

C0. Introduction

C0.1

(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, the Netherlands, and Spain. Our innovation centers are located across the globe and our headquarter is based in the Netherlands

In 2021, Corbion generated annual sales of € 1,070.8 million and had a workforce of 2,493 FTEs. Corbion is listed on Euronext Amsterdam.

At Corbion we distinguish between three lines of business, each with a different set of characteristics: Sustainable Food Solutions, Lactic Acid & Specialties and Incubator. These business units are supported company-wide by globally managed R&D, operations, and business support functions.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2021	December 31 2021	No	<Not Applicable>

C0.3

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

- Brazil
- 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.

Financial 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

(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

(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 organisation)

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

(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%.

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%.

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%.

Agricultural commodity

Other, please specify (Maize)

% of revenue dependent on this agricultural commodity

20-40%

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%.

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

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

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	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 given these responsibilities because sustainability is key to Corbion's strategy and therefore responsibilities are integrated in the highest management level. An example of a climate related decision made by the CEO in 2021 is to join the Business Ambition for 1.5°C and publicly commit to have an emissions reduction strategy in line with the SBTi Criteria and Recommendations.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	<ul style="list-style-type: none"> Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues 	<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 group meets quarterly. The ExCo members have informal meetings as well, these cover whatever important matters arise, varying from sustainability to risks or profits. The information provided by the ExCo and sustainability manager gives the board oversight on whether objectives are being reached and what the difficulties are in those areas. When deciding on major capital expenditures sustainability criteria are taken into consideration. This provides the board with oversight on the issues they might face and what possibilities there are for improvement or what options there are to improve the (sustainability) performance of Corbion.</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	Sufficient knowledge of the processes driving climate change Sufficient knowledge of the technologies needed for decarbonization of the production process Sufficient knowledge of financial and operational risks and opportunities related to climate change	<Not Applicable>	<Not Applicable>

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other C-Suite Officer, please specify (CSSO (Chief Science & Sustainability Officer))	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Environment/ Sustainability manager	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Chief Financial Officer (CFO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Chief Operating Officer (COO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly

C1.2a

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

A description of the responsibilities of each position and/or committee with regard to the assessment and monitoring of climate-related issue

Sustainability falls under the responsibility of the Executive Committee. The Executive Committee consists of the board of management as well as the the CSSO (Chief Science & Sustainability Officer), the Chief Operations Officer, the Chief Human Resources Officer, the President of Sustainable Food Solutions, the President Lactic Acid & Specialties and the President Algae Ingredients. The Executive Committee has the final responsibility on climate-related issues. For monitoring and managing climate-related issues, Corbion has a Steering Committee, consisting of the CEO, CFO, COO and the CSSO. The SteerCo oversees the climate related opportunities and risks for Corbion and the implementation of Corbion's CO2 reduction roadmap. The Senior Director Sustainability provides recommendations to the Climate Change steering group (quarterly) and to the Executive Committee (semi-annual), regarding climate related risks and opportunities, business plans, CO2 reduction initiatives including capital investments and R&D, and progress vs targets. The Senior Director Sustainability reports to the CSSO.

A clear rationale for why responsibilities for climate-related issues have been assigned to this/these position(s) or committee(s)

The CEO has these responsibilities because sustainability is key to Corbion's strategy, the CFO is responsible for the financial planning, risks & opportunities and the COO is responsible for the implementation of Corbion's CO2 reduction roadmap. For Corbion, sustainability and climate change offer opportunities and are a driver for innovation, hence the strong involvement of the CSSO. For instance, realizing the opportunity for Algae based DHA to replace fish oil and thereby improve marine biodiversity, requires knowledge on the technical front of business to see the opportunities. Because Sustainability is at the heart for Corbion's offerings it is logical that all key players within Corbion's management carry responsibility for delivering on sustainability.

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 , both the Short and Long Term Incentive Plan includes Sustainability targets. One of these targets is the progress towards achieving our SBT. These targets apply to the Board of Management, to our Executive Committee and to all employees entitled to a bonus.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Board/Executive board	Monetary reward	Emissions reduction target	Since 2020 , both the Short and Long Term Incentive Plan includes Sustainability targets. One of these targets is the progress towards achieving our SBT.
Management group	Monetary reward	Emissions reduction target	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.

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	15	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 for 2030.

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. This also applies to climate-related impacts.

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%. This also applies to climate-related impacts.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

A description of the process used to determine which risks and/or opportunities could have a substantive financial or strategic impact: 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. 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, Sr Director Sustainability and CSSO) to review and rate risks and opportunities for relevant future scenarios. In these 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. 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. 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. A case study of how the described process is applied to climate-related 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. For high risk raw materials, we investigate the policies of our suppliers and develop alternative suppliers to mitigate the risk. A case study of how the described process is applied to climate-related transition risks and/or opportunities: An example of a climate-related transition risk is the implementation of CO2 taxes e.g. in the Dutch Climate Agreement. This risk is managed by including the impact of carbon pricing (for different carbon prices 50-150 euro/ton) in the sensitivity analysis of business cases for Capital Expenditures and R&D projects. 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.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	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 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 50-150 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. 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

We have used a Paris-aligned scenario to determine potentially relevant transition events that could be a risk or opportunity. As part of the implementation of the Paris agreement, carbon pricing mechanisms are being implemented or are under development. In the Netherlands, a CO2 tax increasing to 127 euro per ton of CO2 (Scope 1) by 2030 has been introduced and in the EU, the EU ETS is under reevaluation and has seen a recent price hike. Such a carbon tax could directly or indirectly increase Corbion's operational costs. In addition, if these measures are implemented at a different pace across the globe, the level playing field is impacted. We are using prices up to €150/ton CO2e in our current scenarios.

