment**

Installation of a mechanical vapor recompression (MVR) technology in the evaporator that consumes less energy than the conventional evaporator

**Initiative category & Initiative type**

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

**Estimated annual CO2e savings (metric tonnes CO2e)**

1263

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

Scope 1

**Voluntary/Mandatory**

Voluntary

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

64000

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

100000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

Implementation for technical improvements for better energy integration

**Initiative category & Initiative type**

Other, please specify	Other, please specify (Lower direct CO2 emissions for raw materials purchased)
-----------------------	--

**Estimated annual CO2e savings (metric tonnes CO2e)**

4509

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

Scope 3 category 1: Purchased goods & services

**Voluntary/Mandatory**

Voluntary

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

0

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

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

<1 year

**Comment**

Lower direct CO2 emissions in-line with RSPO and increase in palm fruit yield

C4.3c

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

Method	Comment
Employee engagement	Since 2016, Corbion is collecting ideas for emission reduction investments through employee engagement. This is being done via onsite "zero waste" workshops, where we collect all potential ideas for emission reductions. Each site has one or more Zero waste/sustainability ambassadors that can propose ideas; there is a central budget to investigate and possibly implement these ideas.
Dedicated budget for other emissions reduction activities	In the yearly CAPEX budgeting procedure, each site can submit proposals for investments in emission reduction/sustainability, these are considered strategic initiatives and a certain part of the CAPEX budget is allocated to these sustainability initiatives
Internal price on carbon	To mitigate the risk of carbon pricing schemes and to drive investment in low-carbon solutions we utilize an internal carbon price range.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

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

**Level of aggregation**

Product or service

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

Other, please specify (Efficient processes & renewable feedstock)

**Type of product(s) or service(s)**

Chemicals and plastics	Other, please specify (Product is renewable, compostable and has 77% lower carbon footprint than the reference product)
------------------------	---

**Description of product(s) or service(s)**

We performed an SDG impact assessment, part of which was the classification of low carbon products. In 2022, 5% (based on revenue) of our products contributed to the replacement of fossil based chemicals with bio-based chemicals. For example, Poly Lactic Acid (PLA) bioplastic to replace polystyrene. PLA is renewable, compostable and has 77% lower carbon footprint than polystyrene.

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

Yes

**Methodology used to calculate avoided emissions**

Estimating and Reporting the Comparative Emissions Impacts of Products (WRI)

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

Cradle-to-grave

**Functional unit used**

Weight of polymer required for 1000 disposable cups of 200 ml

**Reference product/service or baseline scenario used**

Polystyrene

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

Cradle-to-grave

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

77355

**Explain your calculation of avoided emissions, including any assumptions**

The avoided emissions calculated assuming PS as a reference product, because it is most likely the alternative to be used in the absence of PLA. Comparison is performed at cradle to grave, assuming as end of life incineration with energy recovery. Weight of polymer required to make 1000 cups and use phase assumptions based on literature data: Moretti et al. (2021), Cradle-to-grave life cycle assessment of single-use cups made from PLA, PP and PET (DOI: 10.1016/j.resconrec.2021.105508).

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

5

**Level of aggregation**

Group of products or services

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

Other, please specify (Efficient processes & renewable feedstock)

**Type of product(s) or service(s)**

Chemicals and plastics	Other, please specify (1) Replacement of wild fish stocks as a fish feed with algae-based aquaculture feed and 2) The replacement of polymers and materials by materials with a lower environmental impact)
------------------------	---

**Description of product(s) or service(s)**

In 2021 we performed an SDG impact assessment, part of which was the classification of low carbon products. In 2021, 5% (based on revenue) of our products contributed 1) The replacement of wild fish stocks as a fish feed with algae-based aquacultural feed. For example, AlgaPrime DHA has 36 % lower carbon footprint than fish oil, per kg of DHA. 2) the replacement of polymers and materials by materials with a lower environmental impact through biodegradability.

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

No

**Methodology used to calculate avoided emissions**

<Not Applicable>

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

<Not Applicable>

**Functional unit used**

<Not Applicable>

**Reference product/service or baseline scenario used**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Explain your calculation of avoided emissions, including any assumptions**

<Not Applicable>

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

3

C5. Emissions methodology

C5.1

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

No

C5.1a

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

**Row 1**

**Has there been a structural change?**

No

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

<Not Applicable>

**Details of structural change(s), including completion dates**

<Not Applicable>

C5.1b

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

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

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

**Scope 1**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

106322

**Comment**

**Scope 2 (location-based)**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

91356

**Comment**

**Scope 2 (market-based)**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

48743

**Comment**

**Scope 3 category 1: Purchased goods and services**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

679975

**Comment**

**Scope 3 category 2: Capital goods**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

84909

**Comment**

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

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

28941

**Comment**

**Scope 3 category 4: Upstream transportation and distribution**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

98599

**Comment**

**Scope 3 category 5: Waste generated in operations**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

55795

**Comment**

**Scope 3 category 6: Business travel**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

1669

**Comment**

**Scope 3 category 7: Employee commuting**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

4242

**Comment**

**Scope 3 category 8: Upstream leased assets**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

5222

**Comment**

**Scope 3 category 9: Downstream transportation and distribution**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

100937

**Comment**

**Scope 3 category 10: Processing of sold products**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

**Scope 3 category 11: Use of sold products**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

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

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

**Scope 3 category 13: Downstream leased assets**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

**Scope 3 category 14: Franchises**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

**Scope 3 category 15: Investments**

**Base year start**

January 1 2021

**Base year end**

December 31 2021

**Base year emissions (metric tons CO2e)**

18537

**Comment**

**Scope 3: Other (upstream)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

**Scope 3: Other (downstream)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

**C5.3**

---

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

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

**C6. Emissions data**

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**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)**

107266

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

**C6.2**

---

**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

C6.3

---

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

**Reporting year**

**Scope 2, location-based**

89800

**Scope 2, market-based (if applicable)**

35072

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

C6.4

---

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?**

Yes

C6.4a

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**(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.**

**Source of excluded emissions**

Excluded Scope 1 emissions are: Diesel used on site for forklift trucks, fugitive emissions from refrigerants and usage of carbonates.

**Scope(s) or Scope 3 category(ies)**

Scope 1

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of market-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of Scope 3 emissions from this source**

<Not Applicable>

**Date of completion of acquisition or merger**

<Not Applicable>

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

0.9

**Estimated percentage of total Scope 3 emissions this excluded source represents**

<Not Applicable>

**Explain why this source is excluded**

We report our emissions in carbon equivalents from cradle to gate in accordance with the Greenhouse Gas Protocol. This includes Scope I emissions from direct production (for natural gas), Scope II emissions from purchased energy (for electricity and purchased steam). To reach our 2030 SBT-target, we see more potential to drive emissions reductions of our facilities. This is also what stakeholders, such as customers expect from us. Furthermore, the initial estimation showed that these exclusions represent 0.9% of Scope 1+2 emissions. Setting up a reporting structure and gathering this data periodically will be rather costly compared to the relatively low environmental benefits.

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

Diesel consumption is monitored on a quarterly basis at the site. The total amount is multiplied with the heating value and the emission factor.

- Assuming that fugitive emissions are mostly from refrigerants use for air conditioning in office spaces, we extrapolate the fugitive emissions from refrigerant usage of our biggest site in CRA with the total number of FTE.
- Emissions from carbonates are estimated by taking the CO2 component of the total amount purchased carbonates

Total scope 1 + 2 (market-based) for the excluded emissions = 1,282 tCO2e

Estimated percentage of total Scope 1+2 emissions =  $100\% \times 1,282 / (1,282 + 142,338) = 0.9\%$

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**C6.5**

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

**Purchased goods and services**

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

653276

**Emissions calculation methodology**

Hybrid method  
Spend-based method

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

37

**Please explain**

Calculation method: Calculate the cradle to gate emissions of >95% (by weight) our raw materials. The quantity of each single material used is multiplied with its emission factor. Resulting Scope 3 emissions were then extrapolated to 100% in order to account for all materials utilized. Emissions factors: Cradle to gate emission factors are obtained from suppliers or commercially available databases, adapted to the local conditions when possible. When the materials used were part of a multi-product process which could not be sub-divided, economic allocation was performed for non-agricultural materials. For agricultural materials we used energy allocation to avoid the effect of price fluctuation.