Time horizon

Short-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)

2000000

Potential financial impact figure – maximum (currency)

6000000

Explanation of financial impact figure

Quantitative breakdown of the figure: Medium term, the annual impact is estimated to be about €2 million, based on the Scope 1 emissions of 40293 tons CO2e at our European plants and an assumed effective (including free allowances) CO2 price of €50 / ton. Towards 2030, the annual impact can increase to €6 million assuming the CO2 prices increases to €150 / ton. However we do not expect the impact to rise to this level because of our emission reduction initiatives.

Cost of response to risk

2000000

Description of response and explanation of cost calculation

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 and investing in more efficient equipment in case of end of life replacements. Examples of specific projects include: replacement of boilers by more efficient ones, installation of economizers, insulation improvements, improved fast detection of steam trap failure, installation of pre-heaters and electrification. The roadmap also includes R&D to develop new low carbon technologies to be implemented in the next stage of the roadmap. R&D is 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. Quantitative breakdown of cost calculation: A capital plan for 2022-2026 has been developed. This capital plan includes some €10 million CAPEX for heat recovery, electrification, insulation, boiler upgrades and installation of heat pumps. This capital plan only includes Climate/CO2 driven Capex; expansion projects often include Capex to improve the carbon footprint of our products/process. For the period beyond 2026 we will update the capital plan based on the outcome of the R&D projects in the next years. Projects are prioritized based on payback time (including a CO2 price of 50-150 euro/ton) and planned in alignment with other CAPEX projects, to make use of synergies and to ensure focus.

Comment

The financial impact and response figures are per annum.

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

RCP 8.5 was used (quantitative) to determine potentially relevant events for the 'business as usual' scenario, specific to the relevant Corbion locations. This included events such as storms, floods and droughts. Increased frequency of extreme weather (storms & floods) 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. An example of a historic incident 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.

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, assuming we would no longer be able to deliver to our lowest margin customers worldwide. With these assumptions, the financial impact on our net sales would be 9-11 mln euro.

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.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues 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 ~30kt pa in 2030. Corbion is supplying an alternative algae-based solution (AlgaPrime DHA) to replace and/or supplement fish oil. The technology was obtained through the acquisition of TerraVia in 2017/2018. AlgaPrime DHA (Omega3) is produced in our large scale algae fermentation facility in Orindiuva, Brazil. We supply to the largest aquaculture feed producers in the world.

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)

25000000

Potential financial impact figure – maximum (currency)

50000000

Explanation of financial impact figure

Quantitative breakdown of the figure: Assuming a 30% Corbion market share in 2030 and a sound EBITDA margin (a common margin for microingredient feed additives), we believe Corbion could earn some €25-50 million EBITDA in 2030 on this business. Corbion is currently market leader in algae-based omega-3 with Veramaris (JV DSM and Evonik) as our main competitor.

Cost to realize opportunity

15000000

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 acquired Terravia assets in 2017, which included a large scale algae fermentation plant in Brazil. The majority of the assets for this opportunity are therefore already in place and were in full effect in 2018 and 2019. 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. Quantitative breakdown of cost calculation: The total investment in 2021 amounted to approximately €15 million. This should be sufficient to cover half of the opportunity potential (25mln EBITDA annually). To realize the full potential of the market opportunity by 2030, additional production capacity would be required. The CAPEX requirements for this are currently being investigated.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

This opportunity is mainly related to TotalEnergies Corbion PLA bv. This is our 50/50 joint venture with TotalEnergies for the production and marketing of poly lactic acid (PLA) polymers and lactide monomers for bioplastic solutions. Awareness of the non-biodegradable properties of regular plastic and how this is affecting our planet is increasing. This awareness will shift demand to biobased and biodegradable alternatives such as PLA.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

65000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Quantitative breakdown of the figure: Our JV with TotalEnergies (TotalEnergies Corbion PLA) commissioned a PLA polymerization plant in Dec 2018 of 75 kton (0.025% of the total current petroleum-based plastic market) and rapidly ramped up production. This is already making a meaningful contribution to our sales levels. In 2022 we expect to reach a production level close to plant capacity. At 100% capacity utilization with standard PLA, revenues for this plant could be approximately €260 million with an

approximate EBITDA margin 25%, this equals €65 million EBITDA per year.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

The required CAPEX for the plant in Thailand has already been incurred. We are considering a second PLA plant in Europe to capitalize on growing demands. CAPEX requirements for this plant are not yet finalized.

Comment

C3. Business Strategy

C3.1

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

Row 1

Transition plan

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

Publicly available transition plan

No

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

We have a different feedback mechanism in place

Description of feedback mechanism

In 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

Annually

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

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

<Not Applicable>

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

<Not Applicable>

C3.2

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

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

C3.2a

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

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Customized publicly available transition scenario	Company-wide	1.5°C	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 primary transition risks that have been identified in a Paris-aligned scenario are related to carbon pricing and changing consumer behavior. Carbon pricing is currently already having an impact in the EU with the EU ETS and in the Netherlands with the Dutch carbon tax. We are mitigating this risk to the extent possible by decarbonizing our production processes in line with a 1.5-degree world and through the utilization of an internal carbon price (globally). Key opportunities are related to products contributing to climate change mitigation and the transition to a circular (bio)economy. Examples of these products are Luminy PLA (a biobased plastic) and AlgaPrime DHA (Omega-3 fatty acids derived from algae). In the case of late action, Corbion will already be subject to significant physical risks including, but not limited to, supply chain disruptions and operational disruptions. We are expecting these disruptions to be most (and first) visible in our agricultural supply chain. Already now we are dealing with an extended drought in South America due to two consecutive La Nina events. This impacts the yields of sugar cane in Brazil. We are mitigating these risks to the extent possible through diversification of our supplier base and collaboration with farmers in our supply chain, for example trialing regenerative agriculture practices. This can help farmers making their crops more resistant to weather extremes and can also contribute to the mitigation of climate change. In a business-as-usual scenario we expect these physical risk to manifest sooner and in a more extreme form.

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. The Incubator focuses on new business development leveraging Corbion's fermentation skills and competencies, to create new growth paths. The main projects under investigation are all related to climate change opportunities: algae-derived DHA as alternative for fish oil (see Opportunities section), plant-based protein derived from algae and the co-polymer research platform to develop biobased alternatives for fossil-based solutions. This contributes to two of our focus SDGs, namely SDG 2: zero hunger 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	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 Incubator, 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. Capital expenditures/allocation: Our financial planning process includes an assessment of the required capital expenditures. Recurring (excluding expansion) capital expenditure of € 60-70 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. Acquisitions and divestments: The impacts of potential acquisitions, such the past acquisition of Terra Via and Granotec, are included in our financial planning. 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.

C3.5

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

No, but we plan to in the next two years

C4. Targets and performance

C4.1

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

Intensity target

C4.1b

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

Target reference number

Int 1

Year target was set

2019

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 3

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Category 1: Purchased goods and services

Category 4: Upstream transportation and distribution

Category 9: Downstream transportation and distribution

Intensity metric

Metric tons CO₂e per metric ton of product

Base year

2016

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

0.192

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

0.223

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

1.322

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

1.737

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

100

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

100

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

67

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

73

Target year

2030

Targeted reduction from base year (%)

33

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

1.16379

% change anticipated in absolute Scope 1+2 emissions

-29

% change anticipated in absolute Scope 3 emissions

-5

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

0.17

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

0.078

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

1.02

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

1.268

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

81.8199263795119

Target status in reporting year

Underway

Is this a science-based target?

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

Target ambition

2°C aligned

Please explain target coverage and identify any exclusions

We made a bold statement about our commitment to sustainability by pledging to cut our carbon emissions related to energy, key raw materials, and transport by 33% per metric ton of product by 2030 from a 2016 base year. The proposed target has received approval by the Science Based Targets initiative (SBTi) following a thorough validation process. We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. Our Science Based target includes Scope 1

emissions from direct production (from natural gas), Scope II emissions from purchased energy (electricity and purchased steam, market-based), and Scope III emissions related to key raw materials and transport. Our full Scope III emissions and biogenic emissions are reported in the Sustainability statements.

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

Compared to 2020, our specific Scope I emissions decreased by 6% due to changes in the product mix and the implementation of energy savings projects. For Scope II, our market-based specific emissions decreased by 20%, due to the increased use of renewable electricity. Nine out of twelve Corbion sites are now 100% powered by renewable electricity, which increases our global coverage to 79%. Our specific Scope III emissions decreased by 6% due to the changes in product mix and supplier improvements. With our planned increase in renewable electricity coverage to 100% for all sites and implementation and operational improvements on energy we are able to achieve a 33% reduction compared to our base year.

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

<Not Applicable>

C4.2

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

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

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

2030

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

100

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

78.9

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

68.2706766917293

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, this is part of our SBT, as outlined in "Int 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 and in 2021 we started purchasing 100% renewable electricity in Araucaria (Brazil) and increased our renewable electricity coverage in Rayong (Thailand) to 25% bringing our total share of renewable electricity in 2021 to 79%

List the actions which contributed most to achieving this target

<Not Applicable>

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	36	62154
To be implemented*	17	13022
Implementation commenced*	2	5783
Implemented*	1	293
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	Machine/equipment replacement
---	-------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

293

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)

280000

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

10000

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

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)

In 2021 we performed an SDG impact assessment, part of which was the classification of low carbon products. In 2021, 6% (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

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

79346

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

6

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

5

C5. Emissions methodology

C5.1

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

No

C5.1a

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

Row 1

Has there been a structural change?

Yes, a divestment

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

Divestment of Frozen Dough business

Details of structural change(s), including completion dates

On 11 January 2021 Corbion reached an agreement to sell its Frozen Dough business, classified as held for sale in the 2020 consolidated financial statements.

C5.1b

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

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology	Changes in emissions factors used for Scope 1 and 3

C5.1c

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

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	Our base year recalculation policy defines the approach to identify possible changes in the base year reporting and to estimate their significance. According to the policy, if the change in base year emissions is significant base year should be adjusted with the latest information available. A cumulative impact of all changes to the base year inventory is considered significant if the change in Corbion's base year emissions is equal or higher than 10 %. The following changes may have a significant impact on the inventory: • Structural changes that have a significant impact on the company's base year emissions. Structural changes include mergers, acquisitions, and divestments; outsourcing and insourcing of emitting activities • Changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant impact on the base year emissions data • Discovery of significant errors, or a number of cumulative errors, that are collectively significant Following the guidelines of this policy were our base year emissions recalculated for Scope 3. The impact on our Scope 1 and 2 emissions in the base year did not meet the significance threshold and were therefore not recalculated.

C5.2

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

Scope 1

Base year start

January 1 2013

Base year end

December 31 2013

Base year emissions (metric tons CO2e)

81439

Comment

Scope 2 (location-based)

Base year start

January 1 2013

Base year end

December 31 2013

Base year emissions (metric tons CO2e)

89859

Comment

Scope 2 (market-based)

Base year start

January 1 2013

Base year end

December 31 2013

Base year emissions (metric tons CO2e)

89859

Comment

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
561601

Comment

Scope 3 category 2: Capital goods

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
29968

Comment

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

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
23069

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
99064

Comment

Scope 3 category 5: Waste generated in operations

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
48657

Comment

Scope 3 category 6: Business travel

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
8095

Comment

Scope 3 category 7: Employee commuting

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
7044

Comment

Scope 3 category 8: Upstream leased assets

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
7516

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
95784

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

Base year end

Base year emissions (metric tons CO2e)

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

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)

106322

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

91356

Scope 2, market-based (if applicable)

48743

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

C6.4

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

Yes

C6.4a

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

Source

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

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions excluded

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

No emissions excluded

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 1.0% 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.