## Capital goods

### Evaluation status

Not relevant, calculated

### Emissions in reporting year (metric tons CO2e)

119907

### Emissions calculation methodology

Average spend-based method

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

0

### Please explain

Calculation method: Calculated using the economic value of tangible capital expenditures spent in the reporting year. Includes operations, R&D, innovation and IT. Assumptions that 30 – 60% of Capex is related to the purchased equipment (direct cost), the rest being engineering, labour etc., are based on internal expert opinions for that particular investment. Composition of capital goods is assumed to be 10 % concrete, 90 % steel except for investments which are in the initial stage (more concrete needed) or final stage of construction (more steel needed). Emissions factors: Cradle to gate emission factors of steel and concrete are from Ecoinvent V3.8.

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

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

29589

### Emissions calculation methodology

Average data method

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

0

### Please explain

Calculation method: Emissions from transmission and distribution losses of electricity are from IEA 2022 and eGRID 2021 (for US). Cradle to gate emission factors of high pressure natural gas are based on Ecoinvent 3.8 data for different countries. It covers natural gas production (on shore and off-shore), imports and losses during transmissions and storage. Conversion from CO2 eq /m3 to kg CO2/ MJ is based on the country specific HHV of natural gas.

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

108798

### Emissions calculation methodology

Distance-based method

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

0

### Please explain

Transport method -it is assumed that road transport is done by truck and intercontinental transport by transoceanic freight. We assume all transport is done by road whenever possible. Only when the road is not physically possible we change to transoceanic transport. The distance for intercontinental shipped materials is calculated based on the distance between ports (<http://www.searates.com/reference/portdistance/>). For road transport, the distances are calculated using the site locations and the vendors' invoice addresses, using google maps. Cradle to gate emission factors for transoceanic freight ("Transport, freight, sea, transoceanic ship {GLO}| market for | APOS, U") and lorry ("Transport, freight, lorry 16-32 metric ton, EURO5 {GLO}| market for | APOS, U") are taken from Ecoinvent v3.8 database.

## Waste generated in operations

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

34462

### Emissions calculation methodology

Waste-type-specific method

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

0

### Please explain

Calculation method: amount of waste landfilled or incinerated is collected from the sites on yearly basis. This includes incinerated and landfilled by-products. Emissions from recycling and incineration with energy recovery are assumed to be zero. It is assumed that all carbon is degraded and 50% of this carbon ends up as CO2 and 50% as CH4. Methane is not captured (neither for energy production or flared -> all CH4 generated is released). When composition of the wasted material is not known it is assumed that all carbon is fossil based. Carbon content in waste is taken from IPPCC 2006, Chapter 2: Waste Generation, Composition and Management, chapter 5: for non-hazardous waste 0.8 ton C/ton waste→ corresponds to petroleum industry (worse case); for hazardous waste average value of 0.275 tonC/ton waste

## Business travel

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

3579

### Emissions calculation methodology

Spend-based method

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

0

### Please explain

The spend-based method is used to calculate the emissions from business travel. We assume 10% of the spent value corresponds to travel by car and 90% by airplane. Emission factors Calculated using <https://quantis-suite.com/Scope-3-Evaluator/>. Based on the 'The World Input-Output Database (WIOD), 2009'

## Employee commuting

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

8855

### Emissions calculation methodology

Average data method

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

0

### Please explain

Assumptions: all transport by car (1 employee by car), two trips per day, 88 traveling days, default travel distance 30 km. Emission factors: Cradle to gate emission factors were obtained from Ecoinvent 3.8 database, using European datasets: "Transport, passenger car {RER}| processing | APOS, U" (average of car size, fuel type and engine (Euro 3 - Euro 5)).

## Upstream leased assets

### Evaluation status

Not relevant, calculated

### Emissions in reporting year (metric tons CO2e)

4724

### Emissions calculation methodology

Average data method

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

0

### Please explain

Electricity and natural gas consumption in leased offices and warehouses are included. Emission factors are in line with Scope 1 and market-based approach for Scope 2 calculation. The spend-based method is used to calculate Scope 3 emissions from leased assets. Emission factor for Rental and leasing services (DEFRA I/O database, 2011) was used.

## Downstream transportation and distribution

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

108881

### Emissions calculation methodology

Distance-based method

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

0

### Please explain

Calculated based on transport movements. Kilometers times conversion factor. Methodology the same as for Upstream transportation i.e. It is assumed that road transport is done by truck and intercontinental transport by transoceanic freight. We assume all transport is done by road whenever possible. Only when road is not physically possible we change to transoceanic transport. The distance for intercontinental shipped materials are calculated based on the distance between ports (<http://www.searates.com/reference/portdistance/>). For road transport, the distances are calculated using the site locations and the vendors invoice addresses, using google maps. Cradle to gate emission factors for transoceanic freight ("Transport, freight, sea, transoceanic ship {GLO}| market for | APOS, U ") and lorry ("Transport, freight, lorry 16-32 metric ton, EURO5 {GLO}| APOS, U") are taken from Ecoinvent 3.8 database.

## Processing of sold products

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Corbion products are mostly used in small quantities as chemical intermediate in many downstream applications and represent a non-material element in the final product (usage level around 1%).

## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Corbion's products are intermediates used in the B2B sector mostly in the food and feed applications. They represent a non-material element in the final product (usage level around 1%). Corbion's products do not directly consume energy at customers.

## End of life treatment of sold products

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Corbion's products are intermediates used in the B2B sector mostly in the food and feed applications. Furthermore, most products are produced from 98% biobased materials (p46 Corbion's annual report 2022) and as such they do not cause end-of-life emissions

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Not relevant, Corbion does not lease assets downstream.

## Franchises

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Not relevant, Corbion does not have franchises.

**Investments**

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

14929

**Emissions calculation methodology**

Investment-specific method

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

100

**Please explain**

50% of scope 1+2 emissions from the 50/50 joint venture TotalEnergies Corbion PLA

**Other (upstream)**

**Evaluation status**

Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Please explain**

No other relevant upstream scope 3 emissions applicable.

**Other (downstream)**

**Evaluation status**

Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Please explain**

No other relevant upstream scope 3 emissions applicable.

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	90954	

C-AC6.8/C-FB6.8/C-PF6.8

**(C-AC6.8/C-FB6.8/C-PF6.8) Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?**

Yes

C-AC6.8a/C-FB6.8a/C-PF6.8a

(C-AC6.8a/C-FB6.8a/C-PF6.8a) Account for biogenic carbon data pertaining to your direct operations and identify any exclusions.

**CO2 emissions from biofuel combustion (processing/manufacturing machinery)**

**Emissions (metric tons CO2)**

45798

**Methodology**

Region-specific emissions factors

**Please explain**

Biogenic CO2 emissions from combustion of biogas in our sites in Netherlands, Brazil and Thailand are calculated with site specific emission factors of biogas based on biogas composition. Biogenic CO2 emissions from biogenic energy sources used in our site in Orindiuva are based on WBSCD default factors for allocation of emissions from biofuel powered combined heat and power generation (Guidance for Measuring & Reporting Corporate Value Chain GHG Emissions in the Chemical Sector, 2013, page 43) and emission factors from bagasse combustion from GHG protocol from BR, 2019 version

C-AC6.9/C-FB6.9/C-PF6.9

(C-AC6.9/C-FB6.9/C-PF6.9) Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in C-AC0.7/FB0.7/PF0.7?

**Agricultural commodities**

Soy

**Do you collect or calculate GHG emissions for this commodity?**

Yes

**Reporting emissions by**

Unit of production

**Emissions (metric tons CO2e)**

1.32

**Denominator: unit of production**

Metric tons

**Change from last reporting year**

About the same

**Please explain**

Total emissions related to soy increased by 2% due to higher quantity purchased. Emission factor did not change

**Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future**

<Not Applicable>

**Agricultural commodities**

Palm Oil

**Do you collect or calculate GHG emissions for this commodity?**

Yes

**Reporting emissions by**

Unit of production

**Emissions (metric tons CO2e)**

4.7

**Denominator: unit of production**

Metric tons

**Change from last reporting year**

Lower

**Please explain**

Emission factor decreased due to a lower impact on direct CO2 emissions (in line with RSPO) and an increase in palm fruit yield

**Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future**

<Not Applicable>

**Agricultural commodities**

Sugar

**Do you collect or calculate GHG emissions for this commodity?**

Yes

**Reporting emissions by**

Unit of production

**Emissions (metric tons CO2e)**

0.32

**Denominator: unit of production**

Metric tons

**Change from last reporting year**

About the same

**Please explain**

Total emissions related to sugar increased by 7% due to higher quantity purchased. Emission factor was about the same

**Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future**

<Not Applicable>

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**Agricultural commodities**

Other, please specify (Maize)

**Do you collect or calculate GHG emissions for this commodity?**

Yes

**Reporting emissions by**

Unit of production

**Emissions (metric tons CO2e)**

0.5

**Denominator: unit of production**

Metric tons

**Change from last reporting year**

About the same

**Please explain**

Total emissions related to maize decreased by 11% due to lower quantity purchased. Emission factor was about the same

**Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future**

<Not Applicable>

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C6.10

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**(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**

0.000098

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

142338

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

1457900000

**Scope 2 figure used**

Market-based

**% change from previous year**

32.7

**Direction of change**

Decreased

**Reason(s) for change**

Change in renewable energy consumption

**Please explain**

This reduction is primarily driven by the increased use of renewable electricity. The percentage of our purchased electricity being renewable increased from 79% to 94%. Implementation of energy savings projects and product mix effects also contributed to a decrease in Scope 1 and 2 emissions per total revenue

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C7. Emissions breakdowns

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C7.1

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

No

C7.2

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

Country/area/region	Scope 1 emissions (metric tons CO2e)
Brazil	15160
Netherlands	26318
Thailand	31881
United States of America	16086
Spain	17820

**C7.3**

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

By business division

**C7.3a**

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

Business division	Scope 1 emissions (metric ton CO2e)
Sustainable Food Solutions	50522
Lactic Acid & Specialties	52990
Incubator/Algae Ingredients	3754

**C-AC7.4/C-FB7.4/C-PF7.4**

**(C-AC7.4/C-FB7.4/C-PF7.4) Do you include emissions pertaining to your business activity(ies) in your direct operations as part of your global gross Scope 1 figure?**

Yes

**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	106157	<Not Applicable>	The only relevant breakdown is for the "chemical production sector", where all sites except Araucária and Totowa belong to.
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>

**C-AC7.4b/C-FB7.4b/C-PF7.4b**

**(C-AC7.4b/C-FB7.4b/C-PF7.4b) Report the Scope 1 emissions pertaining to your business activity(ies) and explain any exclusions. If applicable, disaggregate your agricultural/forestry by GHG emissions category.**

**Activity**

Processing/Manufacturing

**Emissions category**

<Not Applicable>

**Emissions (metric tons CO2e)**

106157

**Methodology**

Region-specific emissions factors

**Please explain**

This is equal to the chemical activities of Corbion as they include processing and manufacturing. This is all of scope 1, minus the emissions of the non-chemical plants: Araucária and Totowa.

**C7.5**

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

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Brazil	6911	924
Netherlands	9718	4392
Spain	3020	0
Thailand	23349	0
United States of America	46802	29741

**C7.6**

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

By business division

**C7.6a**

**(C7.6a) Break down your total gross global Scope 2 emissions by business division.**

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Sustainable Food Solutions	42296	16519
Lactic Acid & Specialties	44361	17325
Incubator/Algae Ingredients	3143	1228

**C7.7**

**(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?**

Not relevant as we do not have any subsidiaries

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



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

	Scope 2, location-based, metric tons CO <sub>2</sub> e	Scope 2, market-based (if applicable), metric tons CO <sub>2</sub> e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	87631	35068	All our sites belong to the chemical sector, except in Araucária and Totowa
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 tCO <sub>2</sub> e from purchased feedstock	Explain calculation methodology
Other (please specify) (None)	0	This is not relevant for Corbion, as Corbion does not purchase chemical feedstock.

**C-CH7.8a**

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

	Sales, metric tons	Comment
Carbon dioxide (CO <sub>2</sub> )	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Methane (CH <sub>4</sub> )	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Nitrous oxide (N <sub>2</sub> O)	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Hydrofluorocarbons (HFC)	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Perfluorocarbons (PFC)	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Sulphur hexafluoride (SF <sub>6</sub> )	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Nitrogen trifluoride (NF <sub>3</sub> )	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.

**C7.9**

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**  
Decreased

**C7.9a**

**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.**

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	15657	Decreased	10.1	Gross Scope 1+2 emissions decreased by 10.1%, due to change in renewable energy consumption. Ten out of twelve Corbion sites are now 100% powered by renewable electricity, which increases our global coverage to 94%. Through these activities we reduced our emissions by 15,657 tons CO2e. Our total Scope 1 and Scope 2 emissions in 2021 were 155,065 tons CO2e, therefore we arrived at -10.1% through $(-15,657/155,065) * 100 = -10.1\%$ (i.e. a 10.1% decrease in emissions).
Other emissions reduction activities	1591	Decreased	1	Gross Scope 1+2 emissions decreased by 1.0%, due to energy efficiency activities undertaken. These activities include process improvements by process equipment replacement. Through these activities we reduced our emissions by 1,591 tons CO2e. Our total Scope 1 and Scope 2 emissions in 2021 were 155,065 tons CO2e, therefore we arrived at -1.0% through $(-1591/155065) * 100 = -1.0\%$ (i.e. a 1.0% decrease in emissions).
Divestment		<Not Applicable >		
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output	6829	Decreased	4.4	Due to a decrease of production volume our Scope 1+2 emissions decreased with 6,829 Ton CO2eq. Our total Scope 1 and Scope 2 emissions in the previous year were 155,065 tons CO2e, therefore we arrived at 4.4% through $(-6,829/155,065) * 100 = 4.4\%$ (i.e. a 4.4% decrease in emissions).
Change in methodology		<Not Applicable >		
Change in boundary		<Not Applicable >		
Change in physical operating conditions		<Not Applicable >		
Unidentified		<Not Applicable >		
Other		<Not Applicable >		

### C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Market-based

### C8. Energy

#### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 5% but less than or equal to 10%

#### 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	No
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)	HHV (higher heating value)	13809	589181	602989
Consumption of purchased or acquired electricity	<Not Applicable>	240224	16851	257075
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	90995	118113	209108
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	154	<Not Applicable>	154
Total energy consumption	<Not Applicable>	345182	724144	1069326

C-CH8.2a

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

**Consumption of fuel (excluding feedstocks)**

**Heating value**

HHV (higher heating value)

**MWh consumed from renewable sources inside chemical sector boundary**

13809

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

582995

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

0

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

596803

**Consumption of purchased or acquired electricity**

**Heating value**

<Not Applicable>

**MWh consumed from renewable sources inside chemical sector boundary**

232494

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

16851

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

0

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

249345

**Consumption of purchased or acquired steam**

**Heating value**

<Not Applicable>

**MWh consumed from renewable sources inside chemical sector boundary**

90995

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

118113

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

0

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

209108

**Consumption of self-generated non-fuel renewable energy**

**Heating value**

<Not Applicable>

**MWh consumed from renewable sources inside chemical sector boundary**

154

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

0

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

0

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

154

**Total energy consumption**

**Heating value**

<Not Applicable>

**MWh consumed from renewable sources inside chemical sector boundary**

337451

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

717959

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

0

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

1055410

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	No
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	No

**C8.2c**

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

**Sustainable biomass**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

**Other biomass**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

**Other renewable fuels (e.g. renewable hydrogen)**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

13809

**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**

13089

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

**Coal**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

**Oil**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

**Gas**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

589181

**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**

589181

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

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

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

**Total fuel**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

602989

**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**

602989

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

<Not Applicable>

**Comment**

**C8.2d**

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	154	154	154	154
Heat	0	0	0	0
Steam	4863	4863	4863	4863
Cooling	0	0	0	0

**C-CH8.2d**

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

**Electricity**

Total gross generation inside chemicals sector boundary (MWh)

154

Generation that is consumed inside chemicals sector boundary (MWh)

154

Generation from renewable sources inside chemical sector boundary (MWh)

154

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

0

**Heat**

Total gross generation inside chemicals sector boundary (MWh)

0

Generation that is consumed inside chemicals sector boundary (MWh)

0

Generation from renewable sources inside chemical sector boundary (MWh)

0

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

0

**Steam**

Total gross generation inside chemicals sector boundary (MWh)

4863

Generation that is consumed inside chemicals sector boundary (MWh)

4863

Generation from renewable sources inside chemical sector boundary (MWh)

4863

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

0

**Cooling**

Total gross generation inside chemicals sector boundary (MWh)

0

Generation that is consumed inside chemicals sector boundary (MWh)

0

Generation from renewable sources inside chemical sector boundary (MWh)

0

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

0

**C8.2g**

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

Brazil

Consumption of purchased electricity (MWh)

107934

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

Consumption of purchased heat, steam, and cooling (MWh)

90995

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

Country/area

Netherlands

Consumption of purchased electricity (MWh)

32248

Consumption of self-generated electricity (MWh)



Is this electricity consumption excluded from your RE100 commitment?