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

1

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

- Diesel consumption is monitored on a quarterly basis at the site that is using the majority of our total diesel consumption. The total amount is multiplied with the heating value and the emission factor and extrapolate to other sites. - 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

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)

679975

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)

84909

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)

28941

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 2021 and eGRID 2019 (for US). Cradle to gate emission factors of high pressure natural gas are based on Ecoinvent 3.5 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)

98599

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)

55795

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)

1669

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)

4242

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, 220 working days of which 88 traveling days due the working from home policy during Covid pandemic, default travel distance 30 km. Emission factors: Cradle to gate emission factors were obtained from Ecoinvent v3 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)

5222

Emissions calculation methodology

Spend-based 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)

100937

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 v3 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's products are intermediates used in many downstream applications, primarily in food but also in pharma, home and personal care, electronics, agrochemicals, feed etc. . Because of this, it is not possible to reasonably estimate the indirect emissions from processing of sold products. Corbion products 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 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 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 many downstream applications, primarily in food but also in pharma, home and personal care, electronics, agrochemicals, feed, etc. Because of this, it is unrealistic to estimate the end of life of all applications. Furthermore, the largest sectors are the food applications and Corbion's products are 98% biobased (p32 Corbion's annual report 2021). As such the possible end-of-life GHG emissions are expected to be low.

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

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 as Corbion is not an investor.

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	70597	Biogenic emissions are mainly related to indirect emissions from purchased renewable energy and direct emissions from algae and lactic acid fermentations, the consumption of biogas, and waste water treatment.

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)

39798

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

Please explain

Yes, we calculated GHG emissions for soybean oil: 36,650 ton CO2 eq

Agricultural commodities

Sugar

Do you collect or calculate GHG emissions for this commodity?

Yes

Please explain

Yes, we calculated GHG emissions for sugar: 94,565 ton CO2 eq (dextrose from corn is excluded, see 'maize' for emissions from dextrose)

Agricultural commodities

Palm Oil

Do you collect or calculate GHG emissions for this commodity?

Yes

Please explain

Yes, we calculated GHG emissions for palm oil: 61,207 ton CO2 eq

Agricultural commodities

Other (Maize)

Do you collect or calculate GHG emissions for this commodity?

Yes

Please explain

Yes, we calculated GHG emissions for dextrose from corn: 36,418 ton CO2 eq

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

(C-AC6.9a/C-FB6.9a/C-PF6.9a) Report your greenhouse gas emissions figure(s) for your disclosing commodity(ies), explain your methodology, and include any exclusions.

Palm Oil

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

5.1

Denominator: unit of production

Metric tons

Change from last reporting year

Higher

Please explain

Emission factor changed due to the update of methodology. In 2021 we have updated the methodology for calculation of raw materials emission factors, in order to use most up to date database information and consistent allocation approach for all raw materials. This resulted in a different emission factor for palm, which when compared to previous year response has increased. Actually, when compared based on the same methodology the emissions of palm oil have decreased, due to the implementation of RSPO and reduced impact of land use change.

Soy

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

1.32

Denominator: unit of production

Metric tons

Change from last reporting year

Lower

Please explain

Emission factor changed due to the update of methodology. In 2021 we have updated the methodology for calculation of raw materials emission factors, in order to use most up to date database information and consistent allocation approach for all raw materials. This resulted in a different emission factor for soy, which when compared to previous year response has decreased. However, when compared based on the same methodology, soy emission factor has not changed compared to 2020.

Sugar

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

0.31

Denominator: unit of production

Metric tons

Change from last reporting year

Lower

Please explain

Emission factor changed due to the update of methodology. In 2021 we have updated the methodology for calculation of raw materials emission factors, in order to use most up to date database information and consistent allocation approach for all raw materials. This resulted in a different emission factor for sugar, which when compared to previous year response has decreased. However, when compared based on the same methodology, sugar emission factor has not changed compared to 2020.

Other

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

Emission factor changed due to the update of methodology. In 2021 we have updated the methodology for calculation of raw materials emission factors, in order to use most up to date database information and consistent allocation approach for all raw materials. This resulted in a different emission factor for dextrose, which when compared to previous year response has decreased. However, when compared based on the same methodology, dextrose emission factor has not changed compared to 2020.

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.000145

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

155065

Metric denominator

unit total revenue

Metric denominator: Unit total

1070880000

Scope 2 figure used

Market-based

% change from previous year

17.3

Direction of change

Decreased

Reason for change

This reduction is primarily driven by the increased use of renewable electricity. The percentage of our purchased electricity being renewable increased from 71% to 79%. Implementation of energy savings projects, product mix effects and changes in the methodologies also contributed to a decrease in Scope 1 and 2 emissions per total revenue

C7. Emissions breakdowns

C7.1

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

No

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Brazil	16139
Netherlands	24105
Thailand	34474
United States of America	15415
Spain	16188

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	60497
Lactic Acid & Specialties	43698
Incubator/Algae Ingredients	2126

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	104939	<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)

104939

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/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Brazil	6810	809
Netherlands	10911	3285
Spain	4039	0
Thailand	23125	17344
United States of America	46470	27306

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	51982	27735
Lactic Acid & Specialties	37547	20033
Incubator/Algae Ingredients	1827	975