No

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

---

Country/area

Spain

Consumption of purchased electricity (MWh)

19599

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

---

Country/area

Thailand

Consumption of purchased electricity (MWh)

48979

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

---

Country/area

United States of America

Consumption of purchased electricity (MWh)

48469

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

Consumption of purchased heat, steam, and cooling (MWh)

118113

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

---

## C8.2h

(C8.2h) Provide details of your organization's renewable electricity purchases in the reporting year by country/area.

Country/area of consumption of purchased renewable electricity

Brazil

Sourcing method

Retail supply contract with an electricity supplier (retail green electricity)

Renewable electricity technology type

Renewable electricity mix, please specify (Sustainable biomass)

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**

86832

**Tracking instrument used**

Other, please specify (Contract)

**Country/area of origin (generation) of purchased renewable electricity**

Brazil

**Are you able to report the commissioning or re-powering year of the energy generation facility?**

No

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

<Not Applicable>

**Vintage of the renewable energy/attribute (i.e. year of generation)**

2022

**Supply arrangement start year**

2018

**Additional, voluntary label associated with purchased renewable electricity**

No additional, voluntary label

**Comment**

Biomass is considered sustainable because it's originated from the burning of bagasse a byproduct that remains after crushing sugarcane or sorghum stalks to extract their juice.

---

**Country/area of consumption of purchased renewable electricity**

Brazil

**Sourcing method**

Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**

Sustainable Biomass

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**

21102

**Tracking instrument used**

I-REC

**Country/area of origin (generation) of purchased renewable electricity**

Brazil

**Are you able to report the commissioning or re-powering year of the energy generation facility?**

Yes

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

2008

**Vintage of the renewable energy/attribute (i.e. year of generation)**

2022

**Supply arrangement start year**

2022

**Additional, voluntary label associated with purchased renewable electricity**

No additional, voluntary label

**Comment**

Biomass is considered sustainable because it's originated from the burning of bagasse a byproduct that remains after crushing sugarcane or sorghum stalks to extract their juice.

---

**Country/area of consumption of purchased renewable electricity**

Netherlands

**Sourcing method**

Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**

Renewable electricity mix, please specify (Wind/Solar)

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**

22400

**Tracking instrument used**

GO

**Country/area of origin (generation) of purchased renewable electricity**

Netherlands

**Are you able to report the commissioning or re-powering year of the energy generation facility?**

No

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

<Not Applicable>

**Vintage of the renewable energy/attribute (i.e. year of generation)**

2022

**Supply arrangement start year**

2021

**Additional, voluntary label associated with purchased renewable electricity**

No additional, voluntary label

**Comment**

---

**Country/area of consumption of purchased renewable electricity**

Spain

**Sourcing method**

Retail supply contract with an electricity supplier (retail green electricity)

**Renewable electricity technology type**

Renewable electricity mix, please specify (Wind/Solar)

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**

19548

**Tracking instrument used**

Other, please specify (Green tariffs not backed by tracking instrument)

**Country/area of origin (generation) of purchased renewable electricity**

Spain

**Are you able to report the commissioning or re-powering year of the energy generation facility?**

No

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

<Not Applicable>

**Vintage of the renewable energy/attribute (i.e. year of generation)**

2022

**Supply arrangement start year**

2019

**Additional, voluntary label associated with purchased renewable electricity**

No additional, voluntary label

**Comment**

---

**Country/area of consumption of purchased renewable electricity**

Thailand

**Sourcing method**

Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**

Solar

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**

48979

**Tracking instrument used**

I-REC

**Country/area of origin (generation) of purchased renewable electricity**

Thailand

**Are you able to report the commissioning or re-powering year of the energy generation facility?**

Yes

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

2015

**Vintage of the renewable energy/attribute (i.e. year of generation)**

2022

**Supply arrangement start year**

2022

**Additional, voluntary label associated with purchased renewable electricity**

No additional, voluntary label

**Comment**

---

**Country/area of consumption of purchased renewable electricity**

United States of America

**Sourcing method**

Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**

Small hydropower (<25 MW)

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**

---

41363

**Tracking instrument used**

US-REC

**Country/area of origin (generation) of purchased renewable electricity**

United States of America

**Are you able to report the commissioning or re-powering year of the energy generation facility?**

No

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

<Not Applicable>

**Vintage of the renewable energy/attribute (i.e. year of generation)**

2022

**Supply arrangement start year**

2020

**Additional, voluntary label associated with purchased renewable electricity**

No additional, voluntary label

**Comment**

---

C8.2i

---

**(C8.2i) Provide details of your organization's low-carbon heat, steam, and cooling purchases in the reporting year by country/area..**

**Sourcing method**

Heat/steam/cooling supply agreement

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

Brazil

**Energy carrier**

Heat, steam, and cooling combined

**Low-carbon technology type**

Sustainable biomass

**Low-carbon heat, steam, or cooling consumed (MWh)**

90995

**Comment**

Biomass is considered sustainable because it's originated from the burning of bagasse a byproduct that remains after crushing sugarcane or sorghum stalks to extract their juice.

---

C8.2j

---

**(C8.2j) Provide details of your organization's renewable electricity generation by country/area in the reporting year.**

**Country/area of generation**

Netherlands

**Renewable electricity technology type**

Solar

**Facility capacity (MW)**

0.03

**Total renewable electricity generated by this facility in the reporting year (MWh)**

154

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**

154

**Energy attribute certificates issued for this generation**

No

**Type of energy attribute certificate**

<Not Applicable>

**Comment**

---

C8.2k

---

**(C8.2k) Describe how your organization's renewable electricity sourcing strategy directly or indirectly contributes to bringing new capacity into the grid in the countries/areas in which you operate.**

- Direct: Renewable electricity was hardly available in Thailand and by collaborating with B.Grimm is a new facility under development that is going to provide our site renewable energy in the future.

- Indirect: By purchasing renewable electricity certificates we make sure there is an increased demand for generating renewable electricity

**C8.2l**

**(C8.2l) In the reporting year, has your organization faced any challenges to sourcing renewable electricity?**

	Challenges to sourcing renewable electricity	Challenges faced by your organization which were not country/area-specific
Row 1	No	<Not Applicable>

**C-CH8.3**

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

No

**C9. Additional metrics**

**C9.1**

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

**Description**

Waste

**Metric value**

34.43

**Metric numerator**

kT of waste

**Metric denominator (intensity metric only)**

-

**% change from previous year**

32.5

**Direction of change**

Increased

**Please explain**

Increase in waste can be attributed to 1) increase of waste disposal that couldn't not be treated in our own waste water treatment facility and 2) increase disposal of biosludge due to cleaning activities

**Description**

Energy usage

**Metric value**

5.2

**Metric numerator**

Energy use is GJ

**Metric denominator (intensity metric only)**

Production volume in Tonnes

**% change from previous year**

27

**Direction of change**

Decreased

**Please explain**

Decrease in energy usage can be attributed to 1) differences in our product mix with for instance more emphasis on energy intensive products the total energy intensity per ton of product has also risen and 2) The commercialization of significant amounts of gypsum (a co-product of lactic acid production), which increases the production volume without adding emissions.

**C-CH9.3a**

---

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

**Output product**

Specialty chemicals

**Production (metric tons)**

683104

**Capacity (metric tons)**

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

0.155

**Electricity intensity (MWh per metric ton of product)**

0.365

**Steam intensity (MWh per metric ton of product)**

0.31

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

**Comment**

Our chemical products are specialty organic chemicals from all Corbion sites except Araucaria and Totowa

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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**

Radical process redesign

**Stage of development in the reporting year**

Small scale commercial deployment

**Average % of total R&D investment over the last 3 years**

20

**R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**

**Average % of total R&D investment planned over the next 5 years**

20

**Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan**

The self-healing concrete application based on our product SENTIALL was developed together with Green-Basilisk and is currently being commercialized on small scale by Green-Basilisk. SENTIALL can be used to create a self-healing concrete product that fills cracks in concrete by converting substrates into limestone, thereby repairing those cracks automatically. This innovation dramatically improves the durability of concrete structures, and thereby enables the cement industry to reduce their carbon footprint, due to the reduced need for cement and steel. This has been a long term innovation effort with <20% R&D investment over the last 3 years.

**Technology area**

Radical process redesign

**Stage of development in the reporting year**

Large scale commercial deployment

**Average % of total R&D investment over the last 3 years**

30

**R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**

**Average % of total R&D investment planned over the next 5 years**

30

**Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan**

Corbion has developed a new technology for lactic acid production with a significantly reduced carbon footprint. This technology is currently being applied at small commercial scale in the Netherlands and will be applied in our new manufacturing plant in Thailand, start-up in 2023. The R&D investment over the last 3 years is 21-40%.

**Technology area**

Bio technology

**Stage of development in the reporting year**

Large scale commercial deployment

**Average % of total R&D investment over the last 3 years**

30

**R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)**

**Average % of total R&D investment planned over the next 5 years**

30

**Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan**

In Corbion's Incubator, new sustainable value propositions based on Algae fermentation are being developed. This includes algae-based DHA as alternative for fish oil and algae derived plant-based protein, to replace meat. The R&D investment over the last 3 years is 21-40%.

**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**

Corbion\_annual\_report\_2022\_CDP.pdf  
Climate Action Roadmap Brochure.pdf

**Page/ section reference**

The assurance report of the independent auditor can be found on page 218-221 of the Annual Report 2022. Information on the assurance level and KPIs verified by the external auditor can be found on page 80 and page 185-186 of the Annual Report 2022.

**Relevant standard**

Dutch Standard 3000A

**Proportion of reported emissions verified (%)**

100

---

**C10.1b**

---

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

**Scope 2 approach**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

Corbion\_annual\_report\_2022\_CDP.pdf

**Page/ section reference**

The assurance report of the independent auditor can be found on page 218-221 of the Annual Report 2022. Information on the assurance level and KPIs verified by the external auditor can be found on page 80 and page 185-186 of the Annual Report 2022.

**Relevant standard**

Dutch Standard 3000A

**Proportion of reported emissions verified (%)**

100

---

**Scope 2 approach**

Scope 2 market-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

Corbion\_annual\_report\_2022\_CDP.pdf

**Page/ section reference**

The assurance report of the independent auditor can be found on page 218-221 of the Annual Report 2022. Information on the assurance level and KPIs verified by the external auditor can be found on page 80 and page 185-186 of the Annual Report 2022.

**Relevant standard**

Dutch Standard 3000A

**Proportion of reported emissions verified (%)**

100

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**C10.1c**

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

**Scope 3 category**

- Scope 3: Purchased goods and services
- Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
- Scope 3: Upstream transportation and distribution
- Scope 3: Waste generated in operations
- Scope 3: Business travel
- Scope 3: Employee commuting
- Scope 3: Investments
- Scope 3: Downstream transportation and distribution

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

Corbion\_annual\_report\_2022\_CDP.pdf

**Page/section reference**

The assurance report of the independent auditor can be found on page 218-221 of the Annual Report 2022. Information on the assurance level and KPIs verified by the external auditor can be found on page 80 and page 185-186 of the Annual Report 2022.

**Relevant standard**

Dutch Standard 3000A

**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
C8. Energy	Renewable energy products	Dutch Standard 3000A	The assurance report of the independent auditor can be found on page 218-221 of the Annual Report 2022. Information on the assurance level and KPIs verified by the external auditor can be found on page 80 and page 185-186 of the Annual Report 2022.

**C11. Carbon pricing**

**C11.1**

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

Yes

**C11.1a**

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

- EU ETS
- Netherlands carbon tax

**C11.1b**

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

**EU ETS**

**% of Scope 1 emissions covered by the ETS**

41

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1 2022

**Period end date**

December 31 2022

**Allowances allocated**

28610

**Allowances purchased**

0

**Verified Scope 1 emissions in metric tons CO2e**

44177

**Verified Scope 2 emissions in metric tons CO2e**

0

**Details of ownership**

Facilities we own and operate

**Comment**

C11.1c

---

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

**Netherlands carbon tax**

**Period start date**

January 1 2022

**Period end date**

December 31 2022

**% of total Scope 1 emissions covered by tax**

25

**Total cost of tax paid**

0

**Comment**

Because the price of an emissions right in the EU ETS was above the threshold set by the Netherlands carbon tax for 2022, no tax was levied in the reporting period.

C11.1d

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

Corbion is committed to reduce its GHG emissions in line with 1,5C, shown by our SBTi aligned target) and to achieve net zero by 2050. We have developed a CO2 reduction roadmap to achieve this target. Corbion's strategy for factories which fall under the EU ETS and the Netherlands carbon tax as well as for sites outside regulated systems is to reduce CO2 emissions in line with our approved SBTi 1,5C target. We include an internal carbon price in the business cases of our investment projects. Hereby Corbion ensures the impact on carbon emissions are taken into account in investment decisions. We use an internal carbon price of €100/ton CO2e (updated in 2022 from €50/ton in 2021). For projects in the EU we use scenario pricing ranging from €100 to €150 by 2030). This practice encourages low-carbon solutions. For our facilities that are subject to the EU ETS in Spain and the Netherlands (as well as for sites outside of the EU ETS) we have identified and scheduled the implementation of a portfolio of opportunities to reduce our carbon emissions. These range from small modifications to Mechanical Vapor Recompression to the installation of heatpumps. Other initiatives include, but are not limited to, the transition to 100% renewable electricity by 2030 and use of the most energy-efficient technology available when equipment is replaced.

The current EU ETS price is above the threshold for this tax; therefore, no tax is paid under the Dutch carbon tax system. To ensure compliance we will purchase the required emission rights in the relevant pricing schemes when necessary.

The current EU ETS price is above the threshold for this tax, therefore no tax is paid under the Dutch carbon tax system. To ensure compliance we will purchase the required emission rights in the relevant pricing schemes when necessary.

## C11.2

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**(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?**

No

## C11.3

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

Yes

### C11.3a

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**(C11.3a) Provide details of how your organization uses an internal price on carbon.**

**Type of internal carbon price**

Shadow price

**How the price is determined**

Alignment with the price of allowances under an Emissions Trading Scheme  
Cost of required measures to achieve emissions reduction targets  
Benchmarking against peers

**Objective(s) for implementing this internal carbon price**

Change internal behavior  
Drive energy efficiency  
Drive low-carbon investment  
Identify and seize low-carbon opportunities  
Navigate GHG regulations  
Stakeholder expectations  
Stress test investments  
Reduce supply chain emissions

**Scope(s) covered**

Scope 1  
Scope 2  
Scope 3 (upstream)  
Scope 3 (downstream)

**Pricing approach used – spatial variance**

Differentiated

**Pricing approach used – temporal variance**

Evolutionary

**Indicate how you expect the price to change over time**

EU ETS: We expect the EU ETS price to increase over time. We work with a low, medium and high scenario, with the price increasing from 80 EUR in 2022 to 100 - 150 EUR/tCO<sub>2</sub> in 2030, depending on the scenario.

Other regions: in the regions without a carbon pricing system we use a static internal carbon price of 100 EUR/tCO<sub>2</sub> for scope I and II emissions.

**Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO<sub>2</sub>e)**

100

**Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO<sub>2</sub>e)**

150

**Business decision-making processes this internal carbon price is applied to**

Capital expenditure  
Product and R&D  
Risk management  
Opportunity management

**Mandatory enforcement of this internal carbon price within these business decision-making processes**

Yes, for some decision-making processes, please specify

**Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan**

For large expansion projects, an internal carbon price on all scopes is applied to understand the financial impact of a (future) external carbon price and the impact on our Science Based Target. In our CO<sub>2</sub> reduction roadmap, we use an internal carbon price for priority setting. To encourage development of low-carbon technologies, we are reviewing the financial impact of GHG emissions through internal carbon pricing in our long-term R&D projects.

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## C12. Engagement

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## C12.1

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

Yes, our suppliers

Yes, our customers/clients

## C12.1a

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

#### Type of engagement

Engagement & incentivization (changing supplier behavior)

#### Details of engagement

Run an engagement campaign to educate suppliers about climate change

#### % of suppliers by number

13

#### % total procurement spend (direct and indirect)

49

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

71

#### Rationale for the coverage of your engagement

Corbion raised its climate ambition in 2022 to align with 1.5°C, the most ambitious goal of the Paris Agreement. This target is what the latest climate science has told us is needed to prevent the most damaging effects of climate change. We committed to reducing our absolute Scope I and II emissions by 38% and our Scope III emissions by 24% per metric ton of product by 2030, compared to 2021. Our new targets have been validated by the Science Based Targets initiative., which were validated by the Science Based Targets initiative in December 2022. Our Scope III target includes emissions related to our key raw materials. We engage with these suppliers to raise awareness on climate change, the Paris agreement, Science Based Targets and the importance of climate transition plans. We require the suppliers of these raw materials to share product level emission data to be able to monitor the progress towards Corbion's target. We also request our suppliers to develop climate transition plans and we aim to identify opportunities for the suppliers to reduce their emissions. We have selected suppliers of our main raw materials that cover 71% of our total Scope 3 emissions. These materials are: sugar, dextrose, soybean oil, palm oil, lime, glycerin, stearic and oleic acid, sulfuric acid, sodium hydroxide and potassium hydroxide.