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	89055	48740	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 tCO2e 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 (CO2)	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Methane (CH4)	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Nitrous oxide (N2O)	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 (SF6)	0	This is not relevant for Corbion, as Corbion does not sell products that are greenhouse gases.
Nitrogen trifluoride (NF3)	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	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	5685	Decreased	3.61	Gross Scope 1+2 emissions decreased by 3.61%, due to change in renewable energy consumption. Nine out of twelve Corbion sites are now 100% powered by renewable electricity, which increases our global coverage to 79%. Through these activities we reduced our emissions by 5,685 tons CO2e. Our total Scope 1 and Scope 2 emissions in 2020 were 157,383 tons CO2e, therefore we arrived at -3.61% through $(-5,685/157,383) * 100 = -3.61\%$ (i.e. a 3.61% decrease in emissions).
Other emissions reduction activities	293	Decreased	0.19	Gross Scope 1+2 emissions decreased by 0.2%, due to energy efficiency activities undertaken. These activities include process improvements by process equipment replacement. Through these activities we reduced our emissions by 293 tons CO2e. Our total Scope 1 and Scope 2 emissions in 2020 were 157,383 tons CO2e, therefore we arrived at -0.2% through $(-293/157,383) * 100 = -0.2\%$ (i.e. a 0.2% decrease in emissions).
Divestment	2045	Decreased	1.3	Gross Scope 1+2 emissions decreased by 1.30%, due to the sell of our Frozen Dough business by 11 January 2021. Through these activities we reduced our emissions by 2,045 tons CO2e. Our total Scope 1 and Scope 2 emissions in 2020 were 157,383 tons CO2e, therefore we arrived at -1.30% through $(-2,045/157,383) * 100 = -1.30\%$ (i.e. a 1.30% decrease in emissions).
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output	25566	Increased	16.24	Due to the increase of production volume our Scope 1+2 emissions increased with 25566 Ton CO2eq. Our total Scope 1 and Scope 2 emissions in the previous year were 157,383 tons CO2e, therefore we arrived at 16.3% through $(25,566/157,383) * 100 = 16.3\%$ (i.e. a 16.3% increase in emissions).
Change in methodology	13559	Decreased	8.62	Due to a change in emission factor source our Scope 1+2 emissions decreased with 13,559 Ton CO2eq. Our total Scope 1 and Scope 2 emissions in the previous year were 157,383 tons CO2e, therefore we arrived at -8.6% through $(13,559/157,383) * 100 = -8.6\%$ (i.e. a 8.6% decrease in emissions).
Change in boundary		<Not Applicable >		
Change in physical operating conditions		<Not Applicable >		
Unidentified		<Not Applicable >		
Other		<Not Applicable >		

C7.9b

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

Market-based

C8. Energy

C8.1

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

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	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)	3392	584132	587523
Consumption of purchased or acquired electricity	<Not Applicable>	185195	49422	234617
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	96305	108424	204729
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	65	<Not Applicable>	65
Total energy consumption	<Not Applicable>	284958	741977	1026935

C-CH8.2a

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

Consumption of fuel (excluding feedstocks)

Heating value

HHV (higher heating value)

MWh consumed from renewable sources inside chemical sector boundary

3392

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

576410

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

579802

Consumption of purchased or acquired electricity

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

177586

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

49422

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

227008

Consumption of purchased or acquired steam

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

96305

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

108424

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

204729

Consumption of self-generated non-fuel renewable energy

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

65

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

65

Total energy consumption

Heating value

<Not Applicable>

MWh consumed from renewable sources inside chemical sector boundary

277348

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

734255

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

1011603

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

Please select

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

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

Please select

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

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

3392

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

3392

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

Total fuel MWh consumed by the organization

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

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

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

Total fuel MWh consumed by the organization

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

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

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
584132

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
584132

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

Total fuel MWh consumed by the organization

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

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

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
587523

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
587523

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	65	65	65	65
Heat	0	0	0	0
Steam	3392	3392	3392	3392
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)

65

Generation that is consumed inside chemicals sector boundary (MWh)

65

Generation from renewable sources inside chemical sector boundary (MWh)

65

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

65

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)

3392

Generation that is consumed inside chemicals sector boundary (MWh)

3392

Generation from renewable sources inside chemical sector boundary (MWh)

3392

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

3392

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 of your non-fuel energy consumption by country.

Country/area

Brazil

Consumption of electricity (MWh)

87237

Consumption of heat, steam, and cooling (MWh)

96305

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

183542

Is this consumption excluded from your RE100 commitment?

No

Country/area

Netherlands

Consumption of electricity (MWh)

29603

Consumption of heat, steam, and cooling (MWh)

0

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

29603

Is this consumption excluded from your RE100 commitment?

No

Country/area

Spain

Consumption of electricity (MWh)

20278

Consumption of heat, steam, and cooling (MWh)

0

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

20278

Is this consumption excluded from your RE100 commitment?

No

Country/area

Thailand

Consumption of electricity (MWh)

49678

Consumption of heat, steam, and cooling (MWh)

0

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

49678

Is this consumption excluded from your RE100 commitment?

No

Country/area

United States of America

Consumption of electricity (MWh)

47885

Consumption of heat, steam, and cooling (MWh)

108424

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

156309

Is this consumption excluded from your RE100 commitment?

No

C8.2h

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

Country/area of renewable electricity consumption

Brazil

Sourcing method

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

Renewable electricity technology type

Sustainable Biomass

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

66632

Tracking instrument used

Contract

Total attribute instruments retained for consumption by your organization (MWh)

66632

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

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

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

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Data on year of commissioning is not tacked internally

Country/area of renewable electricity consumption

Brazil

Sourcing method

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

Renewable electricity technology type

Sustainable Biomass

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

20606

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

20606

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

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

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

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Data on year of commissioning is not tacked internally

Country/area of renewable electricity consumption

Netherlands

Sourcing method

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

Renewable electricity technology type

Wind

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

23630

Tracking instrument used

Other, please specify (European GO)

Total attribute instruments retained for consumption by your organization (MWh)

23630

Country/area of origin (generation) of the renewable electricity/attribute consumed

Netherlands

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

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

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Data on year of commissioning is not tacked internally

Country/area of renewable electricity consumption

Spain

Sourcing method

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

Renewable electricity technology type

Renewable electricity mix, please specify (Solar, hydro, wind & photovoltaic)

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

20278

Tracking instrument used

Contract

Total attribute instruments retained for consumption by your organization (MWh)

20278

Country/area of origin (generation) of the renewable electricity/attribute consumed

Spain

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Data on year of commissioning is not tacked internally

Country/area of renewable electricity consumption

Thailand

Sourcing method

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

Renewable electricity technology type

Solar

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

12420

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

12420

Country/area of origin (generation) of the renewable electricity/attribute consumed

Thailand

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Data on year of commissioning is not tacked internally

Country/area of renewable electricity consumption

United States of America

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Small hydropower (<25 MW)

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

41630

Tracking instrument used

US-REC

Total attribute instruments retained for consumption by your organization (MWh)

41630

Country/area of origin (generation) of the renewable electricity/attribute consumed

United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

Green-e

Comment

Data on year of commissioning is not tacked internally

C8.2i

(C8.2i) Provide details of your organization's low-carbon heat, steam, and cooling purchases in the reporting year by country.