#### Impact of engagement, including measures of success

The measures of success of our CO2 supplier engagement program is to reduce Corbion's Scope 3 emissions by 24% per ton of product compared to 2021.

We engage with the suppliers of our 8 key raw materials that have the largest impact on our Scope 3 emissions to raise awareness, collect data including their climate transition plans. In 2022, we have already made significant progress towards achieving our new target by reducing our Scope III emissions by 17% per ton of product compared to 2021. This reduction is caused by a combination of lower purchases of raw materials and the implementation of RSPO certification.

An example of a successful engagement that has reduced our Scope 3 emissions is the engagement with our suppliers of palm oil and palm oil derivatives for our emulsifier and functional blends manufacturing sites in the US, to require them to achieve RSPO certification. Most of our direct supplier are based in the US, the palm oil originates from Malaysia and Indonesia. Since 2020, all palm oil and primary oleochemicals derived from palm oil are sourced RSPO certified. This has resulted in 7% reduction of CO2 per ton of raw material sourced compared to our 2021 baseline, because RSPO certification includes a deforestation-free requirement.

In case of non compliance of these suppliers with our requirements on Complying with regulatory requirements (through commitment to our supplier code) and on Measuring product-level emissions, we continue to engage with these suppliers. We request them to take corrective actions to comply with our requirements and especially for our cane sugar suppliers, we also offer training.

#### Comment

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## C12.1b

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

**Type of engagement & Details of engagement**

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

100

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

0

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

Corbion's Sustainability and Climate-related policies, targets and performance are included in all standard business communication materials (presentations, brochures). Reduction of our GHG emissions is a key sustainability target for Corbion and this topic is therefore important to share with all of our customers. Corbion also aims to perform Life Cycle Assessments (LCA), including carbon footprint calculations, for all products from its main facilities and we share these data with our customers to enable them to use this information for their own GHG reduction initiatives. 2022, 78% of our production volume was covered by an LCA.

We also engage with selected key accounts that have set Science-based targets to identify collaboration opportunities (e.g. engagement of shared suppliers) and we provide support to customers that consider joining the Science based target initiative and want to learn from Corbion's approach, with the ambition to support them in the development of their climate transition plan. Finally, we provide information about our GHG emissions to our customers via customer-specific surveys and we participate in CDP's Supply chain program on the request of several customers.

A specific example of customer engagement is the campaign related to our LCA for our product Algaprime DHA, which is applied in aquaculture feed as an alternative for fish oil. We have performed an LCA for this product including a comparison to fish oil, demonstrating that the carbon footprint of Algaprime DHA is lower than fish oil. This study was published in Algal Research in 2021 (Davis et al. - Life cycle assessment of heterotrophic algae omega-3) and we have communicated this LCA at various conferences/webinars and in customer meetings

**Impact of engagement, including measures of success**

We apply the following measures of success: Organic sales growth (volume growth + mix growth, excluding price impact) of Corbions' Algae ingredients business by 25%. A specific example of customer engagement is the campaign related to our LCA for our product AlgaPrime™ DHA (algae-based omega-3), which is applied in aquaculture feed as an alternative for fish oil. We have performed an LCA for this product including a comparison to fish oil, demonstrating that the carbon footprint of Algaprime DHA is lower than fish oil. This study was published in Algal Research in 2021 (Davis et al. - Life cycle assessment of heterotrophic algae omega-3) and we have communicated this LCA at various conferences/webinars and in customer meetings.

Algae Ingredients delivered organic sales growth of 115.3% in 2022, driven by the strong growth of AlgaPrime™ DHA. The adoption of AlgaPrime DHA grew significantly among multiple leading aquaculture feed companies, who are turning to algae-based omega-3 to reduce their dependency on wild fish stocks.

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**C12.2**

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

Yes, suppliers have to meet climate-related requirements, but they are not included in our supplier contracts

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**C12.2a**

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

**Climate-related requirement**

Complying with regulatory requirements

**Description of this climate related requirement**

We require all of our raw material suppliers to sign our supplier code for confirmation or demonstrate commitment to our code by compliance with company policies that embrace the standards included in our code. Our supplier code defines Corbion's expectations in respect of our suppliers meeting our responsible sourcing commitment. The code consists of principles and criteria for business ethics, human rights and labor conditions, and environmental practices, based on the OECD Guidelines for Multinational Enterprises and the eight fundamental conventions defined by the ILO. The supplier code includes a specific section on Environment that includes a clause related to compliance with all relevant environmental laws and a clause related to the minimization of the emission of greenhouse gases.

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

100

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

99

**Mechanisms for monitoring compliance with this climate-related requirement**

Supplier self-assessment  
Grievance mechanism/Whistleblowing hotline

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

Retain and engage

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**Climate-related requirement**

Measuring product-level emissions

**Description of this climate related requirement**

Corbion raised its climate ambition in 2022 to align with 1.5°C, the most ambitious goal of the Paris Agreement. This target is what the latest climate science has told us is needed to prevent the most damaging effects of climate change. We committed to reducing our absolute Scope I and II emissions by 38% and our Scope III emissions by 24% per metric ton of product by 2030, compared to 2021. Our new targets have been validated by the Science Based Targets initiative., which were validated by the Science Based Targets initiative in December 2022. Our Scope III target includes emissions related to our key raw materials. We have selected suppliers of our main raw materials that cover 71% of our total Scope 3 emissions. These materials are: sugar, dextrose, soybean oil, palm oil, lime, glycerin, stearic acid, sulfuric acid, oleic acid, sodium hydroxide and potassium hydroxide. We require the suppliers of these raw materials to share product level emission data to be able to monitor the progress towards Corbion's target.

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

49

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

26

**Mechanisms for monitoring compliance with this climate-related requirement**

Certification  
Supplier self-assessment  
First-party verification  
On-site third-party verification

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

Retain and engage

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**C-AC12.2/C-FB12.2/C-PF12.2**

**(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?**

Yes

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**C-AC12.2a/C-FB12.2a/C-PF12.2a**

**(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.**

**Management practice reference number**

MP1

**Management practice**

Permanent soil cover (including cover crops)

**Description of management practice**

We entered into a partnership with Cargill and Practical Farmers of Iowa to develop a soil health program targeting corn and soy growers in the sourcing region surrounding Corbion's manufacturing facility in Blair, Nebraska. The program is focused on the adoption of soil health practices, including no till, planting of cover crops, and nutrient management. It aims to deduce GHG emissions, increase soil organic matter, increase farmer resilience, improve water quality, and leverage technical assistance and farmer-farmer networks to drive change. The program has three elements: cost share for growers implementing cover crops; technical and peer support network; and monitoring and evaluation of outcomes towards supply chain sustainability goals.

We have chosen this practice because of the existing evidence (Practical Farmers of Iowa and literature) that cover crops support the reduction of fertilizer use and can sequester CO2 in the soil, resulting in a reduction of GHG emissions. Farmers that participate in the program supply corn to Cargill, which Cargill converts into dextrose which is a raw material for Corbion. This practice can therefore reduce the carbon footprint of Corbion's raw material (dextrose).

We currently focus on the implementation of this practice for our dextrose supplier. The program serves as a pilot and we are currently engaging with the suppliers of our other key agricultural raw materials to initiate similar programs in other regions.

**Your role in the implementation**

Financial

**Explanation of how you encourage implementation**

We engaged with our corn dextrose suppliers while developing our GHG reduction roadmap in 2018-2019 and have continued conversations on opportunities to start a joint project since then on regular basis. These conversations led to the initiation of this specific soil health program in 2020.

The Soil Health Program has three elements: cost share for growers implementing cover crops; technical and peer support network; and monitoring and evaluation of outcomes towards supply chain sustainability goals. The majority of farmers in this program indicated that the cost share helped them increase the number of cover crop acres they planted. If this program had not existed, farmers reported they would have planted fewer acres of cover crops. The program includes a learning event through Practical Farmers of Iowa to increase knowledge on cover crop practices and to connect farmers to each other.