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

Brazil

Sourcing method

Heat/steam/cooling supply agreement

Energy carrier

Steam

Low-carbon technology type

Sustainable biomass

Low-carbon heat, steam, or cooling consumed (MWh)

96305

Comment

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

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

Netherlands

Sourcing method

None (no purchases of low-carbon heat, steam, or cooling)

Energy carrier

Please select

Low-carbon technology type

Please select

Low-carbon heat, steam, or cooling consumed (MWh)

Comment

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

Spain

Sourcing method

None (no purchases of low-carbon heat, steam, or cooling)

Energy carrier

Please select

Low-carbon technology type

Please select

Low-carbon heat, steam, or cooling consumed (MWh)

Comment

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

Thailand

Sourcing method

None (no purchases of low-carbon heat, steam, or cooling)

Energy carrier

Please select

Low-carbon technology type

Please select

Low-carbon heat, steam, or cooling consumed (MWh)

Comment

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

United States of America

Sourcing method

None (no purchases of low-carbon heat, steam, or cooling)

Energy carrier

Please select

Low-carbon technology type

Please select

Low-carbon heat, steam, or cooling consumed (MWh)

Comment

C8.2j

(C8.2j) Provide details of your organization's renewable electricity generation by country in the reporting year.

Country/area of generation

Netherlands

Renewable electricity technology type

Solar

Facility capacity (MW)

0.04

Total renewable electricity generated by this facility in the reporting year (MWh)

65

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

65

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

0

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

<Not Applicable>

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

65

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 a local party a new facility has been developed that started providing us renewable electricity in 2021 and is going to provide our site more 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-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

26

Metric numerator

kT of waste

Metric denominator (intensity metric only)

-

% change from previous year

6.7

Direction of change

Decreased

Please explain

Decrease in waste can be attributed to 1) decrease in production volume of products generating high amount of waste per ton of product and 2) lower amount of disposed scrap product and 3) implementation of several local initiatives to reduce waste

Description

Energy usage

Metric value

7.1

Metric numerator

Energy use in GJ

Metric denominator (intensity metric only)

Production volume in Tonnes

% change from previous year

7

Direction of change

Increased

Please explain

Because of differences in our product mix with for instance more emphasis on Lactic Acid for sales to our PLA joint venture the energy intensity per ton of product has also risen.

C-CH9.3a

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

Output product

Specialty chemicals

Production (metric tons)

568458

Capacity (metric tons)

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

0.185

Electricity intensity (MWh per metric ton of product)

0.399

Steam intensity (MWh per metric ton of product)

0.36

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

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) Provide details of your organization's investments in low-carbon R&D for chemical production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Radical process redesign	Small scale commercial deployment	≤20%		The self-healing concrete application based on our product SENTIALL was developed together with Green-Basilisk and is currently being commercialised 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.
Radical process redesign	Large scale commercial deployment	21 - 40%		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%.
Bio technology	Large scale commercial deployment	21 - 40%		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_2021.pdf

Page/ section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (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_2021.pdf

Page/ section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (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_2021.pdf

Page/ section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (Dutch Standard 3000A)

Proportion of reported emissions verified (%)

100

C10.1c

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

Scope 3 category

Scope 3: Purchased goods and services

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_2021.pdf

Page/section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (Dutch Standard 3000A)

Proportion of reported emissions verified (%)

100

Scope 3 category

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

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_2021.pdf

Page/section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (Dutch Standard 3000A)

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Upstream 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_2021.pdf

Page/section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (Dutch Standard 3000A)

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Waste generated in operations

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_2021.pdf

Page/section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (Dutch Standard 3000A)

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Business travel

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_2021.pdf

Page/section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (Dutch Standard 3000A)

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Employee commuting

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_2021.pdf

Page/section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (Dutch Standard 3000A)

Proportion of reported emissions verified (%)

100

Scope 3 category

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_2021.pdf

Page/section reference

The information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021

Relevant standard

Other, please specify (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 information of the external auditor can be found on page 56-57, page 72 and page 167-168 (KPIs verified by external auditor) of the Annual Report 2021 Corbion_annual_report_2021.pdf

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

EU ETS

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

38

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2021

Period end date

December 31 2021

Allowances allocated

27022

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

40293

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 2021

Period end date

December 31 2021

% of total Scope 1 emissions covered by tax

23

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 2021, no tax was levied in the reporting period.

C11.1d

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

Corbion's strategy for factories which fall under the EU ETS and the Netherlands carbon tax is to reduce CO2 emissions in line with the Paris-agreement and the corresponding company-wide reduction strategy. This strategy has been outlined in our Science Based Target and - more recently - in our 1.5-degrees aligned transition strategy. For example, we use an internal carbon price for business cases. This carbon price has a baseline of €50/ton CO2e, but anticipates higher effective prices in the EU (up to €150 by 2030) in the coming years. This practice encourages low-carbon solutions. For our facilities that are subject to the EU ETS in Spain and the Netherlands 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 selection of the most energy-efficient technology available when equipment is replaced.

We currently still have enough allowances to cover our obligations towards the EU ETS and the Netherlands carbon tax is currently inactive because the current ETS price is above the threshold for this tax. To ensure compliance we will purchase the required emission rights in the relevant pricing schemes when necessary.

In anticipation of carbon pricing schemes in other regions we operate in, we also use an internal carbon price of €50/ton CO2e there. Also, all our global operations are included in our Science Based Target and our 1.5-degrees aligned transition strategy.