**Climate change related benefit**

Emissions reductions (mitigation)

Increase carbon sink (mitigation)

Reduced demand for fertilizers (adaptation)

**Comment**

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**C-AC12.2b/C-FB12.2b/C-PF12.2b**

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**(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?**

Yes

**C12.3**

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

**Row 1**

**External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

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

Yes

**Attach commitment or position statement(s)**

1423013 COR Statement\_Advocacy and public affairs\_2.pdf

**Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan**

As a purpose-driven organization, our public affairs efforts focus on engaging with regulators and policymakers to demonstrate the viability of sustainable business models. We actively collaborate with like-minded organizations to advocate for regulatory conditions that support sustainable frontrunners. Corbion pro-actively advocates for sustainable business practices aligned with its strategy in all the industry associations we are a member. If there is significant misalignment between the industry associations position on a climate related dossier applicable to Corbion, we will try to bring this position more in line with our objectives. If this turns out not to be feasible we either veto the position or make sure that its clear that the position is not supported by Corbion.

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

<Not Applicable>

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

<Not Applicable>

## C12.3a

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

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

Proposal for a revision of EU legislation on Packaging and Packaging Waste (PPWR)

**Category of policy, law, or regulation that may impact the climate**

Low-carbon products and services

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

Circular economy

**Policy, law, or regulation geographic coverage**

Regional

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

Europe

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

Support with minor exceptions

**Description of engagement with policy makers**

We met with policymakers from the European Parliament and staff from Permanent Representations to the EU. As part of this engagement, we proposed amendments to the text.

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

We support the proposal and its objective of reducing packaging waste. However, we advocate for more ambition regarding targets for bio-based and compostable plastics.

**Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

**Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?**

We advocate for more ambition regarding targets for bio-based and compostable plastics in EU legislation on Packaging and Packaging Waste (PPWR). Our bio-based plastics have a reduced carbon footprint compared to fossil-based plastics such as poly-styrene and thereby enable our customers to reduce their GHG emissions. Promote climate action by enabling our customers to reduce their GHG emissions is one of the three pillars in Corbion's climate action plan.

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## C12.3b

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

**Trade association**

European Chemical Industry Council (CEFIC)

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

Mixed

**Has your organization attempted to influence their position in the reporting year?**

Yes, we attempted to influence them but they did not change their position

**Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position**

According to LobbyMap the position of CEFIC is "aligned with IPCC on climate action". We disagree with CEFIC on some of their positions related to the use of fossil energy in the production of fossil-based chemicals. As a manufacturer of biobased chemicals we are fully in favor of the decarbonization of industry. We aim to lead by example and show that it is possible to produce biobased, low-carbon chemicals on an industrial scale.

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

20000

**Describe the aim of your organization's funding**

Membership fee, contribute to support biobased economy

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

Yes, we have evaluated, and it is aligned

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## C12.4

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

**Publication**

In mainstream reports, incorporating the TCFD recommendations

**Status**

Complete

**Attach the document**

Corbion\_annual\_report\_2022\_CDP.pdf

**Page/Section reference**

Annual report: section sustainability statements, TCFD: page , GHG emissions page 185 - 188

**Content elements**

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics

**Comment**

**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

Climate Action Roadmap Brochure.pdf

**Page/Section reference**

Climate action roadmap

**Content elements**

- Strategy
- Emissions figures
- Emission targets

**Comment**

**C12.5**

**(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.**

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	Business Ambition for 1.5C RE100 Race to Zero Campaign Science Based Targets Network (SBTN) Task Force on Climate-related Financial Disclosures (TCFD) UN Global Compact	Corbion became a TCFD supporter in January 2021 and has aligned its reporting with the TCFD recommendations (see our annual report). As a member of RE100 (Climate Group) since 2017, Corbion is committed to achieving 100% renewable electricity in its operations by 2025. Corbion is member of the SBTN Corporate Engagement Program and contributes to the development of methods, tools, and guidance for science-based target setting for nature. Corbion was also selected by the Science Based Targets Network (SBTN) to participate in a pilot, the aim of which is to set and validate science-based targets for reducing pressures on nature. Corbion signed up for the Business Ambition for 1.5C (SBTi) and through this initiative, we are also member of the Race to zero campaign. To meet our commitment, we have updated our near term targets to be 1.5C aligned (validated by SBTi) and we are planning to submit net zero targets for SBTi validation.

**C13. Other land management impacts**

**C-AC13.2/C-FB13.2/C-PF13.2**

**(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?**

Yes

**C-AC13.2a/C-FB13.2a/C-PF13.2a**

(C-AC13.2a/C-FB13.2a/C-PF13.2a) Provide details of those management practices implemented by your suppliers that have other impacts besides climate change mitigation/adaptation.

**Management practice reference number**

MP1

**Overall effect**

Positive

**Which of the following has been impacted?**

Water

**Description of impacts**

Cargill collaboration

An example of the engagement for corn:

The team

- Cargill, global food company combining 153 years of experience with new technologies and insights to serve as a trusted partner for food, agriculture, financial and industrial customers.
- Corbion, the global market leader in lactic acid and lactic acid derivatives
- Practical Farmers of Iowa, organization focused equipping farmers to build resilient farms and communities.

The project

Launched in 2020, our partnership with Cargill and Practical Farmers of Iowa focuses on developing a soil health program targeting corn growers in the sourcing region surrounding Corbion's manufacturing facility in Blair, Nebraska. The program is focused on the adoption of soil health practices.

The outcome

The soil health practices included in this project include no till, planting of cover crops, and nutrient management. In addition to reducing GHG emissions, we expect to see several benefits including an increase of soil organic matter, improvements in water quality and infiltration, and yield. There is also a focus on increasing farmer resilience and leverage technical assistance and farmer-farmer networks to drive change.

The future

The collaboration begun in 2020, and we will continue to work with Cargill and Practical Farmers of Iowa to implement soil health practices and track improvements.

**Have any response to these impacts been implemented?**

Yes

**Description of the response(s)**

Assessment of the 2021 crop year data showed that cover crops planted in the program resulted in a 39% reduction in metric tons of CO<sub>2</sub>-equivalent emissions compared to if no cover crops were planted and sequestration was included. The use of cover crops also improved water quality by 33%.

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	Under the chairmanship of the Chief Executive Officer, the members of the Executive Committee have the overall responsibility for sustainability and decide on the strategy and targets. An important part of the sustainability agenda of Corbion is 'responsible sourcing'. This covers the sourcing of (agricultural) raw materials such as Soy, Sugar, Corn and Palm Oil in a responsible fashion. The Executive Committee shares responsibility for developing objectives and the strategy, determining the risk profile, and implementing strategic and operational policies including, but not limited to, responsible sourcing. Corbion's CEO decided to include a target to source 100% verified deforestation-free key agricultural raw materials by 2025 in our recently (2020) announced Advance 2025 strategy and last year to endorse the Global Biodiversity Framework through signing "DE NEDERLANDSE ACTIEAGENDA VOOR BIODIVERSITEIT - TOEZEGGINGEN VAN NIET-STATELIJKE ACTOREN AAN DE 2030 CBD-DOELEN"	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have endorsed initiatives only	<Not Applicable>	CBD – Global Biodiversity Framework SDG Other, please specify (DE NEDERLANDSE ACTIEAGENDA VOOR BIODIVERSITEIT - TOEZEGGINGEN VAN NIET-STATELIJKE ACTOREN AAN DE 2030 CBD-DOELEN)

C15.3

**(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?**

**Impacts on biodiversity**

**Indicate whether your organization undertakes this type of assessment**

No, but we plan to within the next two years

**Value chain stage(s) covered**

<Not Applicable>

**Portfolio activity**

<Not Applicable>

**Tools and methods to assess impacts and/or dependencies on biodiversity**

<Not Applicable>

**Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)**

<Not Applicable>

**Dependencies on biodiversity**

**Indicate whether your organization undertakes this type of assessment**

No, but we plan to within the next two years

**Value chain stage(s) covered**

<Not Applicable>

**Portfolio activity**

<Not Applicable>

**Tools and methods to assess impacts and/or dependencies on biodiversity**

<Not Applicable>

**Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)**

<Not Applicable>

C15.4

**(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?**

Not assessed

C15.5

**(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?**

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Other, please specify

C15.6

**(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?**

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Pressure indicators

C15.7

**(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
Please select	<Not Applicable>	<Not Applicable>

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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

SC. Supply chain module

SC0.0

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

Corbion's strategy and all aspects of our operations are built around advancing sustainability underpinned by high ethical standards, whether this relates to the management of our global supply chain, responsible procurement of our raw materials, or the safety and well-being of our people.

SC0.1

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

	Annual Revenue
Row 1	1457900000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

**Requesting member**

Ecolab Inc.

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

266

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

1833

**Unit for market value or quantity of goods/services supplied**

Metric tons

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**  
Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Ecolab Inc.

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

87

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

1833

**Unit for market value or quantity of goods/services supplied**

Metric tons

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**  
Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Ecolab Inc.

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services  
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)  
Category 4: Upstream transportation and distribution  
Category 5: Waste generated in operations  
Category 6: Business travel  
Category 7: Employee commuting  
Category 9: Downstream transportation and distribution  
Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

2383

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

1833

**Unit for market value or quantity of goods/services supplied**

Metric tons

---

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**  
Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

International Flavors & Fragrances Inc.

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

93

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

638

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

International Flavors & Fragrances Inc.

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

30

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

638

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

International Flavors & Fragrances Inc.

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services  
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)  
Category 4: Upstream transportation and distribution  
Category 5: Waste generated in operations  
Category 6: Business travel  
Category 7: Employee commuting  
Category 9: Downstream transportation and distribution  
Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

830

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

638

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Kellogg Company

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

775

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

5350

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Kellogg Company

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

254

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

5350

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Kellogg Company

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services

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

Category 4: Upstream transportation and distribution

Category 5: Waste generated in operations

Category 6: Business travel

Category 7: Employee commuting

Category 9: Downstream transportation and distribution

Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

6957

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

5350

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**



Sigma Foods

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

427

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

2947

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Sigma Foods

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

140

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

2947

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Sigma Foods

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services  
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)  
Category 4: Upstream transportation and distribution  
Category 5: Waste generated in operations  
Category 6: Business travel  
Category 7: Employee commuting  
Category 9: Downstream transportation and distribution  
Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

3832

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

2947

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Smith & Nephew

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

0.12

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

0.8

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Smith & Nephew

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

---

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

0.04

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

0.8

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Smith & Nephew

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services

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

Category 4: Upstream transportation and distribution

Category 5: Waste generated in operations

Category 6: Business travel

Category 7: Employee commuting

Category 9: Downstream transportation and distribution

Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

1.06

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

0.8

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Colgate Palmolive Company

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

2061

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

14221

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Colgate Palmolive Company

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

674

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

14221

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Colgate Palmolive Company

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services

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

Category 4: Upstream transportation and distribution

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Category 5: Waste generated in operations  
Category 6: Business travel  
Category 7: Employee commuting  
Category 9: Downstream transportation and distribution  
Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

18494

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

14221

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

British American Tobacco

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO<sub>2</sub>e**

4.17

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

28.8

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

British American Tobacco

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

1.36

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

28.8

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

British American Tobacco

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services

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

Category 4: Upstream transportation and distribution

Category 5: Waste generated in operations

Category 6: Business travel

Category 7: Employee commuting

Category 9: Downstream transportation and distribution

Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

37.45

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

28.8

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Topsoe A/S

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

---

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

106.59

**Uncertainty (±%)**

0

**Major sources of emissions**

Burning of natural gas for steam production

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

735.4

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Topsoe A/S

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

34.85

**Uncertainty (±%)**

0

**Major sources of emissions**

Use of electricity

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

735.4

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

Topsoe A/S

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

Category 1: Purchased goods and services

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

Category 4: Upstream transportation and distribution

Category 5: Waste generated in operations

Category 6: Business travel

Category 7: Employee commuting

Category 9: Downstream transportation and distribution

---

Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

956.32

**Uncertainty (±%)**

0

**Major sources of emissions**

Purchased goods and services, transportation, waste, indirect energy related emissions

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

735.4

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

Corbion follows the GHG protocol. These are the major sources of emissions.

---

**Requesting member**

UNFI

**Scope of emissions**

Scope 1

**Scope 2 accounting method**

<Not Applicable>

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

0

**Uncertainty (±%)**

0

**Major sources of emissions**

No products have been purchased by UNFI from Corbion in 2022

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

0

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

No products have been purchased by UNFI from Corbion in 2022

---

**Requesting member**

UNFI

**Scope of emissions**

Scope 2

**Scope 2 accounting method**

Market-based

**Scope 3 category(ies)**

<Not Applicable>

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

---



**Emissions in metric tonnes of CO2e**

0

**Uncertainty (±%)**

0

**Major sources of emissions**

No products have been purchased by UNFI from Corbion in 2022

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

0

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

No products have been purchased by UNFI from Corbion in 2022

**Requesting member**

UNFI

**Scope of emissions**

Scope 3

**Scope 2 accounting method**

&lt;Not Applicable&gt;

**Scope 3 category(ies)**

Category 1: Purchased goods and services

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

Category 4: Upstream transportation and distribution

Category 5: Waste generated in operations

Category 6: Business travel

Category 7: Employee commuting

Category 9: Downstream transportation and distribution

Category 15: Investments

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO2e**

0

**Uncertainty (±%)**

0

**Major sources of emissions**

No products have been purchased by UNFI from Corbion in 2022

**Verified**

Yes

**Allocation method**

Allocation based on mass of products purchased

**Market value or quantity of goods/services supplied to the requesting member**

0

**Unit for market value or quantity of goods/services supplied**

Metric tons

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

No products have been purchased by UNFI from Corbion in 2022

**SC1.2**

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

[Corbion - Corbion 2022](#)**SC1.3**

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

Allocation challenges	Please explain what would help you overcome these challenges
We face no challenges	no challenges

**SC1.4**

---

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

Yes

**SC1.4a**

---

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

We raised our climate ambition in 2022 to align with 1.5°C, the most ambitious goal of the Paris Agreement. To reach this ambition we have committed to reduce our absolute scope 1 and 2 GHG emissions 38% by 2030 from a 2021 base year. Next to that, we commit to reducing our scope 3 GHG emissions from purchased goods and services, upstream transportation and distribution, waste generated in operations, and downstream transportation and distribution 24% per ton of sold product within the same timeframe. Our new targets have been validated and approved by the Science Based Targets initiative.

To fulfill this pledge, we have developed a roadmap, including the following actions, which we are currently implementing:

- Transition to renewable electricity. By now, 10 of our 12 manufacturing sites are fully powered by renewable electricity. Compared to 2021, we increased the use of renewable electricity at our site in Rayong, Thailand to 100%. As a member of RE100, a global initiative to accelerate change toward zero-carbon grids at scale, we are committed to achieving 100% renewable electricity by 2025.
- Implement energy-saving projects at our manufacturing sites. Select the most energy-efficient technology available when equipment is replaced.
- Establish an R&D program to identify new technologies to implement in our manufacturing facilities, including electrification, low-carbon energy sources, and recycling. As member of the Institute for Sustainable Process Technology, the ELECTRIFIED consortium, and VoltaChem, Corbion participates in various external research programs focused on developing low-carbon and energy-saving technologies.
- Partner with our key raw material suppliers to achieve the targeted Scope III reductions. In 2022, we continued our engagement with key suppliers of cane sugar, dextrose, soybean oil, and chemicals. The goal is to better understand the footprints of these raw materials and identify GHG reduction opportunities. These reduction opportunities could be found within our suppliers' manufacturing operations or captured by implementing sustainable agriculture practices on the farms our suppliers' source from. In addition to supplier engagement, another approach is to implement third-party sourcing certifications, such as RSPO certification and Bonsucro, where GHG emissions are reduced by complying with the certification's stringent environmental standards.
- Use internal carbon pricing to manage and understand the financial impact of GHG emissions on our business. Considering the EU ETS forecast scenarios of € 90, € 125, and € 150 per metric ton by 2030, Corbion has introduced a global internal carbon price of € 100 per metric ton for Scope I and II emissions to be included in all investment decisions.

**SC2.1**

---

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

**Requesting member**

Kellogg Company

**Group type of project**

Reduce Logistics Emissions

**Type of project**

Other, please specify (We are open to explore opportunities)

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

1-3 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Other, please specify (Unable to predict at this stage)

**Details of proposal**

Our Science Based Target includes the reduction of transport-related emissions. We are currently investigating opportunities, among others to reduce the CO2 emissions related to road transport in the US and we are open to explore a joint initiative in this space.

---

**Requesting member**

International Flavors & Fragrances Inc.

**Group type of project**

Change to supplier operations

**Type of project**

Increased levels of purchased renewable energy

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

3-5 years

**Estimated lifetime CO2e savings**

**Estimated payback**

Cost/saving neutral

**Details of proposal**

Our plant in Gorinchem currently is 80% renewable, we plan to increase it to 100% in the next 3years. We are open to explore collaboration on PPAs.

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**SC2.2**

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

No

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**SC4.1**

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

No, I am not providing data

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**Submit your response**

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

**Please confirm below**

I have read and accept the applicable Terms