C11.2

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

No

C11.3

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

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

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

GHG Scope

- Scope 1
- Scope 2
- Scope 3

Application

Expansion, CO2 reduction, innovation projects and risk management

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

50

Variance of price(s) used

The variance in price used is from 50 euros per metric ton as a global baseline, going up to 127 euros per metric ton for the Netherlands carbon tax in 2030 and 150 euros per metric ton for the EU ETS in a Paris-aligned scenario.

Type of internal carbon price

Shadow price

Impact & implication

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 CO2 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.

C12. Engagement

C12.1

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

Yes, our suppliers
Yes, our customers/clients

C12.1a

(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

10

% total procurement spend (direct and indirect)

44

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

70

Rationale for the coverage of your engagement

Corbion has joined the Science Based Targets initiative and our Science Based target includes Scope III emissions related to our key raw materials and transport. We engage with these suppliers to raise awareness on climate change, the Paris agreement, Science Based Targets and to identify opportunities for the suppliers to reduce their emissions. We have selected suppliers of 8 of our main raw materials that cover 70% of our total Scope 3 emissions. These materials are: sugar, dextrose, soybean oil, palm oil, lime, glycerin, sodium hydroxide and potassium hydroxide.

Impact of engagement, including measures of success

The measures of success of our CO2 supplier engagement program are (1) reduce Corbion's Scope 3 emissions per ton of product by 25% compared to 2016, to (2) meet Corbion science-based target: 33% reduction of scope 1, 2, and 3 GHG emissions per ton of product by 2030 from a 2016 base year. 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 and identify improvement projects. In 2021, we achieved (1) a reduction of our Scope 3 emissions by 23% per ton of product compared to 2016 and (2) a 27% reduction of our Scope 1,2 and 3 GHG emissions per ton of product compared to 2016. 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 14% reduction of CO2 per ton of raw material sourced, because RSPO certification includes a deforestation-free requirement.

Comment

C12.1b

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

Type of engagement & Details of engagement

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

% 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. By now, we have LCA data available for 86% of our products with an environmental claim. 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. 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: (1) % of products with an environmental claim covered by a Life Cycle Assessment. Our target is to have 100% coverage by 2025; in 2021 we achieved 86% coverage. (2) % of Corbion revenues with a positive impact on the Sustainable Development Goals, contributing to Corbion's strategic pillars: preserving food, preserving health and preserving the planet. Our target is to achieve 70% by 2025 and 80% by 2030. In 2021, we achieved 60%. An example of a positive outcome is the increased sales of PLA (through our JV Total Energies Corbion PLA), a bioplastic produced from lactic acid. Through our LCA, we demonstrated that the carbon footprint of PLA is significantly lower than fossil-based alternatives such as Polystyrene (0.5 kg CO2eq/kg cradle to gate for PLA vs 2.2 CO2eq/kg for polystyrene). By offering PLA as an alternative for Polystyrene, 79,346 tons of CO2eq emissions are avoided per 1000 disposable cups.

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

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

Climate-related requirement

Measuring product-level emissions

Description of this climate related requirement

Corbion has joined the Science Based Targets initiative and our Science Based target includes Scope III emissions related to our key raw materials and transport. We have selected suppliers of 8 of our main raw materials that cover 70% of our total Scope 3 emissions. These materials are: sugar, dextrose, soybean oil, palm oil, lime, glycerin, sodium hydroxide and potassium hydroxide. We engage with the suppliers of these raw materials to raise awareness, collect data and identify improvement projects. We require them 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

44

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

44

Mechanisms for monitoring compliance with this climate-related requirement

Certification
Supplier self-assessment
First-party verification
Second-party verification

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

Retain and engage

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

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

C-AC12.2b/C-FB12.2b/C-PF12.2b

(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

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

Row 1

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

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

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

No, but we plan to have one in the next two years

Attach commitment or position statement(s)

<Not Applicable>

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

We believe biotechnology and sustainable innovations can provide an essential contribution to the challenges the world is facing. Our purpose-driven public affairs efforts are aimed at showing regulators and policymakers that it is possible to do sustainable business while making healthy profits. Together with like-minded organizations we advocate for regulatory conditions that support sustainable frontrunners. Corbion has a global public affairs committee that oversees our engagement activities and ensures that these activities are consistent with our overall climate strategy. Our direct engagement activities are in line with the goals of the Paris agreement.

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

<Not Applicable>

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

<Not Applicable>

C12.3a

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

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

Circular economy

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

Sustainable Carbon Cycles

Policy, law, or regulation geographic coverage

Regional

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

Europe

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

Support with no exceptions

Description of engagement with policy makers

Provided input and support via public consultations and meetings with members of European parliament

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

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

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

Circular economy

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

Biobased, biodegradable and compostable plastics

Policy, law, or regulation geographic coverage

Regional

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

Europe

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

Support with no exceptions

Description of engagement with policy makers

Provided input and support via public consultations and meetings with members of European parliament

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

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

C12.3b

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

Trade association

European Chemical Industry Council (CEFIC)

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

Mixed

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

We are attempting to influence them to change their position

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

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, if applicable (currency as selected in C0.4) (optional)

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

C12.4

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

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

Corbion_annual_report_2021.pdf

Page/Section reference

Page 170-172 Section: Sustainability Statements - Annual Report TCFD 2021

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Comment

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?

Soil

Water

Yield

Description of impacts

An example of the engagement with suppliers of sugar: The team • Mitr Phol, the world's fourth-largest sugar producer • Bonsucro, an international not-for-profit, multi-stakeholder organization promoting sustainable practices in the sugar-cane industry • Corbion, the global market leader in lactic acid and lactic acid derivatives The project The sugarcane industry is critical to Thailand's economy. Mitr Phol has been a supplier to Corbion since 2007, with more than 30,000 cane growers in its supply chain. Mitr Phol committed several years ago to promoting modern farming methods and technologies to its suppliers, using Bonsucro as a platform for collaboration, and guided by its Standards. Consequently, Mitr Phol Modern Farm was launched about five years ago to allow sugarcane farmers to see modern methods in action and learn how to implement them in their own operations. The outcome Sustainability gains: Adjusting the space between sugarcane plants and better controlling truck traffic is reducing crop losses. Techniques for maintaining loosened soil, and a GPS system for controlling large agricultural machines are being used. Water is used more efficiently while increasing production. When not growing sugarcane, farmers grow legumes to cut pesticide use and improve soil quality. Cane leaves are left on the ground instead of burned to better retain soil moisture and reduce global warming. The experience The company received the Bonsucro Sustainability Award in 2015. The future With Corbion working to drive demand for responsibly produced cane sugar and Mitr Phol supporting farmers' efforts to meet that demand, we are strengthening the sustainability of the overall value chain.

Have any response to these impacts been implemented?

No

Description of the response(s)

Management practice reference number

MP2

Overall effect

Positive

Which of the following has been impacted?

Soil

Water

Yield

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?

No

Description of the response(s)

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 impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Yes, we assess impacts on biodiversity in our upstream value chain only	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water management

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Pressure indicators

C15.6

(C15.6) Have you published information about your organization’s response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In mainstream financial reports	Governance	Page 40 Corbion_annual_report_2021.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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

SC. Supply chain module

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	1070800000

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

323

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

1898

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

148

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

1898

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO₂e

2947

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

1898

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO₂e

211

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

1243

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

97

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Please select

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

1243

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

1931

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

1243

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**Requesting member**

Johnson & Johnson

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

3.5

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

21

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

Johnson & Johnson

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

1.6

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

21

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

Johnson & Johnson

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

31.94

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

21

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

830

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

4884

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

381

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

4884

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

7585

Uncertainty (±%)

0

Major sources of emissions

Purchased goods and services, transportation, waste, indirect energy related emissions

Verified

Please select

Allocation method

Allocation based on mass of products purchased

Market value or quantity of goods/services supplied to the requesting member

4884

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

Schlumberger Limited

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

85

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

501

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

Schlumberger Limited

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

39

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

501

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

Schlumberger Limited

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

778

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

501

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

472

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

2779

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

217

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

2779

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO₂e

4316

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

2779

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

Stéarinerie Dubois

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO₂e

1.02

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

6

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

Stéarinerie Dubois

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO₂e

0.47

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

6

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

Stéarinerie Dubois

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

9.32

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

6

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

0.1

Uncertainty (±%)

0

Major sources of emissions

Burning of natural gas for steam production

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

0.6

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

0.05

Uncertainty (±%)

0

Major sources of emissions

Use of electricity

Verified

Yes

Allocation method

Allocation based on the volume of products purchased

Market value or quantity of goods/services supplied to the requesting member

0.6

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

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

0.93

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

0.6

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

WestRock Company

Scope of emissions

Scope 1

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 Westrock company from Corbion in 2021

Verified

Yes

Allocation method

Allocation based on the volume 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 Westrock company from Corbion in 2021

Requesting member

WestRock Company

Scope of emissions

Scope 2

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 Westrock company from Corbion in 2021

Verified

Yes

Allocation method

Allocation based on the volume 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 Westrock company from Corbion in 2021

Requesting member

WestRock Company

Scope of emissions

Scope 3

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 Westrock company from Corbion in 2021

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 Westrock company from Corbion in 2021

SC1.2

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

<https://annualreport.corbion.com/>

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 made a bold statement about our commitment to sustainability by pledging to cut our CO2 emissions related to energy, key raw materials, and transport by 33% per metric ton of product by 2030 from a 2016 base year. The proposed target has received approval by the Science Based Targets initiative (SBTi) following a thorough validation process. As a sustainable ingredients company, Corbion is already deeply involved in developing sustainable solutions that help our customers shrink their carbon footprint by reducing food waste and their use of fossil-based chemicals.

To fulfil this pledge, we have developed a roadmap, including the following actions, some of which are already in motion: Transition to 100% renewable electricity by 2030. 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 opportunities for heat integration, electrification, and recycling. Partner with key raw material suppliers to jointly reduce CO2 emissions. Review the financial impact of greenhouse gas emissions through internal carbon pricing in capital expenditure and long-term R&D projects. Compared to the base year 2016, we already achieved an 27% reduction, mainly through the implementation of renewable electricity, which has step-wise increased since 2016 and is currently at 79%.

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 4 years. We are open to explore collaboration on PPAs.

Requesting member

Johnson & Johnson

Group type of project

Change to supplier operations

Type of project

Implementation of energy reduction projects

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

3-5 years

Details of proposal

We have a long term roadmap to reduce our carbon footprint in line with the Paris agreement and to achieve our Science-based target. For our direct operations, this roadmap includes investment in energy efficiency projects, such as heat integration, equipment upgrading etc.

Requesting member

Stéarinerie Dubois

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 Europe and we are open to explore a joint initiative in this space.

Requesting member

Kellogg Company

Group type of project

Change to supplier operations

Type of project

Other, please specify (Reducing emissions by implementing sustainable agricultural practices)

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

We have a long term roadmap to reduce our carbon footprint in line with the Paris agreement and to achieve our Science-based target. For our emulsifiers, this includes actions related to palm oil and soy bean oil. For palm oil, we focus on RSPO certification. For soy bean oil, we are investigating innovation projects in the US to reduce emissions and increase carbon capture in soils. We are open to discuss opportunities for collaboration.

Requesting member

Johnson & Johnson

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 4 years. We are open to explore collaboration on PPAs.

SC2.2

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

No

SC4.1

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

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

The European Climate Pact Submission

Please indicate your consent for CDP to showcase your disclosed environmental actions on the European Climate Pact website as pledges to the Pact.

Yes, we wish to pledge to the European Climate Pact through our CDP disclosure

Please confirm below

I have read and accept the applicable Terms